CENTRE FOR PLANNING
UNIVERSITY OF STRATHCLYDE
SEPTEMBER 1994

CONTROL OF URBAN GROWTH AND DEVELOPMENT IN SAUDI ARABIA

Ibrahim Abdullah S. Al Nowaiser

1994

This thesis is submitted to the Centre for Planning, University of Strathclyde, as a requirement for the Ph.D in Urban and Regional Planning.

ACKNOWLEDGEMENT

I would like first of all, to express my sincere gratitude, thanks, and great appreciation for Professor Urlan Wannop for his wise, knowledgable, and invaluable advice, guidance, and supervision. His concrete encouragement and assistance early in the research and thereafter, had a very positive effect in finalising this thesis.

Also my thanks to Janet Brand for her advise early on the research, especially on development controls.

My gratitude goes also to Dr. Saleh Al Hathloul, Ministry of Municipal and Rural Affairs Deputy for City Planning, for his sincere help in providing Ministry sources needed for this research. My thanks to Riyadh Municipality officials whom I contacted and were very helpful. Also my appreciation goes to the High Commission for Development of Riyadh for supplying the needed literature.

I dedicate this thesis to my immediate family, my wife, my daughter Hayfa, my sons; Haitham, Hussam and Chassan whom this research was done on their share of my time, and to their patience during trips made to conduct this study. And to my father, my late mother, to all my brothers and to my two sisters.

ABSTRACT

The fast and in most cases uncontrolled urban growth, in Riyadh and other Saudi urban areas, has created many deficiencies such as land speculation, urban sprawl, lagging public services and utilities, along with other developments that are inconsistent with the development plan. The purpose of the study was to identify these problems of inconsistency and provide solutions to avoid them.

In order to achieve the main objective of the thesis, the problem is briefly introduced by explaining the existing urban growth problems. A review of relevant theoretical literature background was carried out, particularly on development plans, control of development, and plan policy implementation, mainly in developed countries. In order to understand the local situation the economic and social factors affecting Saudi urban growth and land development were identified. Also the procedures and government institutions involved in the planning process and the control of urban growth were introduced and their role explained.

As infrastructures and public services are one critical component of any urban development process, their scale and distribution in Riyadh were assessed. In addition a description of land ownership, local and legal rights of development, the effect of Saudi planning in developing land, the common practice and the perceived weaknesses of control of

development were presented. To get some clear idea of Riyadh urban growth during the case study period (1977 - 1992), an analysis of the various land use activities and scale were conducted for that period. Then an assessment and examination of these developments was carried out to determine and identify the developments that are inconsistent to the Development Plan, and explain the causes of such inconsistencies. At the end, based on the analysis of the thesis, a suggestion of possible alternatives to control development and urban growth is given, and the thesis is concluded by recommending proposals for more effective control of development and more efficient plan policy implementation.

CONTENTS

CHAPTERS

Page

CHAPTER THREE

Economic and Social Factors Affecting Urban Growth and Land Development

CHAPTER FOUR

Process of Control of Urban Growth and Development

LIST OF FIGURES

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF TABLES

LIST OF TABLES (cont.)

LIST OF ABBREVIATIONS

CM:	Council of Ministers.
DoE:	Department of Environment (Britain).
GDO:	General Development Order (UK)
GDP:	Gross Domestic Product
HCFDR:	Higher Commission for Development of Riyadh.
MOMRA:	Ministry of Municipal and Rural Affairs.
RAMP:	Riyadh Action Master Plan.
REDF:	Real Estate Development Fund
SDOs:	Special Development Orders (UK)
SoS:	Secretary of State (UK)
SPZ:	Simplified Planning Zones (UK)
SCET:	SCET International/SEDES.
TR#:	Technical Report.
UBL:	Urban Boundary Limits.
UCO:	Use Class Order (UK)
ZBA:	Zoning Board of Appeals (USA)

CHAPTER ONE: INTRODUCTION

INTRODUCING THE PROBLEM

1.01 The large cities and towns are relatively new and recent to Saudi Arabia compared to most countries, being a phenomenon only since the 1950s. Previously, the settled areas of the Kingdom were predominantly comprised of a large and widely scattered number of small villages and a few towns. These settlements were usually located nearby an agricultural area, oasis, ground water source, or locality with rain water as in the south west of the Kingdom. Not until the early 1950s did the Kingdom start to witness the dawn of urbanization in the modern sense, mainly in three areas - around oil installations on the east, Riyadh in the middle, and in the Jedah-Makkah area.

1.02 Riyadh started to grow from its previous state as a mud-brick town to a modern city in the early 1950s. This was the time when oil income started to pump in, an economic factor which has played a major role in modernization and urban expansion of Riyadh and other urban areas of the Kingdom. Figure (1.1) illustrates the transition of commercial activities in Riyadh: (a) the main bazaar until the late 1940s; (b) type of new markets started in 1950s to 1970s; (c) the 1980s modern bazaars that are scattered around the city.

(a)

(b)

(c)

Figure 1.1: Transitions of Riyadh Public Markets.

1.03 Since the mid 1970s, Riyadh and the Kingdom has observed the fastest urban growth in the country's history. This extreme development expansion had its highest rate between 1977-1986, with growth continuing with less speed since 1986. In this huge urban expansion, Riyadh for instance increased about four times in size from 1977 to 1986. Such a wide horizontal growth in a relatively short time has resulted in urban problems associated with many occurrences of inconsistent development, with disregard of the Master Plan proposals or of the inhabitants' needs and desires. An initial view would suppose that the problems of inefficient development were caused mostly by an inadequate Master Plan, or by situations of no plan in hand for an area, and also failure in implementing intended plans, the unavailability or misallocation of resources, and so on. The result of a relatively unsuitable urban environment consequently creates inconvenience to Riyadh's inhabitants.

1.04 Most of these problems that exist in Riyadh are now very difficult to solve and need tremendous efforts and resources. It is clearly less easy to correct the faults in an existing, already implemented urban development, than to have forestalled them by sufficient planning prior to implementation. We might think of this problem as an equation of input - process - output. The input will include the Master Plan, planning, economic, social, political and demographic factors. In this stage the main actors are the planning authorities, who consider these inputs in order to plan the process of control or management of the way development is or should be implemented. The output in this equation would be

the final result or product of implementing what is planned, which in our research problem is the existing urban form of the city of Riyadh. So in order to study this planning problem, we need to study this whole equation as a structure of inter-related elements: plan; control of the development of what has been planned; and the existing development of Riyadh that has resulted and its ills and incoherences.

PROBLEMS ARISING IN DEVELOPMENT

1.05 The SCET Master Plan (1981) for Riyadh pointed out that the earlier Doxiadis Master Plan (1971) regulations were short in their ability to control the urban growth and land speculation that started at the mid-seventies. Land speculation and lack of an effective and sufficiently enforced method of control of urban growth resulted in widespread urban sprawl, a type of growth caused mainly by granting subdivisions in areas out of the Master Plan's approved boundaries. Public utilities and services could not keep pace with wide urban expansion. Also, the municipalities development control application approval process - even if it was sound in principal - did not keep up with the accelerating urbanization, apparently because of insufficient staff and zoning regulations which were too rigid to permit reasonable flexibility (TR9, II, 1981). Even if the above were deficiency problems inherent in the Doxiadis Master Plan they were not corrected, but also became deficiencies of the later (SCET) revised Master Plan, which was introduced to update and revise the Doxiadis Master Plan. In fact it never did, but repeated the

same mistakes and shortcomings and failed to solve the problems arising during the Doxiadis implementation. This resulted in prolonged occurrences of inconsistent developments throughout the city.

1.06 For instance, land subdivisions rather than becoming integral parts of the city became separate developments, with no assurance of getting public services and utilities. The lack of general controls, except by the approval of subdivision maps, has produced a monotonous environment with unsatisfactorily different standards and disorganized locations for public facilities. Subdivision rules for land did not always reflect proper distribution in accordance with the principles for community size and standards spelled out in the Master Plan (MOMRA, TR 10, 1981).

1.07 The planning authorities must be supposed to have failed to meet their responsibility for minimising urban deficiencies, by not fully implementing some of the most useful provisions of the (SCET) Master Plan or coming up with a better alternative plan. In addition, the situation of not having a fully statutory plan has contributed very much to the problem. The feature of a large number of planning decision makers with a lack of co-ordination has caused shortcomings in controlling development not just in Riyadh, but Kingdom wide.

1.08 Of the various urban problems currently existing in Riyadh and other Saudi urban areas as a result of the absence of effective

control of development, although most of these problems were recognized by the (SCET) Master Plan, here is a list of the most visible:

- The absence of visual privacy among private single family homes.
- Heavy traffic congestion especially through the recently introduced freeways, which are used over their designated capacity of car load.
- Uneven distribution and lagging behind of community services.
- The waste in water because of responsibility divided between the Ministry of Agriculture at the production stage and the Riyadh Water and Sewage Department at the distribution stage.
- The sewerage flow much exceeding the current treatment plant capacity which prevents the reuse of treated water for industry.
- Laying out sewerage networks far behind the rate of urban growth. In 1980, only 20% of the total residential area of Riyadh was services by the sewerage system, leaving septic tanks as the only alternative which is a health hazard in an arid climate.
- Lack of a uniform building code that the construction industry in the Kingdom could follow. Although recently the Ministry of Housing and Public Works compiled a document entitled "Uniform Standards", covering all parts of building construction, due to lack of field inspectors these standards cannot be enforced.
- The widespread sprawl of urban growth in Riyadh and other urban areas, leaving under used land and adding to the costs of private and public services.
- Lack of open and recreational space areas.
- Deterioration and urban degradation in most of the old sections of

the city.

- Too little attention to the image and the architecture of the capital city which does not reflect the true identity of the local architecture, nor provides an aesthetically desirable outlook.

1.09 The (SCET) Master Plan recognized that the close relationship between land and urban issues emphasized the need for efficient land-use planning, which is one of the most critical of all land policy measures. Land-use planning should emphasize that conservation and adequate utilization of land is economical, is an efficient function of competently managed urban areas, and is able to offer pleasant aesthetics. In addition, it should balance the needs to utilize land in the present and to conserve it for the future. Many current urban problems that Riyadh and Saudi cities face would have been minimized if urban development were more competently pre-planned (MOMRA, TR 10, 1981). It is critically important at a rapid stage in Saudi urbanization to have effective control of urban land resources, especially in an economic structure where land is a prime trading commodity. Zoning and subdivision plans have been the chief statutory means of implementing the Master Plan in Riyadh. Proper and effective application of these provisions have been recognised as helping to determine the success or failure of the Master Plan (MOMRA, TR 9 II, 1981).

PLANNING PROCEDURES

1.10 Planning procedures for Riyadh and other urban areas of the

Kingdom are usually regarded as starting with land subdivision, which in most cases is not only the first but also the final planning stage for a given piece of urban land, as on many occasions it permits development in a location beyond the Master Plan's urban boundary. Approvals of subdivision in large number and over a wide area has contributed considerably to the "leap frog" pattern of Riyadh's urban growth, to land speculation and to other problems resulting from it.

1.11 Now with the pace of urban growth being slower in the 1990s than in the previous two decades, there is less land to be subdivided as land speculation has already meant subdividing of most empty land within the Urban Boundary Limits (UBL). In addition many subdivisions have been subdivided without relating to adjacent subdivisions, which has consequently resulted in a pattern of inconsistent developments.

1.12 The currently applied rules and regulations in Riyadh for subdivided land are based on a number of model regulations prepared by MOMRA for all the Kingdom's urban areas. These rules have been adjusted to suit the organizations of the local planning agencies. In Riyadh, town planning functions such as the responsibility of preparing subdivision plans have been delegated by MOMRA to the Municipality, but the High Committee for Development (HCFDR) has the right of final approval or disapproval of further expansion of subdivisions. In practice, however, most applications processed are rarely denied.

1.13 The following is the procedure of providing subdivisions and of preparing for development (TR 9II, 1981):

1. A land owner desiring to subdivide his land starts by submitting the following documents to the planning authority i.e. the Municipality in the case of Riyadh, or the Deputy for Town Planning of MOMRA for other urban areas. The documents are:

- A copy of the property deed issued by an officer of the Justice Court.
- An application letter to the concerned Planning Authority.
- A professionally prepared survey of the property by an engineer (this is optional).

2. If the applicant does not submit a survey of his property, his application is forwarded to the Survey Department of the Municipality, which sends a surveyor to the site. The surveyor records the following:

- The land property lines to be subdivided.
- All natural features and landmarks including trees, valleys, and so on.
- The approximate contour lines across the land.
- The elevation, location, and width of all streets and buildings.
- Location and types of wells, if found.
- Any ramparts or retaining walls.

3. Then the planning authority staff reviews the application to check if:

- The land has been previously subdivided.
- The land is designated as agricultural land.

- The land is checked whether it's within the Urban Boundary Limits of the city and whether it's on the phase I or the phase II of the UBL. Also if it's within the Master Plan boundaries, it has to conform to zoning. If the land is outside the Master Plan boundaries, the application is transferred to the concerned planning authority for review and disposition. If the land is categorized as agricultural land, the Ministry of Agriculture is notified and the application is forwarded to HCFDR or MOMRA for make-up. If the above conditions are met, it is usual that the application is officially approved.

4. The planning authority then starts the detailed subdivision plan at a scale of 1:2,500, with details of 1:1,000 scale. These plans should consider:

- Land relationships with the approved Master Plan provisions and regulations, and with population density in the immediate vicinity.
- The proposed subdivisions' relationship with surrounding approved subdivisions.
- The programme of public facilities initiated on the basis of the projected population for the subdivision, and the level of public services for nearby divisions. And a calculation of the type and size of each area's facilities.

5. After completion of the above and granting of subdivision approval, a copy of the survey plan is sent to all agencies in charge of public utilities:

- Municipality Roads Department.
- Water and Sewerage agency.

- Traffic Department.
- Municipality Park Department.

One copy of the subdivision plan is also sent to each Ministry with land reserved for its services:

- Ministry of Islamic Affairs for mosques.
- Education Ministry for schools.
- Post Telecommunication and Telegraph Ministry for post offices.
- Interior Ministry for police and fire stations.
- Youth Welfare Directorate for sports facilities.
- Health Ministry for health facilities.

6. The planning authority then notifies the applicant of the approval and he is given a copy of the plan and of the land survey map.

7. The planning authority dispatches surveyors to the site to subdivide the land using stone markers.

8. After completion of site work, the planning authority notifies the Justice Clerk (Kaatab Al Adel) by sending him a copy of the subdivision plot and land survey maps signed by the authority.

1.14 Despite the foregoing procedure, it has been frequently witnessed that subdivision plans come into a land area before the Master Plan, which has meant that the area's land use and planning has been determined before the conclusion of the Master Plan. In this situation, the Master Plan has been merely a de facto reflection of already existing subdivisions.

1.15 The problem of land subdivision permissions which are nearly unlimited and given beyond control has been recognised by MOMRA, describing subdivision procedures and regulations which have not been efficient in the task of processing large numbers of applications, let alone putting forward a clear land subdivision policy. The applications of these regulations resulting in uncontrolled urban growth have been seen to be putting great pressure on city public services, producing an undesirable urban environment that does not reflect the real image of local culture (MOMRA, TR-9II, 1981).

THE RATE OF URBAN GROWTH

1.16 Riyadh in the early 1930s was a small, wall secured and brick settlement (Figure 1.2) of a population of around 15,000 inhabitants, built around a central mosque, bazaar and the Royal palace. The city is located in the middle of Najid region, the central region of the Kingdom of Saudi Arabia where there was then only a small population. Its economy was based on oasis agriculture and the small trade within the central area. When the now Kingdom of Saudi Arabia was unified under the late King Abdulaziz in 1930, the city slowly afterwards expanded outside its walls. By 1950, the town's population had reached around 80,000 inhabitants, and its surrounding walls were demolished. Figure 1.3 shows the dwelling types of that period. 1950 marked the real beginning of the city's urbanization as the era of the flow of oil income began. The city started to grow in cirlces around its

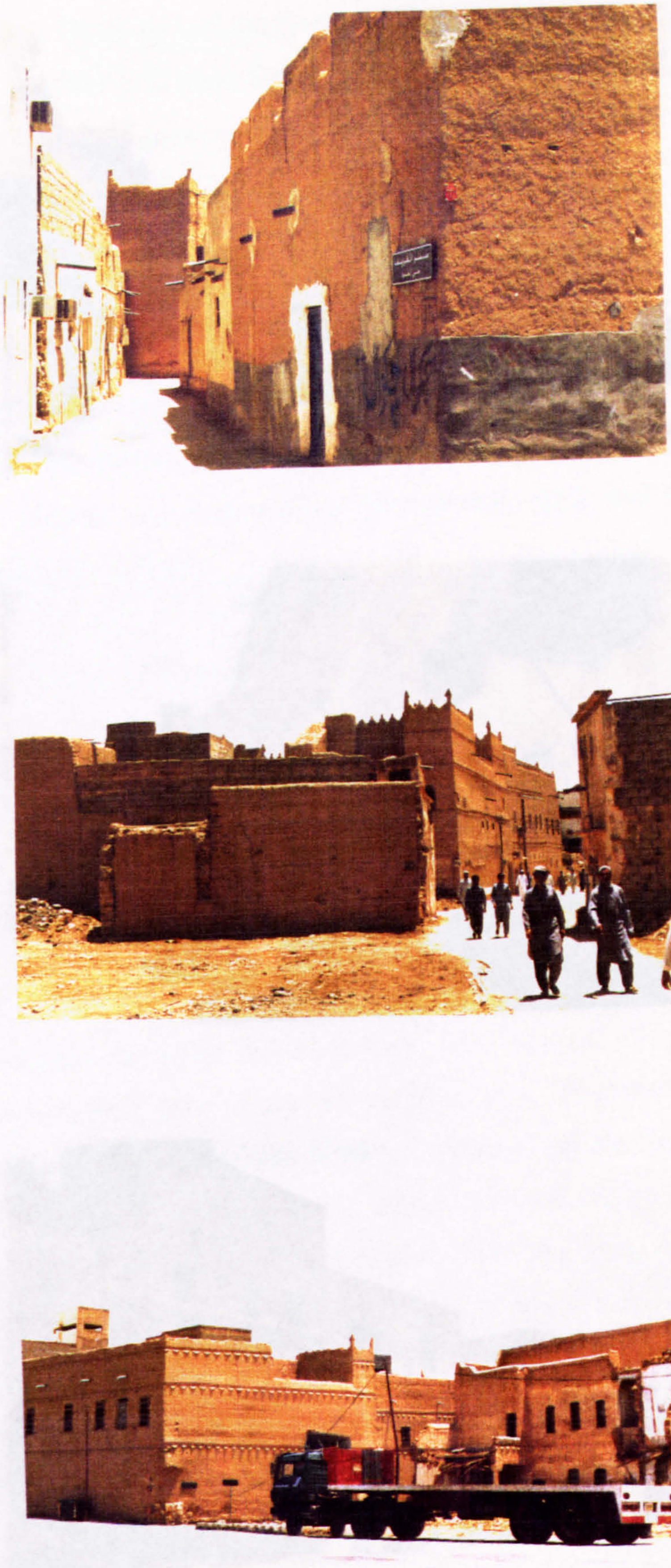


Figure 1.2: Riyadh only type of dwelling prior to the 1940's that still exist in some parts of the city.

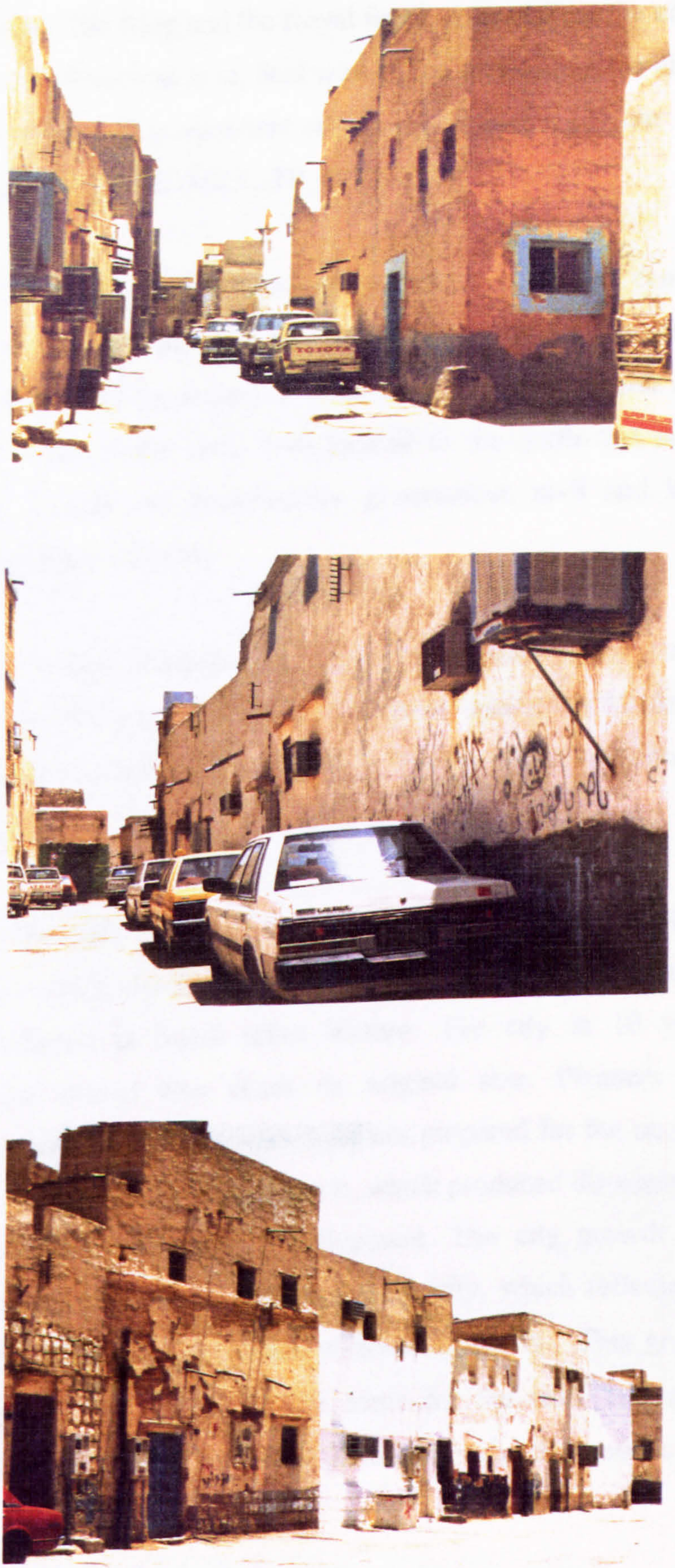


Figure 1.3: This type of dwelling was predominant until the late fifties.

old nucleus. The King and the Royal family moved from the city centre to the Nasiriyah area, then west of the outskirts of the city. By 1953, almost all government offices were transferred from Jeddah to Riyadh (MOMRA, TR - 6 I, 1979).

Early in the 1960s two urban trends took place outside the central populated area of the city; the government initiated a modern style (Figure 1.4) community of subsidised housing in Malaz and another in the Matar area, both located to the north and north west or Riyadh and designed for government, civil and high ranking military officials.

Figure (1.5) also illustrates concrete types of housing that started in the late 1950s and become predominant during the 1960s. a) and b) shows a semi detached single family house, c) shows a flats building.

1.17 During the mid 1970s, a very fast urban explosion erupted causing much chaos and a scale of urban expansion unprecedented in Saudi urban history. The city in 10 years increased around four times its original size. Planners and government planning agencies were not prepared for the rapidity of city growth nor able to control it, which produced disorganized and sometimes incoherent development. The city growth was faster towards the north and east of the city, which reflected in the city inhabitants' preference of areas to live in. This growth direction is expected to be the same for the early future, as peoples' desires and the existing plans emphasize the tendency to

Figure 1.4: Villa type of housing of the 1960's into 1970's.

(a)

(b)

(c)

Figure 1.5: this type of concrete housing started in late 1950's and were predominant in the 1960's. These were then middle class single family semi detatched houses a) and b) and flat building c).

north and north east trends of growth.

1.18 As the city of Riyadh has fallen back from its most rapid urban expansion in the last decade, its growth is expected to continue at a lower pace than at its previous peak. As the city has reached near to its maximum capacity for the time being and government spending on projects and salaries is now less, therefore less population migration is expected into the city in the 1990s than when the national economy was more expansive. Figures (1.6) and (1.7) illustrate the type of developments of the late 1980s and early 1990s. The figures show: a) new residential area, b) show room, c) light industry area, d) modern flat building, e) and f) new shopping centre.

1.19 The trend is assumed to take most growth toward the north, north east and east of the city, with the rate of growth being higher in the northerly direction where the King Kalid International Airport (KKIA) is located and the main inter-Kingdom Qassem highway runs, but also in the direction of the Damam-Riyadh highway to the east. The nature of the land to the north and east and of the city's topography are major factors in intensifying city growth in these areas. West of the city the deep valley of Wadi Hanifa forms a natural barrier to halt city growth in that direction. To the south is the industrial area and the city livestock market, which will continue to discourage city growth in that direction, especially of the residential and commercial uses which are Riyadh's predominant uses of land. Besides, the natural topography of the south of the city area does not encourage

(a)

(b)

(c)

Figure 1.6: Developments of the 1980's and 1990's.

(d)

(f)

Figure 1.7: Developments of the 1980's and 1990's.

development.

1.20 Although it is the capital and the principal example, the tremendous growth of Riyadh is not the only case of urban sprawl in the Kingdom, for rapid urbanization has reached most villages, towns and cities in the Kingdom. Everywhere, historic mud-brick towns were abandoned as oil revenues flowed into the national economy and new concrete, grid systems towns were established with triple or more of an original settlement's population. And although Riyadh's case was exceptionally large, other cities and smaller settlements experienced similar patterns of growth and reflected inconsistencies between plans and development problems.

GENERAL METHODOLOGY

1.21 The underlying assumption from which the thesis starts is that ineffective planning and control of land use has led to an excessive degree of incoherent and inconsistent developments in the city of Riyadh. These developments are inconsistent with the city Master Plan or with city dwellers' needs and the Master Plan itself has not been coherent with what the city's development should have been. The very rapid pace of urbanization has helped create a large number of unsatisfactory urban by-products, such as urban sprawl, land speculation, lagging infrastructure, an aesthetically `non-expressive' city image, and so on.

1.22 The main questions for the thesis are these:

(i) How much, where, and what of developments in the past 20 years or so have been inconsistent with development plans?;

(ii) How much has been consistent?;

(iii) How are the consistencies and inconsistencies to be explained?;

(iv) Did the inconsistencies matter and in what way?;

(v) Could planning and allied procedures of controlling development significantly improve the procedures of implementing plans, thereby improving the efficiency and environment of Riyadh?;

(vi) Do the deficiencies stem from the development plan itself, the implementing agencies, other variable elements, or from all three factors together?;

(vii) Were the development and public utilities and services put by the (SCET) Master Plan desirable?;

1.23 To investigate the problem and help answer these questions of research, a data information and survey gathering programme was conducted. The information was collected by reviewing texts, periodicals, articles, aerial photos, maps and reports that related directly or indirectly to the research problems. Also, data was compiled through gathering, analyzing, and categorizing information from planning authorities and other related agencies, and by informal discussion with planning officials. Along with this data, a field survey gathered information which was combined and compared with maps and related to the existing urban situation. The total gathered information was studied, analyzed, categorized and listed, and answers to the study questions were established before conclusions were drawn.

1.24 This chapter has introduced briefly the main topics of the thesis which are the development and planning control problems associated with the growth of the city of Riyadh, and an assessment of how planning has performed in its purposes of controlling growth efficiency. The chapter also introduces the general methodology followed to conduct this research.

Chapter two is a theoretical review of literature related to the research topic.

Chapter three deals with the economic and social factors that have significance for urban growth and land development in Saudi Arabia, such as government and individual income, government expenditures, population growth, and so on.

Chapter four explains the process of control of urban growth and development carried out in Saudi Arabia through the roles of the Ministry of Municipal and Rural Affairs (MOMRA), Master Plans, Municipalities, the Urban Boundary Limit (UBL), the High Committee for the Development of Riyadh (HCFDR), and related processes of development control and approvals.

Chapter five covers utilities, public services, transportational open space and their relation to the growth and control of development in Riyadh, and to the degree of fulfilment of the city inhabitants' needs.

Chapter six discusses the issue of developing urban land in relation to Saudi citizens' rights in land ownership, local rights of development, development control regulations, the Sharia's laws and common practices of development. It examines planning's effect in development and the perceived weaknesses of control.

Chapter seven explains the research methodology followed to

collect and analyze the data needed.

Chapter eight defines development in the city of Riyadh between the years 1977-1991, categorizing it according to the kind of use activities and their size and scale. The main case study chapter, chapter nine outlines the developments inconsistent with planning intentions and their categories and the causes of such inconsistencies.

Finally, chapter ten provides recommendations based on the research results and its conclusions.

CHAPTER TWO
DEVELOPMENT PLANS, DEVELOPMENT CONTROL AND POLICY IMPLEMENTATION

INTRODUCTION

2.01 The purpose of this chapter is not to be critical in favour of one planning method over another, nor is it meant to get into a general evaluation of wide theoretical arguments and differences in the field, where there is no conclusive evidence that there can be a best and universally applicable method of conducting the control of development procedures or of carrying out the implementation process. The aim of this chapter is to be primarily descriptive. The first part explains development plan and control of development methods by selecting features from the US and European countries, and from the UK in particular, and sheds some light on their approaches to development control, bearing in mind that a method of control that is good for one country might not be suitable for another, where economic, social and political factors are different.

Britain and US are particularly important comparators because they are leading developed countries, the first with a unique system of development control, while the US has a zoning system which is generally common also in European and other countries.

2.02 The second part of the chapter covers a summary of the theory of implementation which is applicable to planning, as the control of development is to a certain degree the process of implementation.

Underwood (1981) noted that control of development and planning and the management of the development process has a power role in implementation, relying on the statutory authority of the system of control.

DEVELOPMENT PLANS

British Development Plans

2.03 The 1990 Town and Country Planning Act described development plans as an important section of the system for controlling development. They comprise two levels of plan: an upper level of structure plans, and a lower level of local plans. However, they cannot provide more than a general framework. And many were prepared years before being adopted which means that they are based on old information. So many policies contained in them are outdated for current conditions. And they cannot adopt immediately to changing conditions (DoE, PPG1, 1988).

2.04 The revisions of development plans in the 1980s weakened them so far as the government instructed that they were not to be mandatory in all circumstances. But development plans were not abandoned, and there remained a solid commitment to local plans for all areas. Challenge to plans could be made by affirming the wide relavance of other `material considerations', and in some cases the government had the capacity to enforce its values through introducing strategic guidance (Thornley, 1991).

2.05 As Section (26) of the Planning and Compensation Act 1991 stated:

"...where in making any determination under the Planning Acts, regard is to be had to the development plan, the determination shall be made in accordance with the plan unless material considerations indicate otherwise."

2.06 In the early 1990s the government changed its attitude to development plans, which it now stated should be the leading and normally mandatory factor in controlling development although DoE/PPG12, 1992, noted that the Secretary of State very much discouraged over-detailed plan-making, and that plans should be clear, brief and understood easily. They should include local planning authority policies and proposals for the development and the way land should be used, and ought to refer, as a background, to the total strategy and other policies of the different planning authorities related to land-use planning (Department of the Environment/PPG12, 1992, 5.3, 5.4).

2.07 When the two-tier system of county and of district councils was abolished in metropolitan areas of England in 1986, a unitary development plan was introduced for the resulting unified tier of councils. It contains a statement of strategic guidance assisted by the DoE and a second part prepared wholly by the local authority. The first part of it is similar to a structure plan in its content, while the second part includes detailed policies similar to local plans (Thornley, 1991).

2.08 The 1990 Town and Country Planning Act laid out the requirements of preparing the unitary development plan, local and structure plans. For the preparation and adoption of unitary development plans, it should be as follows:

1) Local planning authority shall prepare a plan for their area, a plan known as a unitary development plan that contains two parts: the first part shall include a written statement structuring the authority's general policies including means of improving the physical environment and traffic management.

2) The second part of the unitary development plan shall consist of a written statement detailing the authority's proposals for development and land-use in their area, a map showing these proposals, justification of policies, and illustrations, diagrams, or other descriptive matters.

3) When formulating the general policies in the first part of the unitary plan, regard shall be given to any strategic guidance from the Secretary of State, to existing regional and national policies, to availability of resources, and to such matters that may be directed by the Secretary of State to the authority.

2.09 Part Two of unitary development plans may designate a part of any area under authority as an action area.

2.10 In the non-metropolitan counties of England where a two-tier system of planning authorities remains, the Act states that the

structure plan prepared by the counties shall consist of the following:

1) A written statement formulating the local planning authority's policies and proposals including means for improving the physical environment and traffic management, and should also consist of other matters as may be directed by the Secretary of State.
2) The written statement shall be backed up by diagrams that shall be part of the plan.
3) The local planning authority, in formulating their policy, shall have regard to the existing policies in relation to economic planning, development of the region in general, and availability of resources needed for implementing the structure plan proposals.

2.11 Local plans prepared by district councils shall consist of the following:

1) A written statement describing the planning authority's proposals for development and land use in their area, and other means for improving physical environment and traffic management. It shall also include maps showing those proposals and such illustrations, diagrams and other explanation matters.
2) Local planning authorities, in formulating their proposals in local plans, shall have regard to any information and any other considerations which seem to them to be relevant.
3) A local planning authority may for part of its area prepare a

local plan as an "action area" which it has chosen for execution during a designated period.

4) A prepared local plan for an action area shall define the kind of treatment chosen for the area. (Town and Country Planning Act, 1990, Sec. 12, 31, 36).

2.12 A considerable amount of discussion over development plans in Britain argues that development plans broadly, or in their current state or the way they are implemented, are not consistent or relevant to the present normality of British land policy. In other words, the debate is whether the development plan is a suitable measure for the planning task. Indeed this is a critical issue of debate over defending government involvement in land development. Those arguing may agree in general about the need for adopting specific policy measures, and the desirability of a development plan, but may disagree about procedures, methods and uses of development plans (Healey, 1986). Healey quotes Castells:

"It was found that master plans, which appear to be the veritable embodiment of schemes for urban development, whatever their scale, have an underlying social and political logic, which varies for each plan in each exact correspondence with the situation of political hegemony within the institutional apparatus on which the planning agency in question depends. This hypothesis turned out to be so precise that plans drawn up in indecisive political situations took the form of `question mark plans', while other plans underwent substantial changes as changes took place in the

political parties controlling the planning apparatus...Plans stamp all individual schemes with a double character; on one hand, they come to be seen as `reasonable,', rational technical solutions to the problems posed and, on the other, they appear to bring about a convergence of the various social groups and urban functions". (Castells, 1977).

2.13 Healey (1986) concluded that structure plan output is primarily a technical and managerial process where there is plenty of room available for planners' judgement to formulate policies, and justifying them is in fact limited by:

1) The powerful regional patterns of government agencies overlapping the diversified public authority development effort.
2) Central government policy concerns and their clarification by central government officials.
3) The political seniority of county authorities and their links with districts.
4) The manner in which the attitude of different interest groups is delivered to ministers and local councillors on one side, and to central and local government on the other.

2.14 No matter what the structure plan policies are or will be, the plan seems more fixed in its application than expected in plans meant to relate social and economic policy to spatial strategy, and less explicit in focus than what is anticipated of plans meant to provide guidelines for the foundation of local development plans

and development control (Healey, 1986).

2.15 However, there is an alternative viewpoint in Britain which leans towards development plans which are mandatory and give a positive indication of what development is permissible and what is not. This viewpoint is influenced by ideas of development planning which operate in other European countries, and in the United States where zoning and more precise rules about land use have featured more often in development planning.

2.16 So, after the 1980s when development planning seemed to be in retreat, the British government has raised its importance in the 1990s following a growing interest in the experience of other countries.

US Development Plans

2.17 The phrase "master plan" in the USA has been used for nearly every plan for development of a property, from small scale to a large estate, shopping centres, office buildings or for a city. The term "general plan" is applied to long range, broad and inclusive planning by, or for government authorities, as a base for comprehensive land development policies within particular boundary limits. These two terms can be used interchangeably, but "general plan" is used to differentiate it from diverse non-government practices that accompany the "master plan". The "comprehensive plan" is a scheme to be followed in order to have systematic city development and to preserve the health, safety

and well-being of its inhabitants; in other words, it is a "general" program that includes many social and economic factors. It arranges and regulates the complicated relationships between land use and civil activities. Under US state laws, local governments are normally obliged to make a comprehensive plan and arrange its span (Gallion, Eisner, 1983).

2.18 The comprehensive plan has been used on some occasions as only a source guideline for the planning commission, and not subject to either public consultation or formal decision by the legislative authority. In California in 1974, a bill was introduced making uniform zoning obligatory within the comprehensive general plan, therefore creating planning policies as the provisions criteria for implementation via exact zoning (Gallion, Eisner, 1983).

2.19 Delafons (1969) stated "...sound development standards do not make a well planned city. In the long term, land use controls are only as good as the plan which they implement. The most obvious defect in the whole American land use planning machinery is that the controls came before the planning". Land development and use control in the USA is generally separated from development plan schemes. This system differs from that in various European countries where an urban land use development plan is first introduced and then implemented through land use controls, where both controls and the plan have legal ratification. Development plans in the USA are not empowered by law. Development controls are an extension of the layout of lots of

land for a particular use activity (zoning) (Garrett, 1987).

2.20 Much of planning development in the USA is not planning but zoning. Planning signifies policies that are comprehensive for development, use and preservation of the land. Zoning, which can be a tool of planning, is dividing local jurisdiction areas into different land parcels according to the permitted use allowed by the regulations (Cullingworth, 1993).

2.21 In the USA throughout the 1960s and 1970s, most localities, both urban and rural, had introduced comprehensive plans which were primarily developed by professional planners and introduced to the public by public hearings, and then modified according to the public view. A comprehensive plan is, as the words suggest, an all-out plan. It divides the current developments of its community and locations of possible future urban expansion into main sections - residential, commercial, industrial - taking into account current and future infra-structure. It is a plan for development of a community as a whole. The comprehensive plan very often faces strong rejection from the same people who primarily opposed zoning on the grounds that it decides what development should take place in a particular area of a community. Even this does not always apply to all pieces of land. Many property owners, consequently, may oppose a comprehensive plan more than the adoption of a zoning ordinance (Garrett, 1987).

2.22 It is indeed a fact that a comprehensive plan has no legal power, but communities most often exercise development controls in a

method that is in agreement with the plan. With rare exceptions, in any proposal for zoning alteration, permit for special use, or variance to current zoning of a plot of land, the planning authority official of the local government will submit a statement including whether the demand for alteration is in accordance with the comprehensive plan, and the recommendations of the official are extremely influenced by whether the submitted alteration agrees with the current plan or not (Garrett, 1987).

2.23 Delafons (1969) argued that it is useless to inject into development control systems detailed rules and regulations, unless the execution of these control principles is consistent with the broad framework and goals indicated in the comprehensive plan.

2.24 There is no development plan that is one hundred percent perfect and where all the community parties will be satisfied with it. It is always political in nature since the objective and goals of society change from time to time and it is by the political process that the objectives are evident. One main goal of the plan should be to defuse controversies between land owners, developers and residents (Garrett, 1987). In the USA, it appears that comprehensive zoning has achieved this to a certain degree and plays that role.

2.25 The US Supreme Court upheld in the Standard Zoning Enabling Act of 1926 that zoning is constitutional. The Act asserts that zoning should be a layout in agreement with a comprehensive

plan. The comprehensive plan should include the goals and objectives of the community which would be implemented by zoning. That is, zoning for development would be according to the plan. But this did not work out as it was intended because zoning always came before planning. Planners who supported formal plans argued that zoning ordinances are not built in a way to anticipate long range harmful effects of growth. Also, zoning is a very restrictive ordinance and is exclusionary. To face this situation of exclusion, a number of states endorsed laws to try to force communities not to use restriction in implementing zoning ordinances. Zoning came first, for that reason, and to satisfy owners of undeveloped land and suburban people, the original content of zones and sometimes the type of uses within those zones may not be in accord either with a development plan or any objectives of the community, if any exist (Garrett, 1987).

2.26 Almost all development planning in the USA is not a comprehensive planning approach but is zoning. Planners perceive zoning as an instrument of planning. But when in a broad sense it should be a tool or a part of planning, it is in fact commonly the whole of planning. The statement "in accordance with comprehensive plan" that came under the Zoning Enabling Act is included in zoning provisions in almost all states, but the statement's real meaning is that zoning should be introduced comprehensively, not little by little. The zoning ordinances have the weight of the power of law, but not the comprehensive plan. Comprehensive plans in the U.S. are being applied increasingly by municipalities and courts. Zoning is almost, as Cullingworth

noted, "self executing". Zoning rules and provisions with maps show precisely and in detail the kinds of uses and development allowed in each particular area, where there is no place for "choice". Therefore, the legislative authority is responsible for laying out policies, while executing these policies is through the planning commission by granting permissions and variances. But whereas in Britain the planning appeal is to a great extent part of the government organization, in the USA planning challenges are conducted in normal courts which depend on constitutional factors and previous rulings, and policies get into the courts to the degree that they do not contradict the legal arbitration of municipalities (Cullingworth, 1993).

2.27 It is clear that the comprehensive plan in the USA is an ineffective tool. Urban development and growth are not required to conform to the plan. Planning commission officials, planners and the local authority may try to work out a process of development growth in accordance with the development plan, but it can be tremendously difficult to do so because the plan has no legislative support, and many developments can occur legally although not according to the comprehensive plan (Garrett, 1987).

2.28 For many years, counties and municipalities legislated and modified zoning ordinances with minimal regard to their relevance to comprehensive plans. Prior to any endorsement of a zoning ordinance, usually a survey of the existing land use would be laid out by a map, then boundary lines of district zones would

be defined based on consultant's recommendations, local policy makers, and the political influences in the community. Zoning is applicable to a variety of types of land use, but in any urban area it will include some exceptional cases that justify a zoning ordinance or exception (Scott, et al, 1977).

2.29 Conclusively, the USA seems to have set aside comprehensive planning as a kind of "shelf" planning which is scarcely used, without any major role in the planning process nor any statutory power. On the other hand, zoning is established as the main control tool in American planning machinery, with strong, legally binding provisions.

DEVELOPMENT CONTROL

Definition and Origins of Development Control

Definitions

2.30 The term development control, or control of development, or urban growth management are all terms used interchangeably in this research, although rather different inferences can be drawn from them in different countries. Control of development deals with regulating the quality of development and that of its quantity. Quality includes all kinds of planning provisions that regulate urban development to ensure that the final output is efficient, desirable and acceptable by an area's inhabitants and its planners. Development quantity is concerned with the size of urban growth and its density whether at small scale with individual built units or with the larger scale, both horizontal and vertical, by controlling the urban area as a whole. In order that an urban area can reach these objectives of sound quality and quantity of urban environment, an urban community sets a system of controls to conduct this process of urbanisation.

2.31 Development control protects the main components of the living environment in an urban community from harming each other. There are two main components, namely people and the land they inhabit. The interaction between these two components is carried out by activities exercised by people moving in to live on a particular piece of land. If individuals are left to behave on their property exactly as they wished, with no regard to their

surroundings and neighbours, then a chaotic situation would occur. This simple definition explains why there is a constant need to have control over human urban development activities in regard to land use.

2.32 In planning terms, development control is the implementation of rules, regulations, plans and policies to control, manage, direct and organize the process of urban growth with the specified target of obtaining a desired urban environment for its inhabitants.

Development control is the sharp edge of the land use planning system. It is the process by which planning affects most people and could be said to have the most direct effects. It is a necessity that permission is required for most categories of development in the UK and in other European countries (Rydin, 1993).

2.33 Those in charge of managing urban activities should have clear authority over the people and the land in order to create a well ordered and pleasant urban environment. In Scott et al (1977) development control is defined as: "a management process in which development occurs in accordance with the overall community goals and objectives". He also defined the land-use development process as a sequence of phases, with different elements engaged in the decisions which transfer from one phase to the next.

2.34 Delafons (1969) stated that: "where reasonable controls have been adopted and are well administered, they do undoubtedly

result not only in a sound standard of development and an absence of conflicting uses but also in stability of neighbourhood character and maintenance of property values".

2.35 In Denmark, development is defined as all kinds of construction, destruction of existing buildings, location planning, car parking, roads, advertisements, change of use, land levelling and some other activities. In France, development includes all construction, demolition, change of existing use, external appearance and public services. In Germany, it includes any change of use of land, all construction, and destruction or removal of buildings. In the Netherlands, the local definition generally includes all building, external appearance, tearing down buildings, tree planting and land reclamation. In all the above five countries, the use of land for agriculture is excluded from control (Davies, 1989).

Origins in the Middle East

2.36 Controlling and regulating the use of urban areas has a long history. King Hamurabia of Mesopotamia made rules for this as far back as 2000 B.C. The Greeks made special rules for building houses and the Romans set a height limit for tenements. In early Islamic nations, private ownership was protected by religious principles even thought this right was unlimited. Hisba (or public control of activities) was introduced, with rules such as "nobody could raise his building to obstruct light or air from his neighbours". In a similar fashion, "it was not permitted to place a

flour mill or a leather tanning factory in residential areas as it could pollute the environment. And not to slaughter animals in the streets or houses to avoid unhealthy conditions". This evidence reflects the fact that the state had the power to regulate the use of property for the well-being of the community's inhabitants, and the Muhtasib (or public official regulator) could order the richer inhabitants to contribute financially to providing water supplies or other community services if the public treasury did not have enough funds. Public places such as roads or bazaars, or parts of them, could not be under the exclusive control of any particular person or group, which implied that public resources would not be used to create a privileged group in society (Ibn Taymiya, 1982).

2.37 The Islamic Law of real estate put control on property ownership in favour of the neighbour, by placing on householders the obligation of not committing acts likely to disturb neighbours in the way property is used (Schacht, 1983). Also, Islamic principles strictly forbid any obstruction or misuse of public places and road accessibility.

Origins in Europe

2.38 Looking back into recent history of control in five European countries, the origins of development control in all these countries were similar: an extension of the government's efforts in facing the urban conditions of the nineteenth century and the rapid expansion of its towns. In Britain, in the year 1909, the first

legislation was introduced to plan and control suburban development. The measures were to prepare well serviced land for urban expansion, and to ensure that any development would meet higher standards of health, safety, convenience and amenity. The main tool was local planning with building control (Davies, 1989).

Origins in Britain

2.39 During the nineteenth century, Britain experienced the negative effects of the industrial revolution on its communities. In the year 1909, the Housing and Town Planning Act gave powers to local administrations to make plans within their administrative boundaries. In 1942, the Scott and Uthwatt Committees recommended establishing a main planning authority, bringing in rules to ensure government control over development, making extensive modifications to compensation and enhancement provisions, and increasing the authority of local government for compulsory purchase; this led to a number of Town Planning Acts. These Acts concluded in the Town and Country Planning Act of 1947 for England and Wales, with a separate act for Scotland. The main aspects of this Act were (Davies, 1989):

a) To create a foundation of land use in all Britain according to development plans prepared by local government, approved by the Minister for Town and Country Planning (now the Secretary of State for the Environment or the Secretary of State for Scotland).

b) To control all development by requiring permission for development from the local planning authority.

c) To delegate to local authorities means to take land for planning or development, and to get support from central government for that purpose.

d) To protect buildings and landscape of historic and natural character.

2.40 The 1947 Act introduced by a Labour government accompanied a broad revision in planning policy with the clause that the government shall retain all powers related to the development of particular land. This modification meant to eliminate the difficult procedures in the process of improvement and to decide proper compensation. It gave exclusive authority over how land was developed and used (Gallion and Eisner, 1983).

2.41 In Britain, land development regulation aimed to help reach broad national economic and social goals. Achieving these goals required control over location of development and the use and development of all land. This influenced property values on two levels: that of the private property owner, where it was considered obligatory to give owners whose property values were affected by public control of land use the right to object and to claim compensation; and that of who should get the financial gains from development. One remedy to this problem was to nationalise all land. However, the land ownership idea was too strong for this ever to gain political support outside of Labour governments. The Uthwatt Committee of 1942 recommended

"the nationalisation of development rights of undeveloped land"; in this case, land could not then be developed without government profiting by the development value. Uthwatt had distinguished between developed and underdeveloped land outwith city areas. This two level system can be found now in a number of countries (Healey, 1988).

2.42 In 1953, the development charge was revoked by a Conservative government, on the argument that the 100% development charge restrained land owners from relinquishing land and developers from developing it. Nevertheless, local authorities were still left with the power to acquire land for their development needs. The Community Land Act which a Labour government introduced in 1975 delegated power to local authorities to take "appropriate" development land, which would be exploited for public development or left to a developer or a user. Later this Act was overturned by the Conservative Local Government and Planning Act 1980, with the exception of the Land Authority for Wales, which succeeded in its goal of demonstrating its profitability (Healey, 1988).

2.43 Through the 1980s, attention concentrated on the management of the control of development, especially the length of time taken to make a decision on planning applications. Most recently, concerns have been about the benefits and efficiency of development plans, particularly structure plans. A paper

produced in 1988 by the government (Department of the Environment) about the future of development plans sought to soften their status (Davies, 1989).

2.44 But in the 1990s the government changed its attitude to favour development plans more strongly than ever. New tools for control have been initiated for selected localities. A proposed development in agreement with a recognised development plan or a clear planning zone would be granted planning permission under the Enterprise and Simplified Planning Zone arrangements. Also the delineation of development has been modified, by the revision of the General Development and Use Classes Orders, with the purpose of widening the scope of permitted development. Although the Government sharply retreated in 1991 from the elimination of structure plans, it still intended to give more power for planning and control to the lower levels of elected local government, the district councils (Cullingworth, et al, 1994).

2.45 Although UK development plans and Planning Policy Guidelines issued by the Government are a reference for development control, they are very frequently in broad terms requiring a definition of their meaning and giving wide scope for judgement. The UK in particular depends not only on these plans but also on large number of non-statutory documents, such design guides and development control policy notes. In districts where there is no development plan or the plan does not cover the matters brought up by an individual planning application, development

control has to depend on unwritten policies, judgement and professional skills. And government planning agencies do not want to or cannot commit themselves to written statements of policies. The more the commitments the less flexible planning will be with less adaptability to changing situations; this is the main characteristic of the British development control system. (Davies et al, 1986a).

2.46 But the 1991 Act for Britain has to some degree changed this situation; the Act added these words: "Where in making any determination under the Planning Acts, regard is to be had to the development plan, the determination shall be made in accordance with the plan unless material consideration indicates otherwise" Cullingworth (1994) commented on that by arguing that it had not brought anything new, except the intent of the planning system to be more 'plan-led'.

2.47 Even where local planning is oriented towards market trends to control development, professional influence remains critical, as does the role of key councillors. All this was evident in a special study of Colchester District (Brindley, et al, 1989).

2.48 Healey, et al (1988) found in their case studies in the UK that development control through development plans is of special importance in the urban outskirts, But that control through finance has a very great effect in the city centre (Healey, et al 1988).

Origins in the United States

2.49 During the early years of the nineteenth century, regulations increased in scope and number in the USA. The indiscriminate and mixed use of land in residential areas depreciated land values and neighbourhoods. So it became necessary to introduce measures to control development (Gallion, Eisner, 1983).

2.50 Land in the US has never been a scarce commodity. Its tremendous quantity has been a strong influence on American opinion on land, its development, and government means of controlling its use. Almost all the land in the US has at some stage been owned by the federal government, and consequently it is the property of the people of the United States. The Homestead Act of 1862 offered a parcel of 160 acres of land to any citizen who would build a home and a farm, and stay on it for five years. The move of initiating new settlements in wild and remote areas came parallel to awareness among the inhabitants that there should be some system of planning to control expected future urban growth. The people's right to acquire and own land, and control its development without government intervention, became a key factor and urgent need. The right of "protection" of property expressed by the American people was not just protection from government interventions, but also from rival interests. These instances shaped and emphasised American development control directions. One of the main issues was a leading zoning process case in the courts. All the main initiators of zoning procedures in the USA were lawyers, who thought

more in terms of making legal history than in terms of planning matters and perceptions (Garrett, 1987).

2.51 The city of San Francisco first introduced zoning towards the end of the nineteenth century as a way of segregating the Chinese new-comers. The city declared that laundries (owned by the Chinese) were fire hazards and a public nuisance. This declaration was upheld in the Californian courts in 1886. After passing this proposition, the city introduced more controls on other possible nuisance uses. Los Angeles in later years (1909-1915) introduced a comprehensive division of districts according to their kind of use. In 1885, New York restricted the height of buildings to one and a half times the width of the street (Delafons, 1969).

2.52 An attorney from New York named Bassett, wishing to see urban populations control their own community, prepared a legal tool whereby the people could effectively exercise their power to control the development of land in urban communities. He was the first to introduce zoning which he defined as: "the regulation by districts under the police power of the height, bulk, and use of buildings, the use of land and density of population". With this, the first comprehensive zoning ordinance in the United States was enacted by New York city in 1916. And for the first time, a tool for controlling development in urban communities in the US had been established (Gallion, Eisner, 1983).

2.53 It was not until 1926 that the US Supreme Court considered the

legality of comprehensive zoning controls, in its landmark decision in the case of the city of Euclid vs. Amber Real Company, which set a legal precedent for local control of land use through zoning (Scott et al, 1977).

Development Control in Britain

The Definition of Development in Britain

2.54 Section (55) of the 1990 Town and Country Planning Act defined "development" to mean execution of building, engineering, mining, or other operations in, on, over and under land or conducting any material change of use of any land or building.

2.55 According to the Act of 1990, the following do not constitute development and permission is not needed:

- Maintaining, improving or other revision of a building that only affects its interior but not its exterior appearance.
- Execution and maintaining by local authorities of roads, sewers, etc.
- The use of building or land that is within the category of a dwelling house for any purpose related to a dwelling house.
- Use of any land for the purpose of agriculture and forestery.
- Building or land which is used for the purpose of any

permitted class specified in an order made by the Secretary of State.

The Act considers the following are material changes in use:

- Using a previously single dwelling house as two or more separate dwelling houses.
- Depositing waste materials or refuse on land in which the area deposited is extended or the height of the deposit exceeds the level of the land adjoining the site.
- The use for the display of advertisements of any exterior part of a building which is not normally used for that purpose (Act 1990 Sec [55]).

2.56 Britain's 1990 Act defined development in two concepts. The first was carrying out building operations that include structural changes or additions to buildings. The second concept was where development is defined not in physical means but as a change in use of land or buildings. Material change of use is a wide concept and not easy to define, and is not defined in the British legislation. But Cullingworth (1994) has indicated that experience has demonstrated that complicated definitions are essential if efficient development control is to be reached, and the same technique can be applied to exclude issues where control is not essential. First, there are matters which are considered not to constitute development such as internal revision of property, or work executed by the local highway authority. Second, there are matters which probably constitute development, but are not

required to have planning permission. Third, the Secretary of State can make a General Development Order (GDO) detailing classes of 'permitted' development and a Use Class Order (UCO) detailing types of uses in which interchange is permitted because change within a group of uses is not considered development (Cullingworth, 1994).

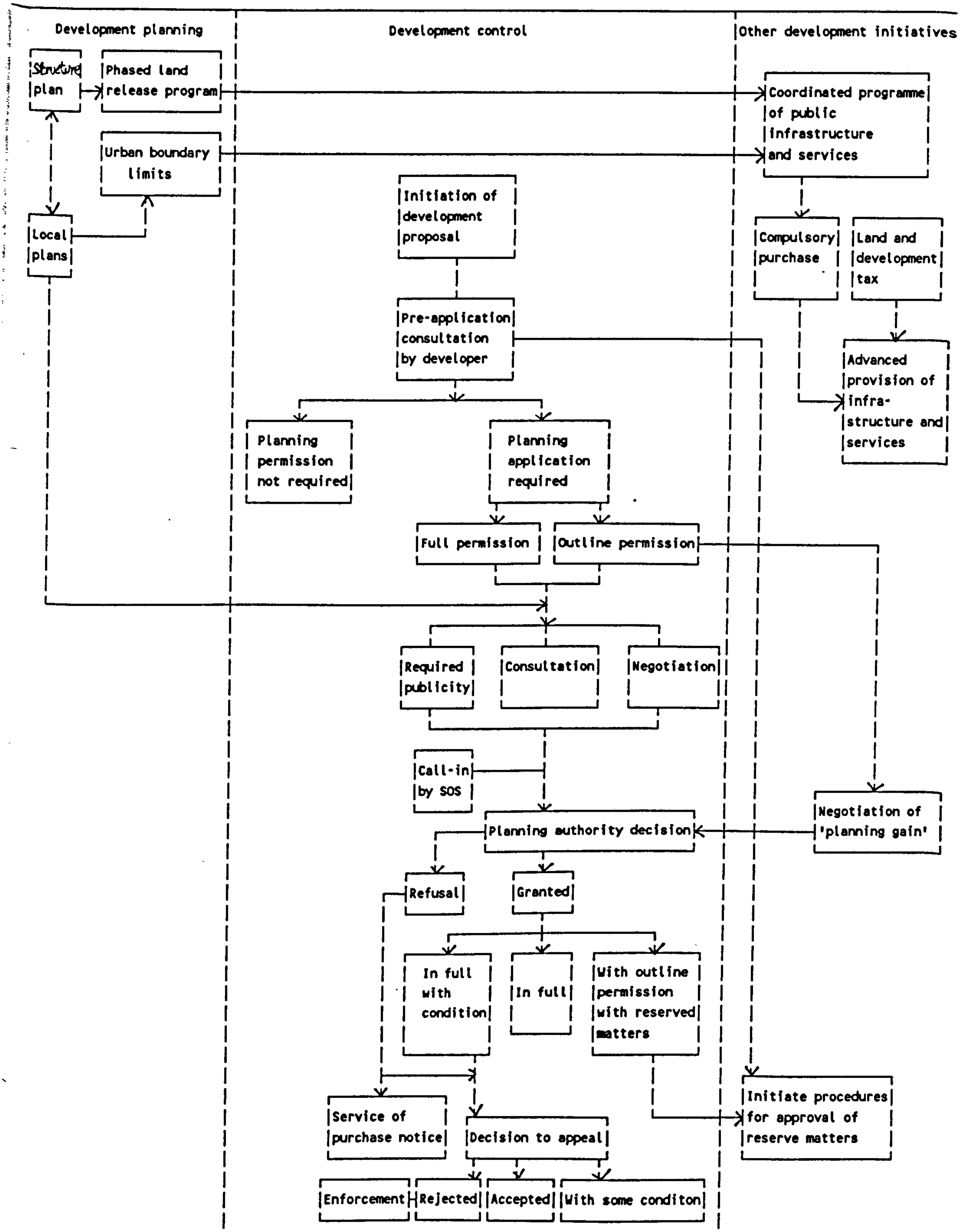
2.57 In Britain zoning came to be considered in the 1980's when the government was pursuing less complicated regulation. The Housing and Planning Act 1986 introduced the idea of Simplified Planning Zones (SPZ), where a planning authority has the right to grant in advance a general permission for development in those designated areas, with no need for planning applications (Wakeford, 1990).

2.58 Wakeford (1990) came to a conclusion that it would be unacceptable to proceed further into the idea of zoning for Britain beyond the comparatively clear examples of Simplified Planning Zones in places where whole standards can be applied. And he confirmed his support for 'development by discretion every time'.

Development Application Procedure in Britain

2.59 The procedure of development control is summarized in Figure 2.1. For any development and change of use in which planning permission is required, a planning application on a definite form

Figure 2.1 : Development and its control in the UK



Source: Adopted from Davies (1990), and from Rydin (1993) which is adopted from Burton and Nicholson (1987).

with all needed detailed information is made to the district council. The applicant is encouraged to have prior consultation with the planning authority. Applications may be made for full planning permission, or for outline permission where some reserve matters may be held for approval later such as details of design. Submission of an application may involve publicity to be done by the local authority. Applications with no reserve matters require informing neighbours by letters or site notice. When the application is submitted, it will be investigated by planning officers who consult with affected agencies such as the Health and Safety Executive. A decision on application will be taken by a planning committee of the council or delegated to an officer or a sub committee. In some rare cases, the application may be "called in" by the Secretary of State for decision, which may be delegated to a planning inspector. The decision by a local authority on a planning appplication may be a refusal or acceptance; in the case of acceptance, reasonable conditions may be put on the planning permission. Also, a planning agreement may take place between the applicant and local authority over planning gain. In the case of a planning permission denied or of conditions attached being unacceptable to the applicant, he has the right to file an appeal to the Secretary of State to reconsider his case. The parties may choose between a written statement or public local inquiry. Then the appeal will be accepted, rejected or accepted under various conditions (Rydin, 1993).

2.60 In the UK, where his development is permitted under the General Development Order (GDO) a developer can start development

without any need for a planning application. In the case of development not included in GDO, the planning authority is expected to start with an assumption in favour of the development, and should deny permission or put conditions only if there are sound and clear reasons for such action. Local authorities in considering a planning application ought to have regard to the development plan or any material considerations. With development plans, some planning authorities have set guidelines in documents endorsed locally after public consultation, which can be used as material considerations. (Wakeford, 1990).

The Use Classes Order and the General Development Order

2.61 Two central govenment policy tools exclude certain kinds of development from development control: the Use Classes Order (UCO) and the General Development Order (GDO) (Figure 2.2). The UCO details sixteen classes of use to which a building may be put; changes of use in the same class are not considered development, nor are some specified changes between classes (Rydin, 1993).

2.62 As illustrated in Fig. 2.3, Class A1 shops can be used for any or all of ten purposes of retail sale, including the sale of cold food to be eaten off the premises. Class A3 includes use for the sale and consumption of food and drink. Any swapping of uses not within UCO classes requires planning permission (Cullingworth, et al, 1994).

Fig. 2.2 The General Development Order (England and Wales)

1	Development within the curtilage of a dwellinghouse
2	Minor operations
3	Changes of use
4	Temporary buildings and uses
5	Caravan sites
6-7	Agricultural and forestry buildings and operations
8	Industrial and warehouse development
9-10	Repairs to unadopted streets, private ways and services
11	Development by local or private acts or orders
12-15, 17	Development by local authorities, local highway authorities, drainage bodies, water authorities and statutory undertakers
16	Development for sewerage and sewage disposal
18	Aviation development
19-23	Mining-related development
24-25	Telecommunications development
26	Development of Historic Buildings and Monuments Commission for England (English Heritage)
27	Use by members of certain recreational organisations
28	Development at amusement parks.

Source: Rydin, 1993

Fig. 2.3 The Use Classes Order (England and Wales)

Part A	A 1	Shops
	A2	Financial and Professional Services
	A3	Food and Drink
Part B	B1	Business
	B2	General Industrial
	B3-7	Special Industrial Groups A to E
	B8	Storage and Distribution
Part C	C1	Hotels and Hostels
	C2	Residential Institutions
	C3	Dwellinghouses
Part D	D1	Non-residential Institutions
	D2	Assembly and Leisure

Source: Rydin, 1993

2.63 This does not mean that a change of use from one class to another is always development. It is essential to decide if material change of use has occured. The GDO details minor types of development - such as development within a dwelling house - which may be carried out without planning permission. The GDO rules may not apply in all cases as the Secretary of State or local authority may issue a direction removing GDO rights from an area. Also, a planning condition may remove these rights. In addition, most of the GDO rules have size limits which prevent their general applicability (Rydin, 1993).

Special Development Orders (SDOs)

2.64 In some cases central government can play the role of the local authority in development control and grant planning permission through a special development order. The Houses of Parliament will debate such an order which will be approved by the Secretary of State. SDO's are relevant to designated areas or individual types of development (Rydin, 1993).

Development by Government Departments, Statutory Undertakers and Local Authorities

2.65 Government departments are in some cases required to have planning permission when they intend to develop, but before starting they should consult local planning authorities in case the proposed development is a type for which planning permission or an impact would be required.

2.66 Statutory undertakers and local authorities also have special planning procedures when carrying out development. Where the authorization of a government department is required for development, the authorisation usually has deemed planning permission attached to it. Much of the development by these two kinds of agency is permitted development under the GDO. When a statutory undertaker wants to carry out development that is neither authorised by a government department nor permitted development, it has to apply in the normal way for permission from the local planning authority, because it can face a conflict of interest when conducting its own proposals for development. New rules were introduced in 1992 that require local planning authorities to apply for planning application in the same manner as other applicants and broadly follow the same processes (Cullingworth, et al, 1994).

2.67 An application for planning permission is not usually needed in the case of development to be carried out on crown land, or

development to be executed by government institutions or by the local authority (Rydin, 1993).

Planning permission with conditions

2.68 In granting planning permission with conditions, a number of conditions are precisely pointed to in the legislation (Act 1990 Sec [70, 72,73] as follows:

1) Conditions may be placed for regulating the development or use of any land under the control of the applicant or on requiring the carrying out of works on any such land, so far as it seems to the local authority appropriate for the aims of or in relation to development authorised by the permission.
2) Conditions may be imposed for requiring the removal of any buildings or works authorised by permission, or the discontinuance of any use of land so authorised, at the end of a specific period. This is referred to as a "limited time condition", where permission is subject to a condition that the operations shall begin not later than a time specified or after a time condition. The starting and carrying out of these operations does not constitute development for which that permission is given.
3) When applications are made for planning permission for development without complying with the conditions to a previous planning permission, it is possible for a planning authority to decide that planning permission should be granted subject to conditions differing from those of the

previous permission, or even that it should be given unconditionally.

2.69 Development plans do not usually specify standard conditions or planning rules to be enforced on specific sorts of planning permission, due to the fact that these need to be considered in individual circumstances; but plans may indicate what types of conditions or requirements might be put or sought in a given situation (DoE, 1992).

Planning Permission Rejection

2.70 The basic principle in Britain is that development should always be allowed except when there are logical and rational reasons for refusal, or for conditional permission.

2.71 Local authorities who reject planning applications without giving rational, sound, and clear cut reasons, might be obligated to pay the costs brought upon the applicant by taking the case to the Secretary of State on appeal. Central government has not been ready to extend compensation beyond the costs associated with the appeal (Wakeford, 1990).

2.72 Planning permission refusal in itself does not entitle the applicant to any right to compensation. But revocations of planning permission can entail compensation as a legal right (Cullingworth, et al; 1994).

2.73 Planning permission can be rejected on the basis that the related development plan is in course of being revised. Even so, it must be clearly demonstrated how the development will harm the outcome of the development plan process (Rydin, 1993).

Enforcement in Development Control

2.74 Development control will not work effectively without having enforcement techniques. Britain has a wide range of tools to enforce compliance with planning permissions and refusals.
If development takes place without getting planning permission, a planning authority has a clear enforcement duty and has the power to issue a number of notices.

2.75 The planning contravention notice issued by the planning authority warns of breach of planning control without taking up full enforcement proceedings. This notice confirms information about the owner, development, owners of interests in the location and the range of compliance with planning permission and, in addition encourages contact with the local authority with the idea of correcting the evident breach of planning control. (Act 1990 Sec [33]).

2.76 The Act 1990 put rules of enforcement some of which were revised in 1991. The Acts give power to issue an enforcement notice, as follows:

1- The local authority will issue an enforcement notice if it

seems to them that there has been a clear violation of planning control. And that is appropriate to issue the notice having at the same time regard to the development plan or to any other material considerations.

2- An enforcement notice copy shall be served to the occupier, the owner of the property, or to any other person or party who is materially affected by such a notice.

3- Violations of planning control in which an enforcement notice is issued are in the following cases:

> Executing of building, engineering or mining or other operations inside, on top of or below land, not complying with any condition attached to such operations in their planning permission; change of use of building designated as a single dwelling house without planning permission; or not complying with a condition that forbids the use of a building as a single dwelling house.

2.77 Enforcement is a final control measure at the implementation stage of the planning system. Efficient enforcement is extremely important in order to have an efficient and parallel development control system. Enforcement practices have been showing an increase in Britain, which may be due to the fact that the end to a limit on time for deciding about the violation of development control made it easier for local authorities to proceed with enforcement action. A lot of departments became more experienced in screening planning permissions (Brand, 1980).

Planning Agreement

2.78 A local planning authority may enter into a planning agreement with an applicant in order to get a planning gain, or 'planning obligation', which may involve a local land use change, a limit to the use or development of land, put specific activities and operations in place, require money to be paid to the local authority, or require land to be used in a special way. DoE circular 16/91 and WO circular 53/91 set two tests for an acceptable agreement. One, a planning agreement ought to fall into one of five categories: need for the development to start; directly relevant to the development; the agreement to be used to finance services in near future; essential for the implementation of local plan policies or an acceptable balance of uses; or to compensate for loss of amenity from development. Two, the planning agreement must be adequately and rationally relevant in size and type to the proposed development. Agreements not within these two categories cannot be used by local authorities (Rydin, 1993).

2.79 An agreement may be conducted by a local planning authority with any party interested in land in their area for the aim of limiting or regulating the use or development of the land, either temporarily or permanently and for 'planning gains'. The agreement may comprise supplementary conditions such as financial, as seem appropriate or essential to the local authority. The agreement relates to land, and is transferable and enforceable to any new holder of the land title. The exercise of any

agreement by any minister or authority should be in agreement with the terms of the development plan, or with any directions given by the Secretary of State (Act 1990 Sec [106]).

2.80 It was the land and property boom at the beginning of the 1970s which made agreements greatly used in Britain. The boom enhanced bargaining where developers were pushing for more development permissions, and at the same time local authorities were stuck with problems of allocating money for building infrastructure (Cullingworth, et al, 1988).

2.81 Planning gain is a debateable means of control. It is exercised by conducting negotiations to reach an agreement between the developer and the local authority, by which the developer agrees to provide some services to the community along with his project, such as roads, pavements, payment of money for schools or parks, contributions towards social services, etc. (Davies, 1989).

2.82 The limit to which authorities can go in achieving planning gains depends on their bargaining power, which is connected to local economic situations. The introduction of planning agreements brought a number of issues. The morals of bargaining are questionable, and may place unfair constraints, because developers cannot be treated evenly because market conditions fluctuate. Also, bargaining is an activity limited to private interests, which contradicts the emphasis on open government and participation of the public (Cullingworth, 1988).

2.83 The exercise of an agreement is maintained on the argument that it can help in solving some planning problems which, without an agreement, would be frustrated and can generally encourage mutual participation between developers and planners to reach the social and economic objectives of their community. Some have warned of negative effects of agreements on planning, such as the lack of any legal or common rules., procedures or precautions for public participation. And agreements may also be seen as a form of bribe, or pay-off, or in other words selling planning permissions to developers. It is, however, generally admitted that the notion of reaching land use objectives by agreement is an acceptable one (Alder, 1979).

Development Control Administration and Adaptability

2.84 The necessity of development control, in Britain, is that prior permission is required for most development. This broad requirement implies that a large number of development proposals are reviewed and decided upon by local planning authorities, that is the district council for most purposes. Fig. 2.4 shows the features of development control in the UK (Rydin, 1993).

Fig. 2.4: Development Control Features in the UK

Organisation : District Councils, Planning Inspectorate
Focus : Individual Development Proposals
Aim : Implementing Development Plans, Other Material Considerations
Timing : Ad hoc, responsive
Scope: Development Site and its adjacent locality
Planning Tool : Regulation

Source : Rydin, 1993

2.85 In the development control process, local authority personnel make direct judgement on development proposals based on development plan considerations, and on other supporting material such as DoE circulars. Central government has a bird's eye view over the process through plan approval, appeal and call-in procedures. Healey et al (1988) found that even at the local level, district politicians seldom take a decisive role in development control. The arrangement of agenda lists and the various consultations are all conducted by planners. Development control procedures are very much dominated by officers with local powers.

2.86 Regulative planning is when the public sector fully uses the powers of development control incorporated in the Town and Country Planning Act 1947. In the UK, local authorities have two main roles. One, they are required to come up with plans for

future urban growth and land use. Two, they are given authority to permit or reject planning permit for most private sector development or re-development projects. To some degree British planners have been successful, through using these two powers, in directing urban change according to their planning aims, especially where they have pursued a limit to urban sprawl. Many local authorities have showed the potential to redirect demand parallel with public plans, to some degree opposing market forces. Through regulative planning, the local community in Britain gets advantage from conserving particular areas from any development, and by the evaluation of permitted development in terms of criteria and goals put up by the community. These goals are decided via the participatory features of the planning process and democratic representation within the local council. Since 1979 there has been an intent to reorientate regulative planning to the preferences of the private sector arena. In this case the planners are not so able to use negative powers to control and bargain. Instead, development plans consciously reflect market trends through the allocation of resources and planners are accused of assisting development in line with market development. This market oriented type of planning was firmly promoted by Thatcher's Conservative government after 1979. (Brindley, et al, 1989).

2.87 Brindley et al (1989) concluded that the dominating political atmosphere suggests that market led styles will increasingly prevail in planning policy. Market criteria already rooted in development control decision making will become more critical at

the stage of plan-making. A new planning approach toward flexible development plans that will locate and publicise a number of desired sites for development will therefore prevent damaging competition between developers; the allocation of these sites will be responsive to market trends and will be occasionally revised accordingly. Development control will execute the development plans through flexible methods and tools such as Simplified Planning Zones (SPZ), and the new Use Class Order will establish room for the market instead of the planner deciding the details of development. Development control delays result in high costs to developers and to the community. A University of Reading study suggested that the annual costs of delays imposed by the British procedure of development control had come to around 300 M pound in 1980 prices (Wakeford, 1990).

2.88 The government concern in the economic costs of the control process has been also in saving public expenditure and in keeping non essential bureacratic control away from private ventures. After the Conservative government was elected in 1979, it quickly prepared a revised development control policy. It released a draft circular for comment in 1980, which received a strong negative reaction and criticism from planners. Issues which got rejection were such as a call for easement of controls over private housing, that local authorities should omit many detailed design requirements such as shape of windows or doors, internal dimensions of the house and its location and relation to other houses, and so on. The message of the subsequent circular was to speed up the system of development control and make

sure that development was only rejected or restricted when this served a definite planning objective, taking into consideration the economic effects (Cullingworth, et al, 1994).

2.89 Healey et al (1988) concluded that the development control process in the UK did not adapt well in the following ways:

1- Local interests as expressed do not necessarily reflect the interests of local residents in local environment quality, as property owners, business and developers have an equal part in the local political process with users of the physical environment.

2- The outspoken groups do not necessarily represent the majority of those in their areas. And politicisation of environment matters gives power to those who are able to make adequate political networks.

3- In many situations, public sector developments are allowed with less consideration of their effects than would be given to private sector projects.

4- When there is no law to define their interest, those disadvantaged have no formal rights to object to a planning decision. There is no system with which to challenge planning permissions except the procedures of local politics, and in rare cases the possibility of convincing central government to call-in an application.

Other Areas of Control

2.90 Aesthetic Control. Architects commonly regard themselves as constrainted by unskilled planners who neither appreciate nor understand the aspects of design, and are therefore unqualified to decide on design issues. But architects are very much limited by what the client desires and how much cost he is willing to stand. The developer's main interest is to get the maximum benefit from a site with a minimum cost. Other constraints for architects in aesthetic control lie in the case officers on the planning side, who very much control the processing of an application, and may need to have consultations with a number of other planning officers, statutory undertakers, city as well as county authorities. Also there are a number of public groups from adjacent property owners to those on whom development has a direct impact such as historic or conservation specialist groups.

2.91 The case officer will be very much in command of aesthetic matters, because these are not readily described in policy detail. If the development is a major one, the chairman of the planning committee will be consulted at the various negotiation stages before the planning officer writes his report, which will be examined by a senior officer or Chief Planning Officer (Punter, 1990).

2.92 Compensation for Controls and Impacts. Property owners in Britain have a legal opportunity to get compensation for a drop in property value as a result of public works such as a new

highway. Also, injurious effects inflicted by public developments such as a highway qualify for compensation for adjacent properties, such as the cost of having a noise prevention barrier. Other provisions are made for home loss payments and compensation for hardship as a result of forced dislocation of one's home, which are separate from any other rights of compensation or disturbance payment (Cullingworth, et al, 1994).

2.93 Discontinuance Orders. Discontinuance orders can be issued if it seems to the local authority that they are suitable for the interest of adaquate planning of an area. Ministerial authorisation is needed and compensation is liable for all costs and losses resulting from compliance with the order. The case has to be strong to justify a discontinuance order. British planning laws do not believe that existing non-conforming uses ought to disappear. This may be the acknowledged policy, but the Planning Acts clearly allow the continuance of existing uses (Cullingworth, et al, 1994).

2.94 Purchase Notices. If as a result of a planning decision land becomes incapable of reasonably beneficial use, the property owner can serve a purchase notice upon the local authority requiring it to buy the property. In all cases ministerial authorization to buy is required. The conditions in which a purchase notice can be served are modification, revocation, refusal or conditional grant of planning permission or discontinuance of use. This notice is not meant to apply in a situation where a property owner is simply restrained from getting

the total potential value of his property (Cullingworth, et al, 1994).

2.95 Blight Notices. There are situations in which development controls affect the value of the land so much that the owner is entitled to some means of allevating the hardship inflicted, when a land owner can serve a blight notice on the local authority asking for purchase of the property at an 'unblighted' price. These regulations are limited to owners of property who can demonstrate that they have made a serious attempt to sell their property, but they found it impossible to do so except at a tremendously lowered price as a result of a particular planning action (Cullingworth, et al, 1994).

Land Ownership

2.96 British government land policy is affected by two different thoughts; one is the widespread desire to manage and regulate land use and control development, the other - also widely desired - is that property should be owned by individuals and that they should be free to get the maximum benefit out of their property through its use and development. Development provisions are considered to be essential to reach broad national, social and economic goals. In order to achieve these goals, it is necessary to have control over the use and development of land. This influences the property interests of property owners affected by development planning and control. They can protest against such actions and may sometimes be entitled to compensation; a

complementary question is who should get the increased land values that arise from land which plans select for development. The liberals' suggested to solve this issue is to nationalise rights in all land, and this way the problem will be removed. But with a powerful ideology in Britain of private ownership of land, this never got any political support from Conservative governments (Healey, 1988).

2.97 For the purpose of upgrading and increasing the value of land for the community, the original British proposal of 1947 to nationalise development values proposed that the lowest value the community could get would be the going use value. Selling land rights to a developer would be at market price. So in this case, all financial benefits of development would accrue to the community. Later proposals by Labour governments would have led to development value being collected through development land tax. The legislation was introduced in two sections: the 1975 Community Land Act gave extensive powers for compulsory land purchase and assembly, and the Development Land Tax Act 1976, introduced taxation of development value. So in the first Act the purpose was "positive planning", and in the second Act was recycling development value to the community (Cullingworth, 1988).

2.98 The 1975 Community Land Act was to be exercised by local authorities, except the Land Authority for Wales. This legislation faced wide objections on an ideological basis, and the Conservative government elected in 1979 refused to deal with it.

The Act was weakened by the failure of the Labour government to provide sufficient resources to buy land which could be reinvested by leasing or selling in order to make a profit. The Community Land Act of 1975 was cancelled by the Planning Act 1980, which was introduced by the Conservative government (Healey, 1988).

Compulsory Purchase

2.99 In Britain, compulsory purchase power was introduced first in the 1947 Town and Country Planning Act, to acquire land for general development purposes which would be proposed by local authorities. For more specific planning purposes such as rebuilding the inner cities, roads, etc., it was introduced much earlier. Private sector intervention through land ownership has sometimes helped in reaching community goals, rather than the statutory authority of development control. Interest groups in local commercial areas may, on occasions, share in local council compulsory costs in order that they can obtain land for development which might bring benefits to the community, such as attracting other business, providing employment, etc. (Healey, 1988).

2.100 Government and local councils usually prefer following negotiation and agreement procedures to resorting to compulsory acquisition, which nonetheless may sometimes be urgent where a property owner refuses to negotiate and there is a great need to

acquire land. Land may be acquired through compulsory purchase by local authorities: (i) which is sufficient and needed to execute development, redevelopment or improvements; or (ii) which is needed for a use which is essential to reach suitable control of an area in which the land is located (1971 Act), such as taking land to keep a continuous current use or to promote development around it (Purdue et al., 1989).

2.101 The 1990 Act stated that if authorised by the Secretary of State, the local authority has power to take compulsorily any land in its area which is suitable and essential to secure the execution of development, redevelopment or improvement where initiated, and also (Act 1990, Sec [226]) stated:

1) Shall have regard to the development plan, whether planning permission for any development exists on the land to be acquired, and if there is any consideration that would be of substance in deciding an application.
2) The authority using power delegated to it by the Secretary of State has the power to take compulsorily any adjoining land that is required for executing development operations or where that land is a part of a common or open space or garden.
3) The Secretary of State may, after the requisite consultation, authorise the land to be so acquired by another local authority (Act, 1990, Sec, [226]).

Development Control in the United States

Growth Control and Growth Management

2.102 The US terms of growth control and growth management are used widely and incorrectly to mean the same thing. Growth controls are intended to limit population growth and house building permits, so as to decrease the total rate or amount of an urban area's growth. But the growth management approach is meant to reach an equilibrium in development and growth in a manner that minimizes negative social, environmental and fiscal impacts. The main tools of growth management are the common zoning and subdivision regulations, annexation control, urban limit boundaries, public service standards, and housing and commercial requirements. Growth management approaches are lot more popular than growth control now, specially in California. The most widely used combinations of growth management tools are residential and commercial infrastructure standards. Growth control programmes can be applied independently from planning policies, while growth management rarely exists without backing of a good development (Landis, 1992).

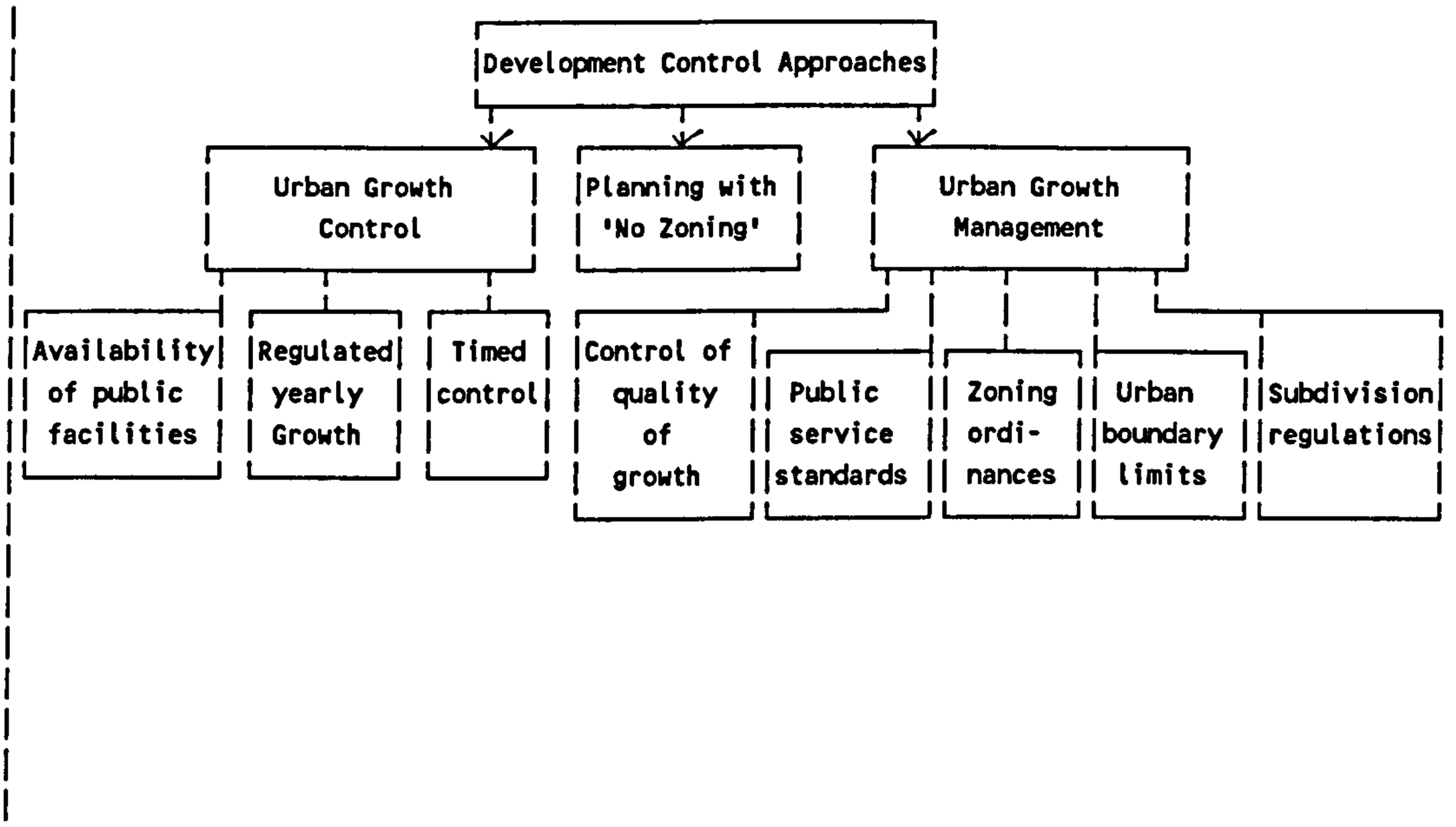
2.103 Carter (1993) defined growth management as the mitigation of the effects of growth for the purpose of improving or maintaining the quality of life in a community. Traditionally, the quality of life in a community has meant dealing with preserving open space, traffic congestion and keeping good air quality. But the full quality of life can only be assessed by the people who live in

the community. Values and goals of a community as defined and detailed in its plan serve as the initial point for quantifying what makes up the quality of life. Although communities increasingly prepare their plans and projects, they have as yet found it hard to reach universally agreed community plan goals. One method to help a community to avoid this frustration is to establish a coordinated implementation strategy, to ensure that the quality of life is not badly affected by future growth (Carter, 1993).

2.104 Planning authorities have more than one alternative to take when deciding on an approach to manage future growth and development. These alternatives broadly fall within the following categories. First, the traditional zoning controls that cover density limitations, standards (set backs, height), large lot zoning, and environmental protection. Second, the approach of timing, rate, and location which deals with the need to regulate yearly rate of growth (residential and non residential quotas) and regulate location area (such as keeping areas from development). Thirdly, the availability of public facilities (Carter, 1993). The variety of US approaches to control urban development is summarised in Fig. 2.5.

2.105 Currently the movement in development control in US seems to be heading towards less certainty for the developer. What is permitted in the zoning ordinance appears less and less likely to be what the developer wants to follow. Zoning ordinances are being altered to allow extra floor-space, or plans to transfer development rights from one area to another, and so on.

Figure 2.5 : US Approaches to control urban development



Source: Extracted from Wakeford (1990)

Conditional uses and overlay zoning are becoming widely used tools. The outward urban growth pattern has been causing new problems for planners, and for local authorities causing problems of providing services to a settled population without considerably raising taxes. But the major problem for US planners will not be these, it will be the city centres and older suburban sections which the richer residents continue to abandon (Wakeford, 1990).

Zoning

2.106 The following are the various zoning methods that are conducted in the US (Wakeford, 1990):

1- Floating Zones: Involves establishing regulations for particular use in the ordinance, such as a shopping centre, without locating a specific land area on the zoning map where this development will take place. This type of zoning is generally applied to a large development area.

2- Spot Zoning: Is to have special zoning rules on an individual small site.

3- Planned Unit Development: Generally these are areas located on the zoning map which envisages a wide range of various uses or densities. They are more likely to be suitable at the edge of a developing area rather on than a fully developed site.

4- Cluster Zoning: This is when local governments decide that low density development is that all can be absorbed in their area, probably for the reason of inadaquate

infrastructure, which would create lots larger than the market requires which would be difficult to maintain. The answer to this is to have cluster zoning, which is to have the same number of units proposed in that low density area clustered to one side of the site and the rest of the site dedicated for open space use.

5- Mixed use zoning and special districts: This establishes a self sustaining mixed development. A large office development would be likely to incorporate restaurants, recreation, shops and so on. Single-use zoning devices tend to reflect the weaknesses of comprehensive zoning ordinances. They represent the fact that dividing uses and weak construction and subdivision requirements do not bring about the most efficient use of land.

6- Zoning bonuses: This is by using zoning to get public services from a developer in exchange for bonuses in the form of more dense development or extra floor space. This represents a method in which development rights are traded for public benefits.

7- Transfer of development rights: Transfer of development rights in exchange for public services is another way of trading development rights. This method is used to secure landmark areas, farm lands, critical natural environment or used to reduce development in open country by selling development rights elsewhere.

8- Exclusionary Zoning: Establishing large minimum house or lot sizes without designated areas for apartments or mobile homes, with the aim of having only a higher

economic class of people in that community, excluding comers on the basis of income, class or race.

9- Inclusionary Zoning: That is to have in a community ordinance a certain percent of new housing (a usual requirement of 10%) kept for low and moderate income groups.

10- Performance standard zoning: The ordinance categorizes uses based on whether the use can meet certain standards related to noise, smoke, odours, heat, traffic and so on.

11- Conditional use: This is when a use is allowed in a zone by the planning board after it has evaluated a particular application which includes a public hearing, in which all parties involved make their views heard. This approach comes under many mechanisms such as special exceptions, special permits, variance in different states and localities which are defined in a zoning ordinance.

Applicants can appeal to the zoning committee on the basis that the ordinance treats them harshly. Zoning plans can be very precise in the conditions demanded from developers. To overcome the conditional requirements of a zoning plan, a developer must either get a variance from the zoning board of appeals, which is not an easy task unless a hardship is proven, or by a petition for rezoning of the area.

12- The special use zone: In this, a use zone is arranged for one special use or a few groups of related uses. This details a lot of controls with the purpose of permitting special types of use in part of the area which is otherwise

for general use.

13- Special purpose zone: establishes a special zone either because of the activities around it or by the nature of the land, such as limiting the number of floors to be built in areas where the soil has limited resistance.

14- Zoning controls have been used to preserve agricultural land from the threat of suburbanization.

2.107 Zoning modification usually requires two public hearings, one before the planning commission and another before the governing body. Zoning revision permission requests come directly before the planning commission. Most non-disputed zoning revisions are where the desired revisions for re-zoning of a land parcel are consistent with the comprehensive plan, and most of which are rejected because they are not in line with the plan. A method for processing zone alterations would be conducted by a large municipality as follows (Garrett, 1987):

1) Hearing examiner (from public hearing committee) checks every zone modification proposal by surveying the area personally.
2) One or more public hearings are held at which those opposing and those in favour of the proposals present their case.
3) A written report of the hearing is circulated to the members of the city planning commission.
4) Finally, the members make recommendations to the city council who reject, accept, or change the commission's

suggestions.

2.108 In the USA, many more special conditions are being added to zoning modification approvals to help improve streets, payments, street lights and storm drains. Some municipalities may add these conditions for a contribution of funds for schools, recreation parks or sewage plants, allowing a density bonus for providing special features like affordable houses or a day care centre. Most of the growing list of conditions set before a zone alteration is granted are based on environmental laws (Garrett, 1987).

Strengths and Weaknesses of Zoning

2.109 Certainty and flexibility are both strong and positive aspects of zoning. The certainty feature of zoning is there because the master plan tends to be made up by the same local government which makes the zoning ordinance. The two required to be consistent. Another feature of zoning is flexibility. A US developer views flexibility as the freedom to move within the various zoning constraints, or to try to change them, and the ability to choose from a wide range of sites for development on which he has a guarantee to initiate development. Another benefit of zoning is that its application continues after the building stage is over, as it continues to apply to any later extension during a building's life time. But no dwelling in a zone with a maximum floor area can be extended to exceed that limit, with the exception of variances related to hardship (Wakeford, 1990).

2.110 There appear to be two main problems found in zoning. First, zoning does not easily encourage the promotion of mixed use centres. It is nearly impossible to work up a zoning map that would provide a balance of activities and uses that predate strict division of uses in American east cost small towns, or in the traditional older neighbourhoods of the larger cities. Second, the zoning system itself does little to make development happen or phase it over a period of time. When a zoning map initiates a potential land use pattern, the developer may start development anywhere on the map. Only recently have some states' plans insisted that development permissions ought not to race ahead of the infrastructure network (Wakeford, 1990).

Other Areas of Control

2.111 Aesthetic Control. Aesthetic controls are conducted by two types of control especially in older and larger cities (Wakeford, 1990):

a) Land mark controls: The Land Mark Preservation Commission was established in 1965 for the goal of identifying and locating land mark buildings and historic areas, and regulating rehabilitation of particular properties to ensure the preservation of their historical architectural, cultural and aesthetic ciriteria. Any change to any preserved property must be approved by the Land Mark Preservation Commission.

b) Design review: In some cities there are separate design review procedures above and over normal building codes, as in Portland, Oregaon, where every development proposal in the city down town has to be reviewed by the Design or Land Mark Commissions.

2.112 Complementary Controls: Wakeford (1990) shows a range of complementary controls in the US. These include:

i. Coastal permit: An Environmental Protection Permit must be obtained before development commencement in coastal areas.

ii. Contaminated land restoration: It is a law that industrial agencies with contaminated land must clean their area before disposing land or closing operation.

iii. Wetland: In this type of land a state permit is required for any work on the land. Wetlands are critical for flood control, wildlife and water purification.

iv. Sewer permits: This is when a local treatment plant in an area is operating to its maximum capacity, and the local authority controls sewer extension to prevent excessive development.

v. Diversified controls: This type of control deals with development which can be better dealt with by local

legislation or residence agreements and constraint rules, such as limiting the number of animals each house should have, and so on.

Urban Growth Control in the United States

Methods of controlling urban growth

2.113 In the U.S. the various methods of controlling growth have been classified into four major areas (Freilich, 1977) as follows:

1. Short-Term controls: In this, a temporary control ordinance is introduced with the aim of preventing further development until the planning process has been finalized during the implementation stage. Also to prevent the development of non-conforming uses. And finally to encourage public debate on the issues involved and to give a planning commission enough time to consider long-term controls.
2. Long-Term controls: Timing and sequential controls related to the suitability of capital facilities; subdivision regulations related to surroundings and the initiation of land banks in urban areas where urban expansion is expected, to ensure the most advantageous development for the community; development easement to preserve vital open space from intensive uncontrolled development; using lack of adequate services as the basis for permission denials in urban and rural areas, to prevent leap frog development.

3. Permanent controls: Environmental controls (such as shore lands), standard controls (such as minimum floor-area regulations) and limits on total population density.
4. Federal legislation and state land use control system: The National Land-use Policy and Planning Assistance Act required that the states must develop an administrative basis for comprehensive land-use planning within three years. The Act put very few guide lines as to what the plan should include. However, it required by the end of a five year time that states come up with the following: (a) a way to control the use of land which may be affected by main facilities; (b) a method to control private large-scale development which has more than local impact; (c) a method to control development in areas of important environmental concern; and (d) a way to influence the location of new communities and to control surrounding land use (Freilich, 1977).

Timed Development

2.114 Timed control of development was initiated in Ramapo, a small town near New York City, which has introduced a sequential timing development ordinance. The method of the Ramapo Plan is to direct the succession and timing of residential growth parallel to the availability of municipal services and other support facilities. The plan requires that developers must have a specific permit to build for residential purposes, and the granting of a permit depends on the proposed development area reaching at

least 15 development points, these are points calculated in relation to closeness to the necessary municipal services. Public facilities will be provided gradually by the municipality to the whole community over an 18 year period. The main aspects of the Ramapo Plan (O'Kleef, 1977) which was upheld in court are:

1) Make a two year study of the area with federal state and county agencies before accommodating the plan.
2) A complete zoning ordinance to execute the plan.
3) Locating funds in accordance with sequence of development that obliges the town to bring the municipal services to all adjacent areas within 18 years.
4) Preparation of drainage plan and creation of a sewage district.
5) The establishment of a public housing agency to coordinate the federally subsidised housing.

2.115 The Ramapo experience is of a potentially useful planning and regulatory tool. But one of its negative aspects is that it has been used to greatly limit housing for low income groups. The Ramapo case has been criticized in a number of instances as follows (Franklin, 1977):

1. It applies only to residential uses.
2. The timing provision does not affect spatial controls that put restrictions on developing large residential lots, but just simplifies the timing of environmentally inefficient urban sprawl.

3. The "points system" condition of providing development permission related to distance to public facilities is arbitrary.
4. Future flats and subsidized housing are extremely constrained.
5. The plan did not include an allowance to meet regional housing needs.
6. Transfer to developers of costs for public facilities is encouraged to speed up development, when such costs should be borne by the town.
7. The town does not control such facilities as schools, as it is not keyed to the system.
8. The system of control does not time non-residential development.

Principles for Growth Plans

2.116 The following is a guide to principles for growth plans and ordinances that may be proposed in a given community (Franklin, 1977):

1. It is extremely desirable to strengthen public control over the timing of development of vacant land. Land should not be simply a resource for private exploitation and profit, for its development will affect the public interest for generations to come.
2. A plan and obligation for public investment to assimilate growth is an essential element of development timing

growth controls.

3. Controlled growth or development timing control should provide a plan for organizing the spatial character of development.

4. It is preferable to regulate development timing control at a regional or metropolitan tier of government, so to permit its consistent exercise by localities.

5. Local development timing provisions should be considered to be exclusionary devices unless the locality can demonstrate responsiveness to regional housing needs.

6. Also, local development timing provisions should be considered exclusionary if they do not provide housing for employee households with existing or expected jobs in the area.

7. Timing development provisions that apply only to residential development follow a selective growth policy, as a locality may permit commercial and industrial development to continue without phasing in order to gain tax benefit. This may be at the expense of the community getting the negative output such as pollution, chemical waste and so on.

8. Development timing provisions in a locality should be considered exclusionary if the resulting tax is reduced below the average for the whole metropolitan area.

Control of quality of growth

2.117 The first wave of growth control of the late 1970s was for

minimizing and limiting development. But in Fort Collins, Colorado, the people voted against such an initiative, supporting controlling quality of growth rather controlling the quantity of growth. The city council goals were to:

1- Control outer city edge growth and to encourage it to follow good planning principles.
2- Encourage concentrated land use patterns and infill.
3- Encourage juxtaposition of uses.
4- Encourage higher densities and discourage lower densities.

2.118 Fort Collins sought to reach its aims, the Land Development Guidance System, as an alternative to Zoning. In this system all developments had to reach certain precise criteria. The applicant required to give answers to 43 questions on subjects such as public services, resource protection and site layout. In addition, a development proposal can earn points for as such as excellent implementation of the criteria. Fort Collins achieved a type of certainty for developers via a precise system which awarded development value to those ready to supply the community's designated needs. In the meantime, the system is encouraging mixed development to reduce the use of cars and therefore decrease energy use and pollution. The system is flexible in that it is easy to amend the points in the ordinance to suit changed priorities, in which case there will be no need to go through a rezoning review that consumes time and possibly involves revision to the master plan (Wakeford, 1990).

2.119 Breckenridge, Colorado, has adopted a points - based development control system, which runs along similar lines to that in Fort Collins. There are clear standards that new developments ought to follow. Both towns have formulated ways to overcome some of the inflexibilities of zoning and have reached a 'post-zoning era'. This creative system of development control is closer to that of the UK practice, or what the UK practice would be if there were less central government control through the appeal system, and extra freedom for local governments to negotiate deals with developers for providing public facilities. In the US, exactions are used, where a developer is compelled to provide a contribution in money or in other form as a price for getting his permit, such as providing some kind of infrastructure or community service. The equivalent in the British system is termed 'planning gains' (Wakeford, 1990).

Urban Growth Control by Infrastructure

2.120 In the United States, urban growth controls in the 1970s frequently involved detailed restrictions on the rate and intensity of residential housing construction, usually in small suburban communities. But this type of control was criticised as exclusionary, as communities which imposed controls were really unwilling to accept particular newcomers. Because restricting housing supply eventually increased home prices and rents, the ones who were most likely to be excluded were the low and lower-middle income groups. After this exclusionary status was proved, legal pressure restricted this sytem. That led to a new

and more comprehensive growth control policy in the 1980s and 1990s, with measures that covered main cities and metropolitan areas. This system was named 'second generation growth control' (Navarro and Carson 1991), the main objective being that existing residents subsidize new comers by taking a share of new infrastructure and public facility costs. It includes also a comprehensive plan designed to bring population growth rate, economic expansion, provision of public services and regional infrastructure into balance. Specifically, the measures connect the rate of commercial and industrial as well as of residential development to the provision of main public facilities such as parks, schools and libraries, and to regional infrastructure such as a solid waste disposal system, sewerage, storm drainage and the achievement of certain standards for air quality and traffic easement.

2.121 Navarro and Carson (1991) indicate that the policy analyst in evaluating the 'second general growth control measure' should try to; (1) assess the full extent of scarcity and amenity effects coupled with alternative growth mangement proposals; (2) decide the distributional and general advantage implications of these effects; and (3) examine the relevance of the fundamental issues in growth control policy analysis, which can be summarized as follows:

- Amount of 'spill over' effects such as the possibility of exporting the problem to other urban areas.
- Residents degree of subsidization of growth.

- Development and population growth rates consistent with the city's ability to provide facilities and infrastructure.
- Amount of 'doubling up'; that is the increase in number of people per household.
- Link between job creation rate and population growth.
- Efficiency characteristics of various commercial and industrial growth controls.
- Job creation target rate.
- Impact of various rates of population growth on tax base and per capita income.
- Significance of various affordable housing plans.

2.122 Not until all these tasks are completed will the policy analyst be able to provide decision makers with an appraisal of the sensibility and effectiveness of the measures (Navarro and Carson, 1991). This type of approach towards urban growth control was introduced lately in many parts of California. This approach tries to avoid previous weaknesses of control.

Urban Growth Management by Concurrency

2.123 Florida Growth Management 1985 Act obliged local governments to plan in accordance with the policies and objectives of the state comprehensive plan; it indicated that land development regulations must be coherent with the comprehensive plan, and forbids granting development permits if there are no adequate public facilities available. This is known as a 'concurrency' requirement. Florida planning departments when asked to

identify the main aim of their growth management programs, in almost half of the cities and counties indicated that their main intention is to direct growth into adequate development areas. Cities pay more attention to attracting growth, while counties are more concerned with preserving natural resources. Also, local government when asked to indicate their main accomplishments since the initiation of growth management plans put their major achievements as preserving natural resources and improving the total quality of development (Porter et al, 1993).

2.124 It is required from local governments in Florida that public facilities and services that are essential to support development are available concurrently with development. This requirement directly connects the exercise of growth management to providing infrastructure. Since the law of concurrency management came into effect only in 1989, it is difficult to give a solid conclusion about concurrency growth management policy. Theoretically, concurrency can be a major tool in directing urban development, hence reducing urban sprawl (Sturt, 1991).

Development without Zoning

2.125 Zoning is not the only development control tool in the US. It is common that its applied with other controls. There is a notable situation of the absence of zoning in the case of Houston, Texas, where other controls ensure that new development is adaquately planned.

2.126 The city of Houston is distinguished as the only city of its size in the US that does not have zoning, although this does not make it a city without development control. In Houston, land use control has for generations been based upon private restrictive covenants put in documents related to plots by the developer. Nearly every acre of land in the city is put under private restrictions over use, size, height of building, yard area, and all other typical components of a Zoning Ordinance. A city resident who wants to enforce a restrictive covenant can bring the matter to the city with the copy of the related deed restrictions. Then the city determines what action to take. Hence, there is zoning enforcement without zoning. The city's expansion is directed through water and sewerage services provided by the city government. Main roads are also shaped and directed by city development trends. Some critics say that the poor living quality in some sections is a reflection of the lack of zoning, while others think the extra freedom useful to the local city economy.

2.127 The cases of Fort Collins and Breckenridge which take decisions on a discretionary basis, are other examples of planning without zoning in the US. For all the systems advantages and disadvantages, zoning is not the same comprehensive land use planning tool as in the past. Not that its application is becoming less, to the opposite, few cities can go without. Local governments are combining zoning with more modern subdivision control and site review processes (Wakeford, 1990).

Who Exercises Control?

2.128 The police power of a community is limited to an area within its boundaries. State legislation is binding in any part of the state. County legislation is limited to that county, and city and town laws are only valid within their limits. In addition to these areas, others are also required to participate in initiating regulations. Some states delegate the police power to cities and counties by special legislative acts, others provide this right to their citizens in their state constitution. The authority institutes rules and regulations in relation to the activities of the people of a community, and the property they own is an important factor in the planning procedure, specially at the stage of zoning (Gallion, Eisner, 1983).

2.129 In America, zoning is the legal provision of the use of land, and it is an expression of police power. That power, under the United States federal system rests with state legislatures. It is common that municipalities have no such authority unless it is delegated to them by the states either through state constitutional provisions or through the adoption of legislation that permits municipalities to regulate the use of private land through zoning (Scott et al., 1977).

2.130 Even with the trend of various other means of development control, zoning in the US still the major tool used by local government to direct development of land. The main basis of zoning is that the local authority takes a land area and divides it

on a map into zones. In each zone a permitted specific use or combination of uses is laid out. In addition, regulations explain standards for development such as buildings' maximum height; minimum front, side and rear setbacks; lot coverage, dimension, or volume of building; and minimum car space standards. The map and zoning plan can be amended after they have gone through adoption procedures and they are kept loose for that purpose (Wakeford, 1990).

2.131 Generally, state legislation lays down all the arrangements for initiating a comprehensive master plan and a compatible zoning ordinance and map, and it decides on applications to revise that ordinance and on other procedures such as enforcement of control, developing a variances and so on. Ordinance adoption is a legislative function that is typically the formal responsibility of the mayor or the elected municipal or city council, or may be both. This governing body may also have a role in hearing appeals from other bodies of government. The main body in the planning process is the planning commission or board, that is helped by full time planning consultants. This commission generally initiates plans and ordinances, drafts and providing land subdivision permission (Wakeford, 1990).

2.132 A third body of government (after the planning commission and governing body) that shares responsibility for development control system is the Zoning Board of Appeals (ZBA). These are appointed bodies like planning boards. The major role of the ZBA is a quasi-judicial role. It hears applications for variances

from zoning ordinances, interpretation of the ordinance requests, appeals toward actions of municipal officials, and in some occasions applications for special exceptions. The planning commission is not concerned directly with monitoring consistency with the zoning ordinances. This is the responsibility of specialist staff of the Building and Zoning Inspection Department, whose tasks include (Wakeford, 1990):

1. Inspecting drawings before construction to evaluate consistency with the various building regulations and zoning ordinances.
2. An inspection of development during construction to confirm consistency with plans.
3. Issuing certification of buildings before occupancy.

Enforcement

2.133 Reaching the objectives of a development control system depends on enforcement. Wakeford (1990), thinks that one of the main problems in US development control is that enforcement is very often separated from the zoning and planning process. Enforcement usually is the responsibility of the building inspectors. As these inspectors sometimes do not perform this job effectively, many local governments have assigned specialist zoning enforcement officers as part of larger enforcement agencies. The rise of complex zoning and other environmental rules that the available staff resources cannot match, has caused enforcement to be the weakest part of American development

control. In most cases communities take little action to enforce unless pressured by local residents' groups.

2.134 A developer will most likely have to submit most major developments to two other local review procedures (Wakeford, 1990):

a. Site Plan Review: It is a method used regularly to confirm that a major development is in compliance with the set of standards and rules set by zoning ordinances. The main goal of the review process is to encourage developers to obey and execute plans that conform as much as possible with all performance standards such as level of noise, street lighting, planting, and so on.

b. Subdivision: Is the procedure of establishing legally defined parcels of land, usually lots or tracks, for the aim of transfering subdivided parcel ownership to others, and to ensure a continuous up-to-date record of land ownership. The main aims of control are to make sure that the lots established are rationally sized in relation to the development that will be permitted by zoning ordinance, and will be suitably served by the streets on the site. Also, subdivision control considers the extension and access of infrastructure and other services (Wakeford, 1990).

Compensation

2.135 In instances where police power is exercised in the US to legalise or prevent the use of property without paying compensation to the owner, it must be demonstrated that the continued use of the property would be harmful to the interests and welfare of the community. Acquiring land from an owner who does not wish to sell for public use is eminent domain, which is a step beyond police power. The courts settle a reasonable price for acquiring the property, depending upon a statement from a community observer, the owner, and neutral estimators. The difference between the use of police power and eminent domain is that in the first, the authority legalises the taking of property without compensation, while in the second it takes the property and pays compensation (Gallion, Eisner, 1983).

2.136 Probably the most critical restraint on the range of development control in the US is the constitutional requirement not to take land for public use without fair compensation. Zoning establishes a more precise image of the value of land than in the case when the land value is only determined after the planning authority has issued a planning permission for that particular land. Property rights in the US are regarded as a basic freedom, so there is rejection of any action by local government that might result in a lowering of land value. This is why a large number of cases go to court, as in many situations local government can pursue actions that reduce the value of land. This occurs for the reason that zoning comes within the police power. A large number of actions

are never challenged, as the cost of pursuing a challenge can be more than the value of property right in hand (Wakeford, 1990).

Comparative Procedures for Control in the US and some European Countries

Variety of Approach and Context

2.137 Observation of control of development systems in Britain and the USA in particular has been made intentionally for three reasons. One, these two parts of the world have a current lead in many aspects of public planning and management. Two, the availability and the accessibility of the topic literature. Third, their different systems of development control.

2.138 Control of development in Europe and the US is based on two types of plan. The first is zoning plans, legally conclusive in most European countries and in the US. The second, in Britain, is where plans present policy guidelines about future decisions on development proposals. Both systems depend on municipalities administering urban form through control of land-use. In Britain, control of development has been apparent through administrative discretion, that provides a wide margin of flexibility and sometimes uncertainty, while the US and many other European countries depend on legally enforced plans that provide a degree of certainty, but in some cases rigidity (Davies, 1991).

2.139 In the UK a general permission is granted for a large number of

various minor developments through General Development Order (GDO) permission, which is very similar to the US way of allowing development by local zoning ordinance, on the condition that its rules are not violated. But between the UK and the US there are two main differences in that regard (Wakeford, 1990):

1. In the UK, the line between what is allowed development and what is not is decided nationally by the central government. By comparison, in the US the various local government departments decide their own rules, conditional only on the limitations of the constitution and the existing enabling acts in a particular state.
2. In the US, more development is permitted without local government intervention than in the UK. This is because in the US development types and uses of land that are permitted by right are generally clear from zoning ordinances, while in Britain a developer is more free to put in an application for development within the latitude allowed by many development plans.

2.140 Enterprise and simplified planning zones have been introduced recently in Britain, which take the shape of a planning design for each zone, which usually is proscriptive, indicating what are prohibited uses, and thus different from the prescriptive, legally enforced zoning plans of other countries. The two systems are similar in their dependence on the idea of urban shape and on the general aesthetic appearance of towns and cities (Davies, 1991).

2.141 Wakeford (1990) indicated that it might be seen that American and British development control systems are on a parallel course going in opposite directions. The US system going towards a more complex path, while the British are taking the starting point of the American system. But it would be extremely dificult for an American local authority to conduct a development control system requiring the use of discretionary permission as in the UK. A main reason for this lies in the American constitutional constraints on the 'taking' of property rights without just compensation, and the requirement of equal protection.

2.142 The need for public control of land use creates a monopoly factor in determining land use. Any method of public control over land use, whether it may be permission for development from planning authorities as in Britain, or zoning provisions as in the USA, gives to some owners and takes from others certain benefits due to land location. Keeping equilibrium between the two is still a continuous matter in the USA, as well as in Britain. An equitable allocation of planning benefits was the main goal of "compensation and betterment" in Britain. The use of this method could re-establish a proper system of equity in urban affairs management (Gallion, Eisner, 1983).

2.143 British central government has a strong influence over the planning process, because rule making is a central role through government appraisal of structure plans, and the appeal procedures supported by circulars outlining government policies. By comparison, in America the Federal government's influence

over development control and planning processes is limited to environmental assessment, where Federal funds are likely to be allocated. In a broad sense there is not an established authority structure of local government in the US, deciding which levels of local and state government have the responsibility for the functions of planning and development control. Every state has its own special arrangements. In most states the state legislatures transfer authority to local government only where it sees it as suitable (Wakeford, 1990).

2.144 Broadly in America, there is no division between different levels of government in development planning and development control, unlike the UK where structure plans have been made by counties while development control is conducted by districts. In comparison, many of the US state enabling acts which give local government the power to control development by zoning and other methods require that procedure to be directed by adequately prepared local master plans. The distinction in the US government structure is between the legislature, the executive and the judiciary. Hence, in a given municipality the elected city committee might approve the master plan and zoning ordinances put up by the appointed planning board, and at the same time the separately appointed zoning board of appeals would explain the ordinances in case of a problem and consider applications for variances in hardship situations (Wakeford, 1990).

Development Application Procedure in Denmark

2.145 In Denmark, the control method process takes the following steps (Davies 1989):

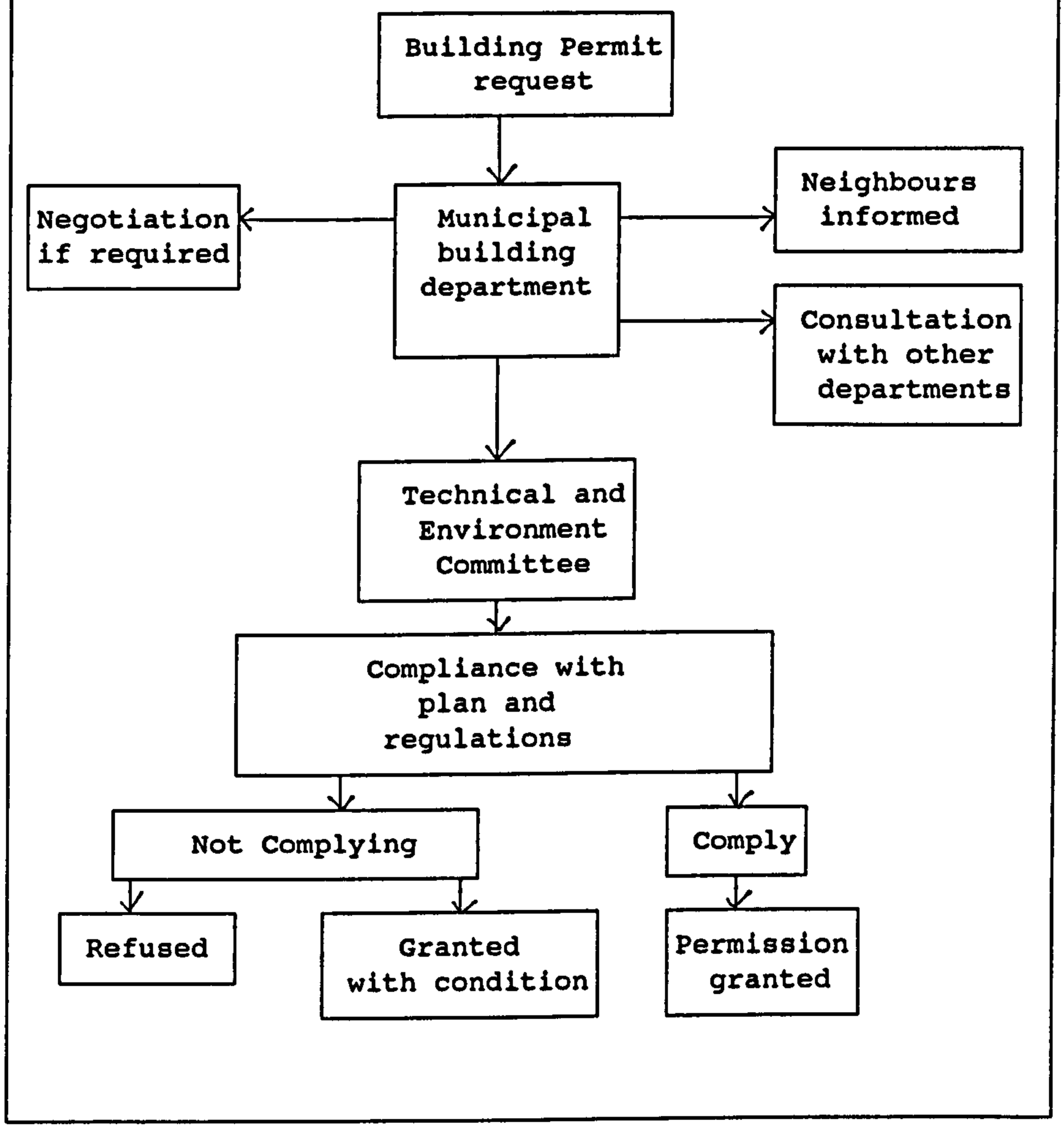
1) Any citizen or government agency may apply for a building permit to the municipal building department.
2) After receiving and registering the application, neighbours are informed to have a chance for objection, other departments are consulted, and the application is checked to ensure that it complies with the development plan and regulations. Then there is negotiation with the applicant, if required.
3) Thereafter, the application goes to the Technical and Environment Committee which takes a decision on it. It can delegate this to planning officials.
4) The application can be granted if it complies or refused if does not comply with binding rules, or it may be granted with conditions.
5) A decision notice is then issued. See Fig. 2.6.

Development Application Procedure in France

2.146 In France, the method of development application is as follows (Davies, 1989):

1) An application for permission is submitted to the mayor.
2) After receipt of the application, the development proposal

Figure 2.6 : Application process in Denmark



will be made public.

3) Related departments are consulted.

4) The application is checked for compliance with plan and national rules.

5) The mayor will then make the decision to grant or refuse the application, or grant it with conditions, according to the proposal's compliance with legal requirements.

6) A decision notice is issued. A notice on the site should be posted, to allow an opportunity for objection by adjacent neighbours. See Fig. 2.7.

Development Application Procedure in Germany

2.147 In Germany, the development control application process is as follows (Davies, 1989):

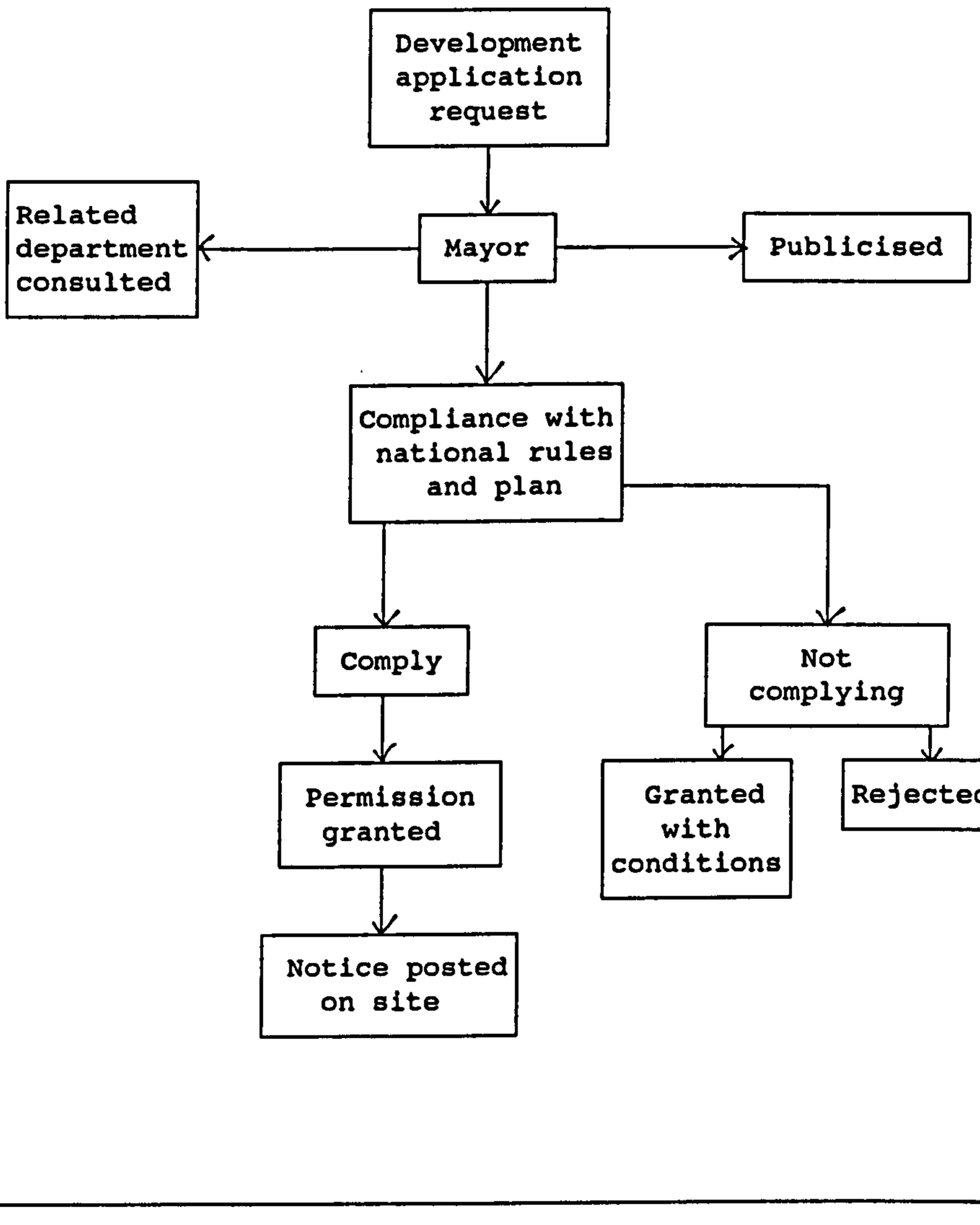
1) An application is submitted to the municipal council for outline permission, interim building permit, or building permit.

2) After receipt of the application, neighbours will be informed, if needed, and related departments will also be informed.

3) The proposal will be checked for conformity to plans and regulations.

4) Then the chief planning officer in the municipal council grants or refuses permission according to the legal regulations. If refused, applicants can appeal to

Figure 2.7 : Application procedure in France



administrative courts for a decision after three months.

5) After permission has been granted, a notice will be posted at the location for information. See Fig. 2.8.

Development Application Procedure in the Netherlands

2.148 In the Netherlands, the method for development control application will follow these steps (Davies, 1989):

1) An application form will be submitted to the municipality (building inspectorate).
2) After the application has been received and registered, neighbours will be informed, and related departments and the aesthetic commission will be consulted. The proposal will be checked for conformity with building regulations and with the local plan. Negotiations will take place with the applicant.
3) A decision will be made by municipal executives unless delegated to officers or submunicipal council.
4) Then the application is granted, granted with conditions, or refused, according to its compliance with the statutory regulations. If no decision is taken within two to four months, the application will be considered refused. See Fig. 2.9.

Development Application Procedure in the United States

2.149 In a typical American community, stages for development

Figure 2.8 : Application procedure in Germany

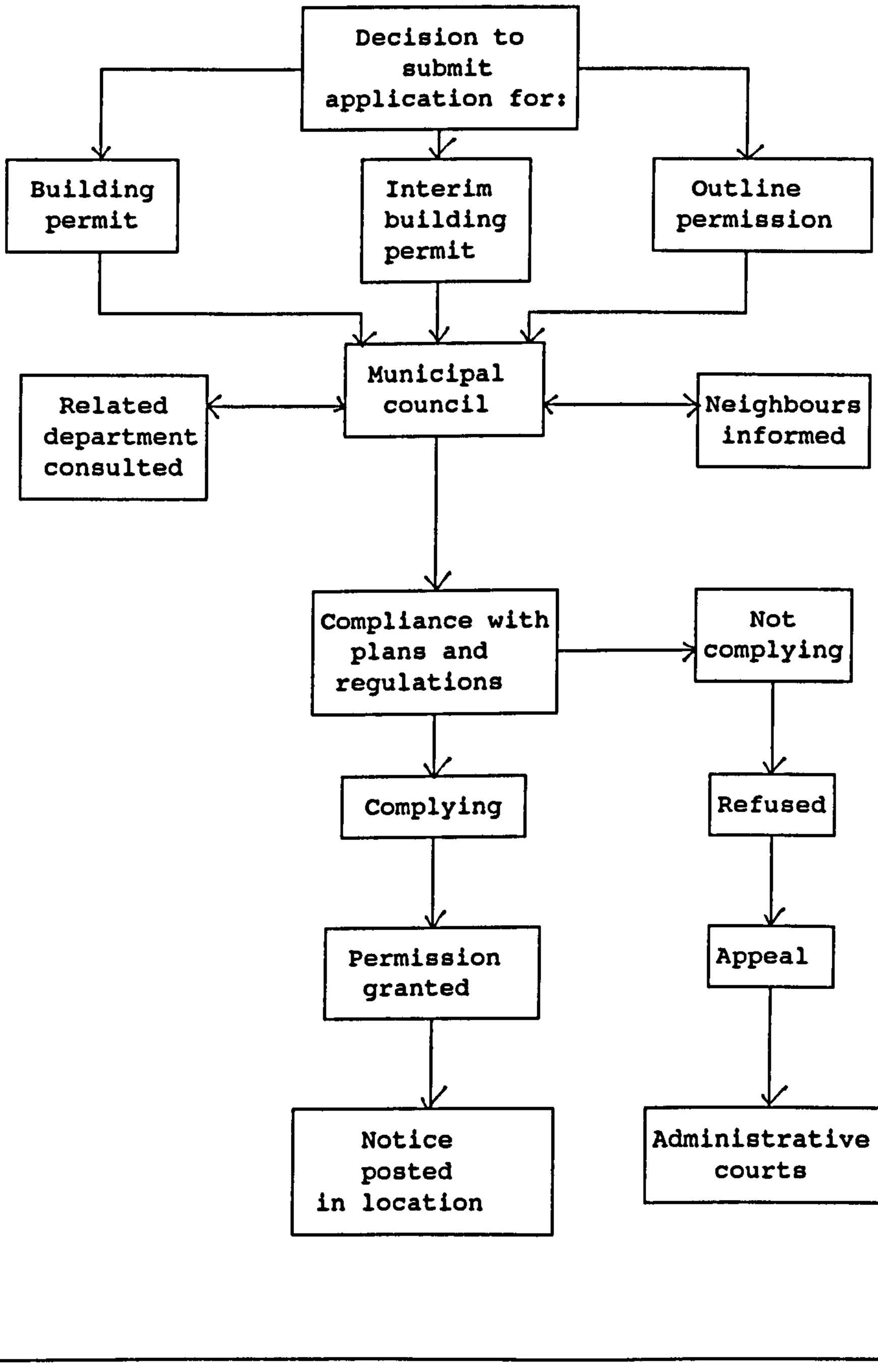
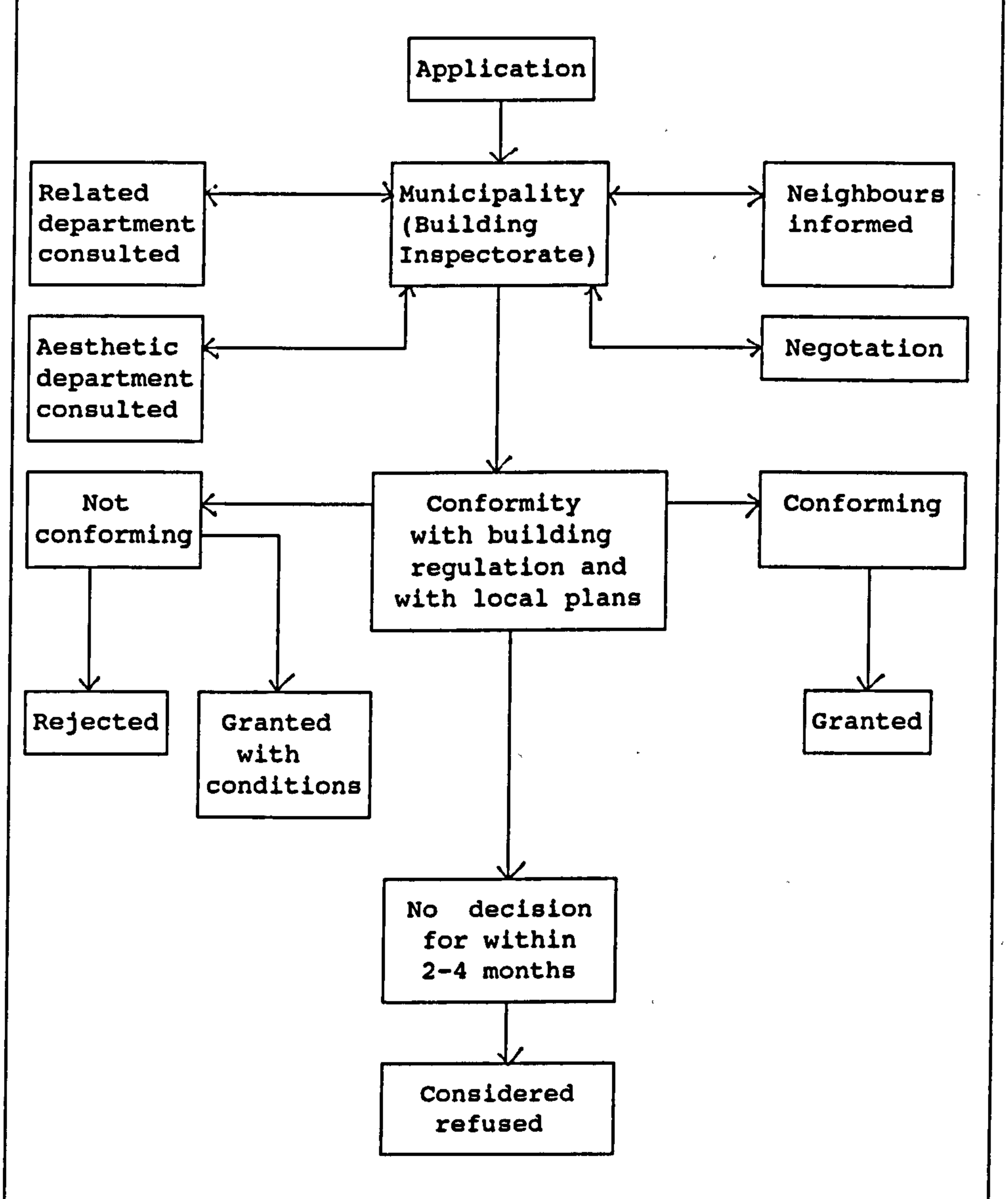


Figure 2.9 : Development application procedure in Netherland



projects on land that is covered by a comprehensive plan and zoning ordinance, are as follows (Garrett, 1987):

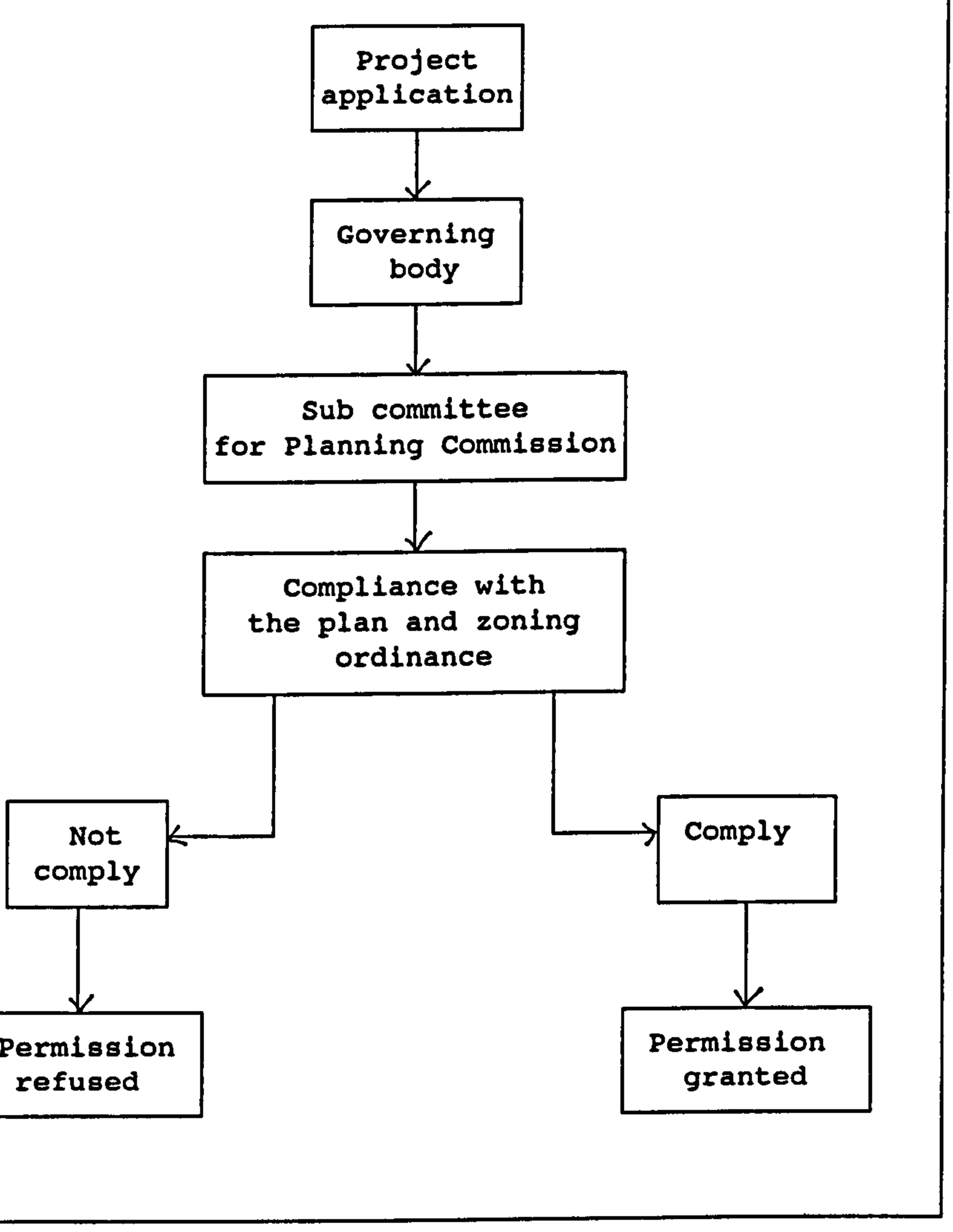
1) The developer submits the project to the planning officials of the governing body.
2) The planning officials review the plans and present them to a subcommittee of the planning commission. The developer or his agent attends the presentation.
3) In the presentation of the development application, the planning officials will include observations and comments of the Highway and the Public Health Departments. Here officials might make changes. Then the proposed development is approved by the full planning commission. See Fig. 2.10.

2.150 As long as the project is according to the plan and zoning ordinance, there is the assumption that there will not be an objection by neighbours. But objections may occur during or after project implementation (Scott et al, 1977).

2.151 Subdivision regulations detail minimum standards that apply to all new residential developments, such as laying out streets, water supply, etc. Subdivision can be used to achieve other objectives such as arrangement of parks and school sites. The process of a land subdivision request would be as follows (Delafons, 1969):

1) The scheme will first be examined by the city planning department to make sure that it is in accordance with basic

Figure 2.10 : Application procedure for developing project in The United States



requirements.

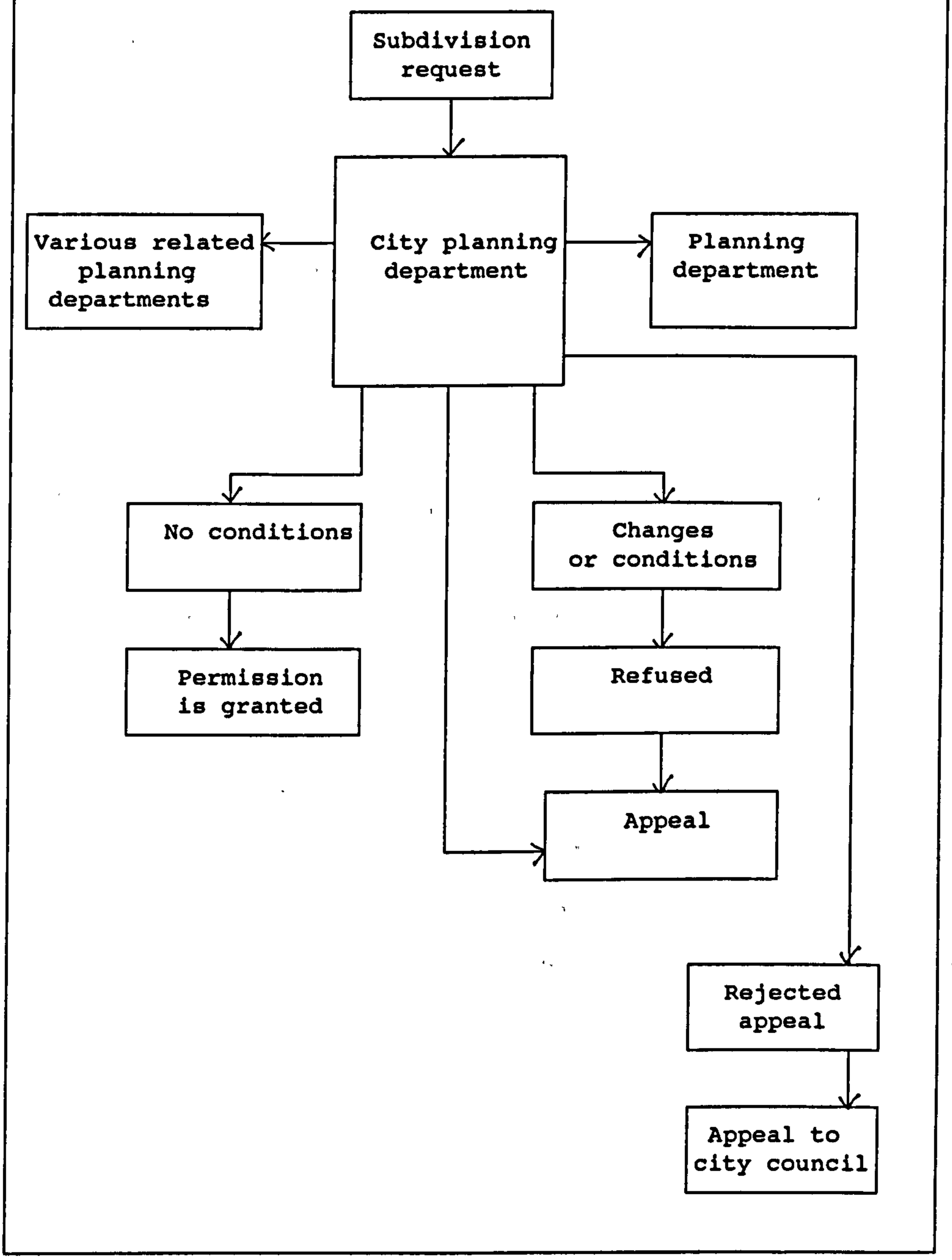
2) Then the proposals will be circulated to the different municipal departments that have an interest in the features of the plan.

3) Then a review committee or an individual in the city planning department specifies any changes or conditions required before granting permission.

4) In an appeal, the city planning commission would evaluate the department's ruling and make a final decision which is subject to further appeal to the city council. Figure 2.11 summarises the process of subdivision permission.

2.152 In small towns that do not have a city planning department, the city engineer or the commission itself processes suggested subdivision plans (Scott et al, 1977).

Figure 2.11 : Process of land subdivision request in the US



POLICY AND PLAN IMPLEMENTATION

Definition

2.153 Chambers dictionary defines the word "implement" as a noun, meaning a tool, an instrument, and a device. As a verb it means to carry out, to execute, to perform, to realise. So the literal meaning of implementation is performance, execution, realisation and carrying out. Therefore, implementation is a tool, or a device to control development. It is putting previously stated goals and objectives into realised facts. In other words, factualising intended policies and objectives.

2.154 Implementation of formulated and clear policies is critically important in achieving desired ends. Planning systems are tools for controlling central/local relationships and emphasise the link between policy making and implementation (Hambleton, 1983).

2.155 Controlled urban growth in an area is an output of implementing a plan in the form of a statutory or an informal plan or policies, according to the policies and objectives of that plan. Flaws in the outputs (urban growth) may be due to deficiencies either in the plan itself or in the implementation process, or both, and it may be influenced by a third, unknown and unexpected element, or by some other external effect.

2.156 Implementation of plan policy can be perceived as similar to the process of carrying out a basic policy decision in the form of a

law, court provision, executive order or, in government regimes, ministerial or cabinet decree (Sabatier and Mazmanian, 1983a). Goggin (1986) noted that implementation is a problem-solving action that involves behaviour that has both administrative and political content. It is argued by Downing (1979) to be a sequence of decisions that are the outputs of actions taken on the basis of calculations towards expected costs and benefits of alternative courses of action, by different actors in relation to the interests they seek to achieve. Perceived this way, implementation involves processes in which a number of actors find it essential to act within a given set of unavoidable restraints (Hanf, 1982).

Research on Implementation

2.157 Academic literature on implementation has increased at a tremendous rate since the early 1970s. These products include cases of implementation success or failure in different policy fields, and other theoretical studies. Very recent work has aimed at synthesising empirical with theoretical analysis. It has also benefited from several attempts to develop methodological tools for implementation analysis, to study differences in the implementation process among governmental sections, to define the aspects of inter-governmental implementation, and to evaluate the different implementation possibilities that might be anticipated for other types of policy (O'Toole, 1986).

2.158 Research into implementation, when it was tentatively introduced

twenty years ago with a wide range of aims, was an effort to systematise the public administration research and to divide politics and administration. Analysts noted that implementation studies brought the term (policy) to political science as a substitute for (politics), and (implementation) as an evasion for (administration), and they were right most of the time (Hjern and Hull, 1982). Even though both first and second generation implementation research has increased knowledge of what implementation is and how and why it differs as it does, it has been much less beneficial in distinguishing among kinds of implementation outputs, or in defining the unforeseen patterns associated with these outcomes, the repetition with which these patterns occur, and the relative significance and special effects of each of numerous independent variables on any implementation process (Goggin, 1986).

2.159 Implementation research has had a tendency to look into things more from the perspective of central decision-makers than of target groups or the influenced societal environment. As a result, the degree of realisation of central policy objectives became the main measure of effective implementation (Hanf, 1982).

2.160 When viewing the most important implementation studies for guidelines about how to predict implementation problems, we find advice that is erratic and crucially imprecise. But such advice is better than none at all (Elmore, 1980). Barrett and Fudge (1981) argue that most of the existing implementation literature tended to make a "managerial" perspective, where the

problems of implementation were taken to be in terms of co-ordination, control, or reaching "compliance" with policy. Such a "top-down" attitude of the process treats implementers as "agents" for policy-makers and tends to have less regard to issues such as power relations, conflicting interests and value systems between individuals and agencies that are responsible for policy-making, and those who have the responsibility of taking the action. They suggested that the policy-action relationship ought to be treated as a process of interaction and negotiation, conducted over time, between those aiming to put policy into effect and those upon whom action depended (Barrett and Fudge, 1981).

Implementation Methods

2.161 There are two extreme methods of approach to the study of policy implementations. One is known as "top-down" and the other as "bottom-up". The first one tends to regard policy as given, and it questions policy success or failure by examining how the implementation process is conducted along with the institutions responsible for implementation. The second approach takes what is achieved - or outputs - as the main thing, and seeks to know how and why actors performed the way they did. Two inter-related notions are involved in the top-down approach. First, it depends on the "traditional wisdom of both procedural planning theory and administrative theory", which means that policy-making and administration can be precisely divided. Second, it signifies that these are precise and definite policy

objectives and that it is easy to weigh progress regarding these goals. These two notions bury most of the complications that exist in the relationship between policy and implementation (Hambleton, 1983).

2.162 The top-down approach could be put to good use in situations where there is one prevalent public programme in the policy arena under review, or in cases where the observer is interested mainly in the adequacy of a given programme. In other words, top-down is useful where a single public agency is clearly dominant, while bottom-up is a more suitable approach where a number of public and private actors are involved. Sabatier, 1986, who is an advocate of the top-down approach has not so far developed considerable theory and so is poorly equipped to make predictions. By comparison, he suggested that the top-down approach seems to have comparative usefulness in cases in which there is a prevalent segment of legislation forming the case or where funds are extremely limited, while the bottom-up approach is more suitable in cases where there is a prevalent segment of legislation but also a large number of actors with no power dependency.

2.163 A major deficiency of the top-down approach is that it tends to start with the anticipation that the implementers are those actors and agencies that are authorised in the policy statement. The strength of the bottom-up approach by comparison is that it begins from a programme's final products, and traces its way backwards to reveal the whole spectrum of actors who

contributed to these products (Hanf, 1982). Elmore, (1980), argued that there are at least two distinct approaches to implementation analysis: forward mapping and backward mapping.

2.164 Forward mapping starts with an objective, details a number of specific sets of steps for reaching that objective, and states an outcome by which success or failure can be determined. The most critical problem that forward mapping has is its full and unchecked presumption that policy makers control the organisational, political and technological processes that affect implementation. Backward mapping starts with a solid statement of the behaviour that establishes the occasion for a policy intervention, explains a set of organisational operations that can be anticipated to affect that behaviour, explains the anticipated effect of those operations, and then explains for each tier of the implementation process what effect one would anticipate that tier to have on the targeted behaviour, and what resources are needed for that effect to take place.

2.165 Backward mapping shares with forward mapping the assumption that policy makers have a powerful interest in influencing the implementation procedure and the output of policy decisions. Even backward mapping shares policy makers' perception on the implementation process, for it does not imply that policy is the only or the main influence in the implementation process (Elmore, 1980).

2.166 A more desirable alternative to the top-down or bottom-up approaches might seem to lie in combining the best aspects of both. Elmore made an effort to synthesise his earlier work on backward mapping with forward mapping. He argued that policy-makers ought to have regard to both policy devices and other resources in their hands (Sabatier, 1986).

2.167 The vital importance given to implementation/policy interaction in planning systems is of special concern, because it provides a precise demonstration of the central/local features of the process. A study of the function of planning systems can synthesise a top-down case of policy with a bottom-up approach, emphasising what really gets done. This synthesised approach does not regard implementation as an actual output of policy, nor does it see implementation as interaction separated from policy. Instead, it recognises that it is acceptable to regard implementation as a policy/action continuum, where an inter-active, negotiated process goes on over time between those aiming to put policy into effect and those on whom action depends (Hambleton, 1983).

Successes and Failures of Implementation

2.168 The degree to which a project succeeds or fails depends to a great extent on the way that people and organisations behave during the implementation procedure. Implementation fails when however efficient it seems in theory, it does not operate as anticipated when put into action. A common type is one where

obstacles have been solved via a sequence of adaptations that revise much of what was originally intended. The most successful types of implementation - a kind of implementation that is more administrative than political -which starts with complete agreement on objectives, where after implementing actors can direct their energies at looking for the best implementation tactics to obtain these objectives (Goggin, 1986). However, it is important to note that "successful" implementation is not a guarantee of programmatic success.

2.169 Sabatier, 1986, listed six essential conditions for implementing policy goals most effectively:

1) Precise logical legal objectives to give both a scale for evaluation and critical legal resources for implementors.
2) Appropriate causal (reasoned) theory.
3) Statutory backing for the implementation process, to intensify compliance by implementation officials and target groups.
4) Implementing officials should be committed to policy objectives and skilful in benefitting from resources to hand.
5) Political and interest group support should be kept throughout the implementation process.
6) Socio-economic conditions which might weaken political support are recognised.

2.170 To maximise the chances of implementation success from a central perspective (top-down approach), one should (1) structure

policies in such a way as to keep needed behavioural change to a minimum; (2) make the structure of implementation simple and limit the number of actors as much as possible; (3) search for problems of implementation during the early stages of policy formation; (4) give the duties of implementation to those who are sympathetic to the policy. However, some have reservations about these conditions as follows: (1) policies, because of the degree of behavioural change, may be implemented by the same actors in different ways; (2) when questioning implementation during the policy formulation programme, objectives may be sacrificed due to the expense of executing them; (3) actors opposing or supporting a policy may actually determine very little during implementation (O'Toole, 1986).

2.171 A study of the US shows a high percentage of "failure" among federal programmes, while the "successes" tend to be among state or local initiatives. Federal authorities appear to be less successful in implementing their programmes than state or local ones because, first, federal programmes usually involve large numbers of implementing officials and more people in the target group. Second, most such programmes are in fact implemented via state and local governments, which greatly multiplies the number of clearance points. Third, there are commonly greater effects from the social, economic and political situations facing officials. Fourth, the greater heterogeneity facing federal policy makers makes it more difficult to prepare precise policies and rules than for their counterparts at state level. Finally, the greater financial resources of the federal government and fear of

localities putting themselves at a competitive disadvantage with their counterparts, means a high percentage of social problems (Sabatier and Mazmanian, 1983a).

The Obstacles to Effective Implementation

2.172 Lichfield, 1975, noted that most of the dissatisfaction with plans' outputs is a result of weakness in implementation. Also, he recognises the need to put more effort into theory and principles of implementation, and to find out about the cause of failures. And specifically, control of development needs to be examined as a part of implementation.

2.173 Wannop (1992) assimilated work by Lichfield, Sieber and Gunn to identify the range of problems that potentially face plan or policy implementation, in the following categorisation:

1) Insufficient performance of the plan.

2) Inadequate legal framework.

3) Ineffective institutions.

4) Non-conformity with authorities or plans at another level.

5) Goal displacement.

6) Lack of suitable distribution of economic resources.

7) Inappropriate time given.

8) Lack of political support.

9) Lack of public support.

1. Insufficient Performance of the Plan

2.174 The Insufficient Plan Performance are caused by the followings:

a) Interlinked factors

In cases where there are a large number of inter-connecting factors, unequal emphasis on one or on a very few components of a plan or package of policies at the expense of the rest may cause a defect in implementation output. An example might be putting great efforts into getting political support to get a plan implemented, while giving less attention to the logic and clarity of goals and objectives along with other critical factors in the implementation process.

b) Not making the right diagnosis of the situation

This is when the situation in question has been incorrectly examined and investigated during plan formulation, which eventually creates obstacles to successful implementation.

It is necessary to consider the effects and outcomes that will result in choosing between numerous types of control processes in the early stages of planning, so that programmes are implemented with less delay, misrepresentation and hardship (Faludi, 1988).

For example, in Los Angeles the proposed Century Freeway project took twenty years to get to the start of the implementation

stage after lengthy legal procedures, because the major issue arose of a great number of homes along the freeway route being very much affected by this proposed project. The owners affected took the case to court, and the court ruled that the freeway authority was required to compensate home owners and to build them new housed in another suitable location, and further that the freeway project should not start until these homes were completely build (Mandell, 1984). The causes of deficiencies during plan formulation may be either one or both of the following: an unclear picture of an existing situation, or no concern for potential problems in the control process and the allocation of resources (Faludi, 1988).

c) Unsound theory of cause and effect

This is when some behaviour occurs during the implementation process that makes the theory of implementation in use an invalid one, eventually resulting in an invalid output.

Perhaps a useful approach in trying to avoid such instances is scenario writing, by specification of the sequence of behaviour that connects a policy to the desired outcome. Such scenario writing helps in finding assumptions that are unrealistic. It may help in finding an alternative approach to implementation with better chances of success. It must have the ability to anticipate what could possibly go wrong and who has the impulse to make it go wrong (Weimer and Vining, 1989).

d) Numerous intervening links

A multiplicity of overlapping links in implementation offers vast scope for delay and flaws in the implementation process. Forward mapping in implementation assumes that the closer the linkage to the source of the policy, the greater the actors' authority and influence; the capability of complicated implementation systems to react depends on the creation of definite lines of authority and control (Elmore, 1980).

e) Attempting to achieve too much

This is when the implementer tries to achieve more than the intended objectives of the plan. This will cause an overburden on the whole system beyond its capacity and resources. And it may result in shortcomings in the intended output. For example, take a plan policy to build single family residential homes in a new town on a projected time span to finish the project within three years. But if early in the implementation stage the implementers decided that they could finish the project within a year and a half, instead of three years, it would create additional pressure on the programme; many outcomes could result from such a decision, such as that financial resource became short or unavailable due to excess cost of speeding up the project. Or the required infrastructure might not follow up to schedule because it was to be carried out by another independent public agency.

f) Inability to abandon outdated policies

This is when during the implementation process a policy or package of policies becomes obsolete and outdate in relation to a changing situation, but when any effort to abandon it has failed. Going back to the previous example, let us suppose that there is a major decline in the rate of migration to the area of a new town housing project. So for the houses that would be built there would be unexpectedly few people to occupy them. So the policy of building these homes would be obsolete, and would be very difficult to abandon.

g) Misgrading of policies or area

This is when policies or areas are improperly classified, which results in deterioration of the system that the policies are meant to enhance.

For instance, a government might aim to alleviate the burden of high prices for land in order to curb land speculation. So in order to implement this policy the government puts most of the land it has acquired up for sale at cheap prices. But it turns out when it has been sold that most of those who bought the land bought it for speculative purposes. And this has resulted in high speculative land prices.

Policy evaluation essentially involves prediction. As the world around us is complicated, we ought to be prepared for

misjudgment or failure. Fluctuating economic, social and political conditions can make our initially precise predictions about the effects of adopted policies go far off course as time passes. Our formulation of policies should bear in mind the possibility of miscalculation (Weimer and Vining, 1989).

2. Inadequate Legal Framework

2.175 In the broad sense, the more legal power the adopted policy gives implementers, the greater their capacity might seem to be to enforce proposed behaviour (Weimer and Vining, 1989). So when there is no legal foundation and support for policy either from internal or external elements of the organisation, the intended policies face great difficulties in being implemented.

Legal power may not be enough in itself to ensure compliance of actors who control essential programme elements. If they perceive the programme as contrary to their interests, then the implementers should anticipate that they will search for ways to avoid total compliance in a number of ways (Weimer and Vining, 1989).

3. Ineffective Institutions

2.176 Implementation by planning institutions that are not fully skilled must cause a degree of deficiency in policy implementation output.

So planning agencies must understand the fact and the extent of their potential limitations in implementation, and prepare their planning process and programme formulation accordingly (Faludi, 1988). Also, many dependent relationships between institutions may cause reluctance to ensure correspondence between them. This as a result could cause an output shortfall.

4. Non-Conformity with Authorities or Plans at Another Level

2.177 The Non-Conformity with Authorities or Plans at Another Level are caused by the followings:

a) Understanding objectives

A policy that is vague will certainly run the risk of having a negative effect upon implementation outcome. So, policy objectives should be unambiguous and precisely classified, both internally and in the total programme of implementing agencies. Objectives that are clear and well categorised according to importance serve as a basic aid in programme evaluation, providing guidelines to implementing official, and a resource to supporters of those objectives in and out of implementing institutions. But it is necessary to view objectives clearly along the following scale: (1) vague objectives, without priorities among them - these might include unspecific policies such as to `improve' air quality or employment; (2) clearly ranked objectives - these might involve curbing pollution, even if this would create

some unemployment; (3) quantitative objectives - these might involve policy objectives such as reducing the unemployment rate from 20% in 1992 to 10% in 1993 (Sabatier and Mazmanian, 1979).

b) Unclear specification of tasks

When participants in an implementation process find themselves with no clear cut tasks, and work accordingly, a tendency to overlapping effort, confusion, and time-wasting will occur during the implementation process and eventually will result in defective output. So it is extremely important to have the tasks of potentially involved actors clearly defined early during policy formulation, and to have a flexible mechanism to shift and interchange tasks during the implementation process when made necessary by unforseen circumstances.

c) Communication between agencies

Lack of perfect communication channels between plan and implementation agencies and among themselves is like having missing links in a long chain. Missing any one of them will cause a deficiency in the whole system of planning and implementation. Healey et al, (1985), in their study evaluating how structure and local plans were being implemented in the area of the West Midlands and Greater Manchester conurbations, found that on a number of occasions the implementation problems encountered were due to the conflict between two levels of the planning

system. Most of these disagreements should have been settled through the structure plans. On some occasions, conflicts have been defined and solved through the control of development systems. These disagreements have constantly curbed implementation of the policies assumed. Within authorities, disagreements over policy and assumptions also resulted in problems on some occasions. To a great extent it was resource problems "and difficulties of co-ordination of the public sector's efforts which made it difficult to achieve the strategic policy themes of urban and economic regeneration, redirection to conurbation cores..." (Healey et al, 1985).

5. Goal Displacement

2.178 Goal displacement occurs when an original objective becomes distorted to the point of being displaced. This may occur when implementation procedures gradually become the policies, ie. the means become the end.

Where the policy context becomes separated from the implementation process, defective execution and weak output must inevitably result, programme goals being left aside as the implementation system is directed to continuing itself instead of achieving them (Regan, 1984).

6. Misallocation of Economic Resources

2.179 The Misallocation of Economic Resources are caused by the followings:

a) Goals are in excess of resources

This is when goals and objectives aim higher than the available economic resources can cover, or when at certain stages in the implementation process the resources needed to achieve that particular stage are not available.

For instance, Healey et al, (1985) found that the tasks of attraction and organisation of investment had a high degree of significance by comparison with other implementation tasks. It was found that investment and the role of investment organisations had a high degree of significance for the strategies of housing improvement, urban regeneration and maintenance of the regional centre. So financial resources are vital to the policy implementation process. But it is uncertain what types of effect these resources may have on the process of implementation, and three assumptions can be detected. First, resources might be anticipated to encourage action which is in accord with the main objective, and implementers will comply because they will get some portion of the resources. Second, the availability of resources might be anticipated to twist implementation programmes away from the main objectives. This is due to the fact that implementers may utilise the resources to extend their own goals, and not wholly in accordance with the main objectives and their policy content (Hambleton, 1983).

b) Insufficient financial resources for compensation

This is when the plan involves financial compensation to be paid during the implementation process, as for instance where land has to be acquired in order for a project to proceed. Compensation ought to be paid to the owner, and without the acquisition the implementation cannot be started. In Healey et al (1985), it was noted that in Brunswick and central Salford, owners refused to sell their land on the open market at the price offered, and claims for compensation and rejection of compulsory purchase orders by landlords delayed the intended strategy of redevelopment of the area.

7. Not Enough Time Available

2.180 When there is not sufficient time available to execute and implement policies as projected, it is one of the most significant external constraints that may jeopardise the implementation process. For example, a policy objective may be to build a thousand summer resort cabins in a projected time of eight months, and to have them completed just before the beginning of the next summer season. But severe winter conditions intervening may mean that the time given to implement the project is inadequate.

8. Lack of Political Support

2.181 Lack of Political Support for Plan's Policies are caused by the followings:

a) Getting compliance

The inability of the implementing authority to get political backing for a policy may be a major cause of implementation failure.

In a study of planning implementation in the West Midlands and Greater Manchester, one of the problems that impeded implementation was the unwillingness of some private and public agencies to push ahead developments or comply with policy. This may have stemmed in part from the fact that some agencies involved opposed the policy. But on some occasions an agency was not capable of going ahead with implementation for reasons to do with its own operational condition (Healey et al, 1985). The core of the implementation problem depends on the distribution of the essential elements that form the implementation structure system. The bigger the chance for actors, persons or organisations, to withhold an essential contribution, the bigger the chance of failure.

Baradach's (1977) apology for implementation can be noted: that it is the process of assembling and keeping in place all the elements needed from those which control them.

In some cases where an essential contribution by an actor is not utilised, the implementation machine will not operate effectively. Actors who do not agree with the policy goals or see them as flawed may restrain their effective contribution. In some instances, withholding of support may be exercised because their limited resources do not permit them to comply, or because they want to gain some bargaining power. An example of this is the US strategic petroleum reserve programme. It was necessary to get approval from the Governor of Louisiana for the needed facilities, but before he provided his permission he got a number of concessions from the Department of Energy that included a guarantee that atomic waste would not be stored in his state. Non compliance is not always intentionally to prevent or delay the implementation process. An actor holding out on a needed programme element may have made every effort to provide it, but did not succeed because of failure to get support needed from others (Weimer and Vining, 1989).

b) Failure to follow through policy

This is the failure to continue and proceed in implementing the policy of lack of political support. For instance, in Healey et al's (1985) study of the Manchester area, in the town of Farnsworth a compulsory purchase order was used according to the conditions of a redevelopment grant with the purpose of clearing and renewing a main site in the city centre. But the whole plan was stopped by the lack of political backing to relocate one activity by applying another compulsory purchase order.

Policies standing idle cannot implement themselves. They need more than one element to keep them moving continuously in the right direction to get to the desired target.

c) Policy and the implementer

In many instances policy has been used for the advantage of the implementer, or in some cases abused by the implementer. The policy can be exploited during implementation particularly when it is imprecise and vague. So to avoid such abuse, policy design ought to be clear and concise.

9. Lack of Public Support

2.182 Lack of Public Support for Plan's Policy are influenced by the followings:

a) Policy for the targeted group

In order for a policy to succeed in implementation it should be exploited directly for the benefit of the group at which it is targeted. An example was the policy of implementing a Neighbourhood Sticker Plan in the city of San Francisco, for the area residents and their visitors to have easy access to on-street parking. Large numbers of residents wanted to contribute to the sticker plan and to assert their backing for it via their neighbourhood associations. Some residents advocated the idea of having to pay for using off street parking when they found their

area was to be included in the plan. So the City Planning Department encountered the possibility of local opposition when it made public the neighbourhood selected for participation. Seeing dissatisfaction among residents, analysts thought of a procedure that would permit them to seek participation - by this approach the City Planning Department would not be in the position of enforcing its choice on the neighbourhood. So instead of initiating policies, it is in some instances beneficial to allow for self selection. Sticker parking implementation in this example illustrates the applications of the selection process as part of a policy structure, (Weimer and Vining, 1989).

b) Public reaction or passiveness to a policy

Faludi, 1988 noted:

"It is easier to formulate images of the physical environment which, having proved themselves time and time again, are relatively firm. (But) it is relatively more difficult to isolate certain aspects of people's behaviour. This difficulty in planning of dealing with people is compounded from the fact that they must never be seen merely as the object of planning, albeit one whose behaviour is uncertain".

In broad situations planning systems are clearly closed systems, which do not offer a tool to form a power structure. But land-use planning systems have empowered, to a certain degree, public participation in planning, and the planning system has given some room for voluntary and outside interest groups to provide an input to the process (Hambleton, 1983). Implementing programmes all

the time takes some control over people, for better or for worse. This is exactly where the problem of implementation exists. For planning agencies to rationalise control they should communicate features of implementation to the public in an efficient way.

Procedures that allow for participation of interest groups in features of implementation may be very useful in preventing political attacks on the entire policy. The main idea is to provide a system that allows the policy to be revised in such a way as to serve local interests (Faludi, 1988).

CONCLUSION

2.183 As we have indicated, an implementation system comprises various elements and variables that affect its performance for better or worse. And all need to be essentially considered when evaluating the effects of control in development plan implementation, and when testing a plan's output consistency with regard to its policy objectives.

2.184 The area of development control is potentially very wide as is acknowledged by development plans, courts and around eighty years of professional performance. Also when comparing between countries' systems of control, it should be kept in mind that each system reacts to its own inherent problems. Moreover, every system is a reflection of that country's cultural and social values, and its constitutional and its legal bases, which makes it difficult to draw a final conclusion as to which system is more efficient than the others (Davies, 1989).

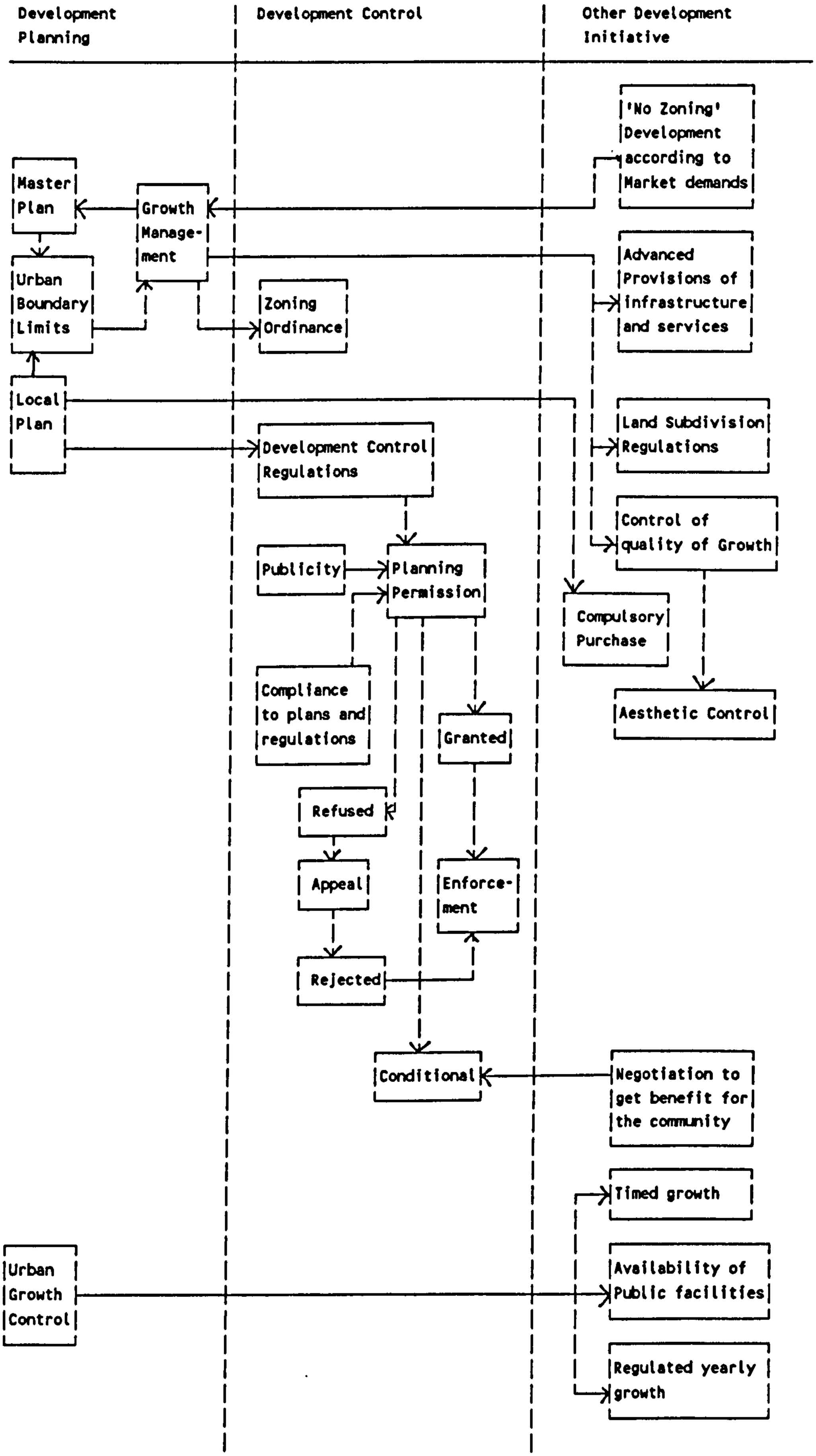
2.185 An experience of cultural inappropriateness described by Healey (1986) was in the city of Kumasi, Ghana, with a population of 60,000 people. The city did not have any adequate supply of food and of building materials such as cement and reinforced steel. In 1963, a British style master plan was introduced with a circular ring road layout, accurately detailed zoning by uses, and containing the British system of great attention to the protection of farm lands and the environment. Land was zoned for industry, agriculture and natural reserves, commerce, transport and residential purposes in sections of the town, and development proceeded according to the plan. But it was in the area of housing development that the plan broke down. The residential zones were farmed, while the area zoned for farmland and natural reserves was extensively built up for residential purposes. This situation existed due to the fact that farmland was tribal land distributed by tribal chiefs to as large a number of low income families as possible, where houses were built with local materials, while residential land zones in the plan were subject to building rules which required that advanced building materials were used. This raised development mortgages, land and property in the market. As in many semi-capitalist countries, urban property and land were considered to be extremely precious investments. The cause of this unusual event - implementing a plan backwards - lay in the inaccessibility of the plan to land, a matter not taken into account when preparing the plan (Healey, 1986).

2.186 We must conclude that there is no one system for control of development with a sound and a well established structure, which

if applied to any urban area in any country will provide definite uses when implemented. The same conclusion would apply for development plans, which may be very sound in structure and prove successful in one place or country, but when tried in another place might fail to be so. Development plans have to be prepared to deal with the often unique conditions of a locality and its possible future problems, taking into account specific economic, social and physical factors. In Fig. 2.12 we attempt a conceptualisation of a model of development control within the context of a wider planning process. This model draws on the procedures we have discussed from practice in several countries.

2.187 In finding the best and the most likely direction for Saudi Arabian planning and control of its urban areas' development, and to have efficient and sound planning, the planning methods and development plans adopted should not be an unadjusted copy or transfer of other countries' methods. Saudi Arabia should adopt a system of its own, that deals with its distinctive local and regional problems. It should build on its own planning system, benefitting from other countries' experiences in certain areas that need urgent solutions. In other words, borrow some elements that might prove successful instead of transferring a whole system or experience that might face unexpected local problems. Any adaptation of the planning system for Saudi Arabia must take into consideration local social issues, the cultural, religious and legal framework, economic resources, and the politics of implementation.

Figure 2.12 : Model for the process of Development Control



CHAPTER THREE
ECONOMIC AND SOCIAL FACTORS AFFECTING URBAN GROWTH AND LAND DEVELOPMENT

INCREASED REVENUE AND LAND DEVELOPMENT

3.01 Saudi Arabia's main revenue in the recent past and probably continuing far into the future is from oil exports. Oil revenues started to show their impacts in the country in the early 1950s. Production had begun but with little quantity in the late 1930s, being halted by the eruption of World War II. In the 1950s and the 1960s world oil prices were cheap compared to other commodities, and the oil companies' monopoly grip on oil production and sales was tight with the government getting only a small portion of the oil revenues which were not enough to reach out to the majority of Saudi citizens. During those two decades, Saudi urban growth was very slow and stable. But the oil price hike of the early 1970s witnessed the fastest urban growth the country ever had. So it can be stated that the urban growth of the Kingdom was moving roughly parallel with oil prices. Therefore, oil revenues are likely to continue to have a direct affect on Saudi urban growth, as it is by far the major economic income the country has, and it is a critical factor in Riyadh's urban growth as this is heavily dependent on government spending, therefore on oil revenues.

3.02 As Roberts (1979) puts it, countries which have had one or more irresistible commodity advantages over other parts of the world have often been able to make changes faster and more

fundamentally than nations with a wider economic base, but with no market prevalence of any specific commodity. The effects of oil revenue on government spending, on income distribution in Saudi Arabia and on regional economic conditions, have therefore closely reflected national conditions.

3.03 The city of Riyadh's economic history since 1970 has generally taken an upward trend, especially in the late 1970s and early 1980s, when the government's incomes were tremendous. At that time the city's economic incomes were great. At that time the city's economic base was heavily dependent on government contracted construction activity, which helped its exceptional economic growth. The other main feature of the Riyadh economy was government employment (HCFDR, 1989). The abundance of financial liquidity after the oil price rise in 1974 initiated a highly speculative land market, therefore creating a demand for additional land. Consequently, a wide expansion of subdivision took place far out beyond the approved Master Plan boundaries. In 1980, more than 220 sq. km. of land had been subdivided outside these boundaries (TR-8, 1982).

3.04 The money supply in Saudi Arabia increased rapidly with the 1974 oil boom. Investment opportunities in the various sectors of the economy were limited and risky. Most people found that other than investing abroad, real estate investment inside Saudi Arabia was the only choice. As investment out of the country became more risky with continuous fluctuation in the exchange rates of most foreign currencies, so owning land in Saudi urban

areas became very profitable, sometimes with as high as a 500% profit in the early part of the 1977-1986 period, when investors were attracted to the real estate market in significant numbers. As a result, a highly artificial increase in the demand for land occurred along with the natural increase of demand for urban growth of the city.

3.05 There is a constant connection between land values in a city and its prospects of economic activity, as land values are partially determined by potential economic use. Riyadh inhabitants are unlike those of Jeddah or other port cities of the Kingdom, for they are less familiar with commercial or industrial activities; for that reason, more people are directed toward real estate investment (TR-10, 1980). This stated reason by MOMRA report has no factual base for it, as there is land speculation in Jeddah as well, and there are more commercial and industrial activities in Riyadh more than in Jeddah.

3.06 Hence, and in conclusion in the early years of the economic context of the study period show too much money chasing just one resource that of land and real estate.

STRUCTURE AND INCOMES IN THE SAUDI ARABIAN ECONOMY

3.07 Categorizing cities according to the structure of their economic base gives useful clarification of their growth potential, provided one knows the economic orientation of the region and national

economic strategy. Cities usually are the major inducers of economic growth in the developing world. Economic production tends to concentrate in urban centres where 60% of GNP is generated by 30% of population. From now until the year 2000, around 80% of developing countries' growth is expected to come from cities and towns other than the countryside (Bartone, 1991).

3.08 Revenue derived from oil has enabled oil producing Middle Eastern countries to invest and plan development of a scale and nature they never experienced before, and at a speed which has been unique in the history of industrial and urban revolutions. More than any factor, oil has been responsible for several Middle Eastern societies experiencing change from pre-industrial and pre-urban society to economies in which industry and urbanization are taking predominant status (Roberts, 1979).

3.09 High oil production has in some cases not been sufficient in itself to put a country at a high rank for its Gross Domestic Product (GDP). This is shown by the example of Algeria and Iraq, both countries with high oil production, but with the number of population in relation to national product preventing those countries from taking a higher ranking in regard to its aggregate GDP (Roberts, 1979).

3.10 The future direction of Riyadh's economy depends on building on the strengths of the existing economic structure, and in developing new specializations that depend on those sectors that were previously leading the economy. With the overall

responsibility for city development, the goal of the High Committee for Development of Riyadh (HCFDR) is to support vital structural changes in the city economy, in order to provide a more diversified economic base. It's main plan for the city's future economic development is to back the private sector in developing investments that generate economic growth. Even though the government sector will continue to be in the lead in the city's economy, an increased role for the private sector is the way seen to achieve more active economic growth and diversification in the 1990's (HCFDR, 1989).

3.11 The rate of Riyadh's urban growth is, of course, linked to national economic growth, relying on stable oil prices and associated government revenue. Nevertheless, it is hoped that the city economy can continue to become more diversified and not dependent on one sector. Even though government still remains a major sector, several areas of the private sector have increased their share in the local economy, particularly manufacturing, banking, finance and professional services such as medical and business services (HCFDR, 1989).

3.12 Yet, Riyadh is the nation's capital, and its economic growth will be based largely on national resources and mainly on that of the government's economic base. The city has risen as a major financial centre for the Kingdom as a result of the recent transfer of key financial institutions to the city from Jeddah, and from the growing role of the various public and semi public institutions which regulate the flow of capital investment into the Saudi

economy. First, the Saudi Arabian Monetary Agency (SAMA) moved to Riyadh in 1979. A shifting of the banking concentration took place in consequence. Thirdly, most government development finance agencies such as the Real Estate Development Fund, the Industrial Fund and others, are head quartered in Riyadh. These institutions move with them people and services, therefore contribute to the urban growth of the city.

3.13 During the 1980s, government employment continued its growth. 78% of the Saudi work force in Riyadh was directly employed by the government, and 37% of the labour force on the national level is directly employed by the government (HCFD, 1989). Around 56% of household wage and salary income in Riyadh came from government, and reached around $3.3 billion in 1983 to roughly $5.5 in 1988, nearly a 44% increase. Most of these jobs were for Saudi's at the middle and above average income levels. For instance, total government wages and salaries grew by around 21.1% per year between 1977 and 1986, compared to an 11.3% annual rate of increase for total private sector wages and salaries. Such growth tended to ease the overall impact of fluctuating economic conditions, and pointed to the importance of the government sector as the main economic base of the city.

3.14 A 1986 HCFDR study confirmed that the government was Riyadh's major employer: a total of 183,000 persons or 39% of the whole work force worked for the government, including 78% of the Saudi labour force. The private sector has a preference of

non-Saudi employees and self employed. The total household income for the city from all sources was SR23 billion ($6.2 billion) in 1985. The average income per person has increased 82% since 1977. Annual income for Saudi's is reported to be at the average of SR74,000 and at an average of SR33,500 for non-Saudi's. Saudi's however support an average of 4 persons without any income, while the non-Saudi's support only 0.8 locally resident persons. Around 64% of Saudi's have an annual income between SR30,000 and SR100,000: 23% get less than SR30,000 and 13% receive more that SR100,000. For non-Saudi's, 71% have a yearly income of less than SR30,000. Only 5% of non-Saudi's receive an annual income of more that SR100,000. Household income (which includes total income of all individuals in a dwelling unit) is SR95,000 for non-Saudi's. Around 32% of non-Saudi's total income is transferred out of the country. This means around SR3 billion per year loss to the local economy, being not saved or spent inside the city. Only 3% of non-Saudi total income is remitted to places outside Riyadh, but within the Kingdom.

3.15 Based on data survey by HCFDR, Saudi's spend 77% of total personal income but non-Saudi's spend only 54%. Therefore, the total personal consumption expenditures of Riyadh residents is around SR10 billion for Saudi's and SR5 billion for non-Saudi's, or a total of SR15 billion expenditure in the city (HCFDR, 1987).

3.16 Household income provided from wages and salaries was SR30 billion a year in 1991 ($8 billion), this being a 58% increase of

available income over 1986 when it was SR19.2 billion ($7.2 billion). This excluded income of persons not living in a household. Household workers managed to save SR9.4 billion ($2.5 billion) per year more than in the year 1986 when SR4 billion was sent out of the country (HCFDR, 1991).

3.17 The Riyadh municipally gets its financial share from MOMRA's budget in two ways. One is for directly financed projects by MOMRA such as water supply, rain drainage, roads, sewerage, lighting, recreation, cultural and sports centres. The second is for projects financed by MOMRA through the municipal budget, such as asphalting of local streets, temporary storm water collectors, sidewalks, some public gardens and parks (MOMRA, TR-13, 1981).

GOVERNMENT REAL ESTATE DEVELOPMENT LOANS

3.18 Prior to the economic boom of the mid 1970s, the socio-economic structure of the Kingdom comprised a small portion of the population with upper and middle class status, while the majority constituted a large lower income group. This low income group had expectations of getting its share of the economic boom. Most individuals of this group wanted to own his own home if he were renting, or to occupy a modern decent house if he were living in an old deteriorating home from the traditional period. Also, the era witnessed the beginning of the influx of non-Saudi population who came to fill the need for

technicians, managers, skilled and unskilled labourers, and to help in the construction of urban infrastructure and other urban projects, both governmental and non-governmental. This tremendous influx of foreign workers and Saudi migrants from other areas in the Kingdom created a great demand for housing which was in very short supply, which resulted in a sky rocketing hike in rents and land prices.

3.19 In this chaotic situation the government had to intervene to alleviate the problem in two ways. One was to establish the Real Estate Development Fund (REDF) to provide Saudi citizens with government loans to build their own homes, or to invest in real estate projects. The second approach was to start massive public housing projects in all main urban centres of the Kingdom. But as time passed the latter approach proved unsuccessful for a number of reasons which were not released to the public by government agencies. So the first approach of government real estate development loans was more successful.

3.20 The government - in order to solve the housing shortage problem and to satisfy the low income group - started its programme of providing two types of loans to every mature citizen. One type was for building individual homes which involved a loan for building costs but not including the price of land, which most often was by grant from the government but in some cases bought by the individual or head of household, the grant being made only once anywhere in the Kingdom and only for building a home or house, not a flat or shop. The amount loaned SR300,000

($80,000) as a maximum and interest free. This loan has to be repaid by the beneficiary in 25 years, with yearly instalments that can be reduced by 30% if paid within two months of the due date. Also, the full amount of loan will be discounted by 30% if paid back all at once.

3.21 The second type of real estate loan is the real estate investment loan. In this type of loan the government grants 50% of total construction cost, not including land value, of a residential and commercial complex with not less than six residential units. This loan has a ceiling of Sr10 million ($2.65 million), in exchange for which the beneficiary pays SR40,000 to the REDF which they regard as a service fee charge. This loan has to be paid back within 10 years in yearly payments. To run this loan operation, the government established the Real Estate Development Fund (REDF) under the supervision of the Ministry of Finance.

3.22 The loans granted during the period 1977-1986 all over the Kingdom were of a tremendous number, and the time for applicants to get their loan was a comparatively short 1-2 years. But since 1986, the number of both types of loans has decreased considerably and a very small number of applicants are successful, besides which the applicants have had to wait a long time after they apply for a loan - as long as 7 years for private homes loans, and 10 years for investment loans. These delays have probably been purposely managed by the government, as it seems that the goals for which the loans were established have been achieved to a degree, and oil prices and revenue has of

course decreased considerably since the previous period.

3.23 These government real estate development loans played a great influence on the speed and size of urban development in Saudi urban area, particularly during the period of 1977-1986 which saw the most accelerated urban growth in the country's urban history, when the cities and towns became full of modern homes, flats, shops and government and business offices.

3.24 Government soft loans for housing have generally most benefited the middle class but have also reached the lower income groups. Because housing has been a main item in household expenditures since 1974, such loans match the total critical growth of incomes for households. The loans factor and other government spending has initiated two of the prime conditions for urban explosion: increased mobility due to the availability of private automobiles, and sufficient financial resources at the hands of the households for constructing private homes (MOMRA, TR-6, Vol. I, 1979).

POPULATION GROWTH

3.25 After the 1970s economic boom, the construction sector's need for labour could not be met by the local unskilled and a few Arab labourers from nearby countries. To get more of the labour needed, immigration from Islamic and non-Islamic Asian countries was opened in 1976 and 1977 respectively. There was a massive entry of Pakistanis, East Asians from South Korea and the Philippines, and from other low wage countries. Also,

additional Europeans and Americans came to increase the few foreign professional and skilled workers that were in the country, most of them skilled technicians and managers. The increase of foreign population in the country and in the city of Riyadh in particular created a very high pressure on the demand for housing, and therefore created an extra impetus to the construction boom that pushed the city's urban growth out of its previous limits (MOMRA, TR-6, Vol. I, 1979).

3.26 The influence of international migration on the rate of urbanization has been relatively limited around the world in general. The countries which have witnessed a higher rate of urbanization caused by international migration are small countries, and so Saudi Arabia has been among the fastest urbanizing countries such as Singapore, Kuwait, Hong Kong, Venezuela and the Ivory Coast (Renaud, 1981).

3.27 The growth rate of Riyadh's Saudi population seldom dropped below 6% each year in the period of fastest growth, indicating also the tendency to attract population from rural areas who looked for better living. The income gap previously was not so significant as to cause a large exodus of rural family groups. But in the mid 1970s the beginning of the economic boom saw the situation change drastically, because city incomes had become large enough to support entire families who then moved permanently from rural areas to the city. Also, rural emigration was intensified by completing and constructing new roads between various rural settlements and the cities. So, two kinds of

government expenditure directly influenced population migration to Riyadh:

1 - Very large capital expenditures that brought a great number of jobs for foreign population, due to the acute shortage of Saudi technicians and workers.
2 - The government's seventies spending on salaries and wages for civil servants attracted Saudi's from smaller towns and rural areas to the capital (MOMRA, TR-6, Vol. I, 1979).

3.28 Amongst the Kingdom's large cities, Riyadh's share of the total population of the country would, as the Plan predicted, slowly increase from 28.9% in 1977 to 33% in the year 1990, when the city would consolidate its role as the political, administrative and business centre of the country. The Revised Master Plan prediction of population was the mean between the high and low forecasts, which was estimated to be 1,750,000 inhabitants by the year 1990 (Table 3.1). The (SCET) added the high forecast for the Saudi and foreign population to get the high forecast of the total Riyadh population in 1990. At the same time, the two low forecasts were combined to get the total low forecast. The mean of the high and the low forecasts were taken as the RAMP forecast for total city population (TR 8, 1982). Also Figure 3.2 shows the curve of that forecast. According to this population forecast, the total number of dwelling units required by 1990 would be 262,000 by a standard of 6 persons per dwelling.

Table 3.1: SCET International Population Forecast

Population		1977	1980	1985	1990
Saudis	H	485	641	956	1,313
	L		618	881	1,168
Foreigners	H	205	325	520	668
	L		290	345	317
Average Total	H	690	966	1,476	1,981
Population	L		908	1,226	1,485
Mean		690	935	1,350	1,750
Saudis		446	585	850	1,150
Foreigners		174	265	365	450
Total residents		620	850	1,215	1,600

Source: TR 8, 1982

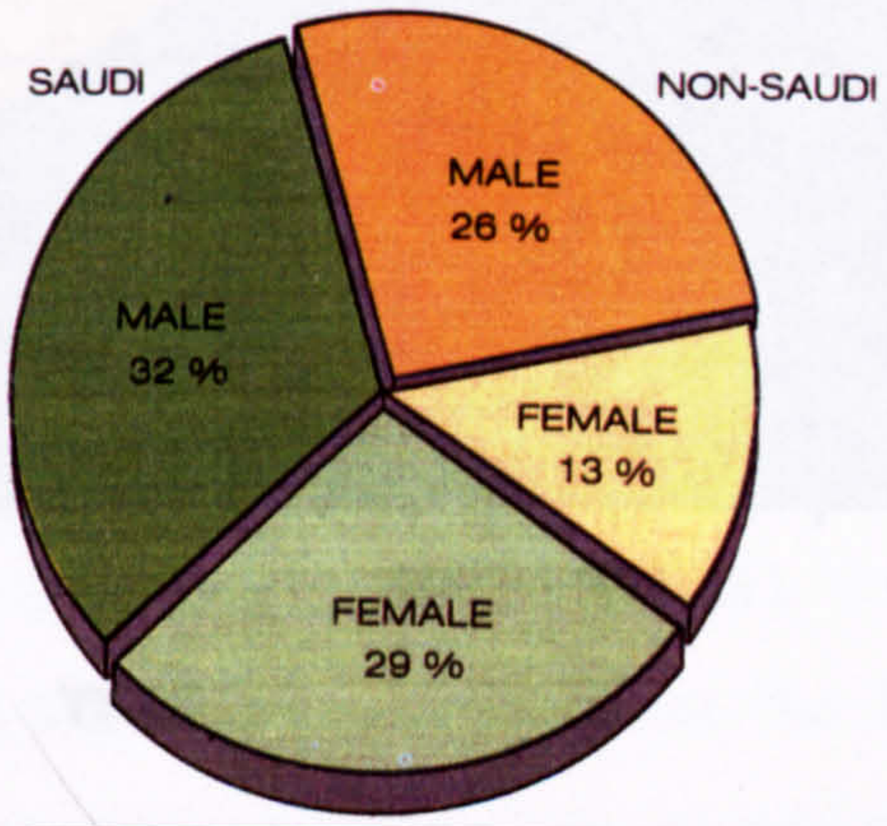
3.29 Riyadh's city population was estimated to be 690,000 persons in 1977 (MOMRA, TR-6, Vol. 5). In 1986, an HCFDR demographic study estimated the population to be 1,389,000 individuals. This meant an 11% rate of growth of population per year during the 1977-1986 period. The Saudi population comprised 61% of the city's total population according to the 1986 estimation (Figure 3.1). An estimated 49% of the city's Saudi inhabitants were less than 15 years of age, and 60% were under 20 years; only 2% were more than 60 years of age. The literacy rate had increased, the total over 12 years old who were literate had risen from 66% in 1977 to 84% in 1986. Most Saudi family heads had migrated to the city, with only 25% having spent their childhood in the city. 33% of the city's Saudi residents spent their childhood in some other part of the central province, not in the city of Riyadh. 42% of the 'Saudi population spent their childhood in other provinces of the Kingdom (HCFDR, 1987).

3.30 The HCFDR (Tadweer, No. 2, issue 8, 1992) has noted that the estimated population of Riyadh in 1992 was 2,300,000 individuals. This implies a continuing 11% rate of increase of population each year during the period of 1986-1991, which would be surprisingly high if these population estimates were to be proved to be accurate. For the present, the estimate must be regarded as tentative. Also Figure 3.2 illustrate, HCFDR population forecast curve.

3.31 Early in 1993, a major national population census was carried out

RIYADH POPULATION 1986

NATIONALITY	MALE	FEMALE	TOTAL
Saudi	450,000	395,000	845,000
Non-Saudi	380,000	184,000	544,000
TOTAL	810,000	579,000	1,389,000



TOTAL POPULATION

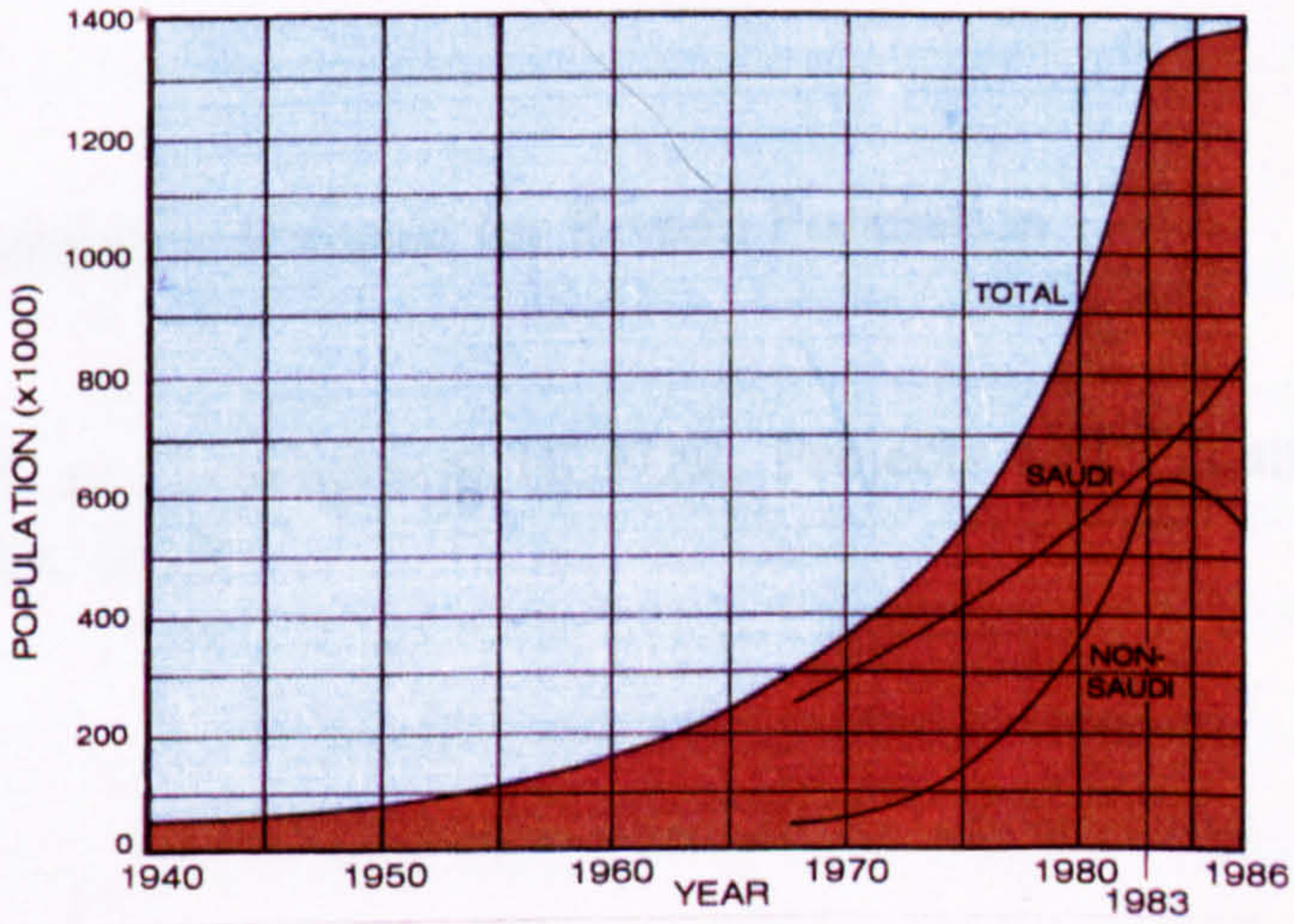


Figure 3.1 : Population and Category until 1986

Source: Executive Summary, HCFDR, 1987

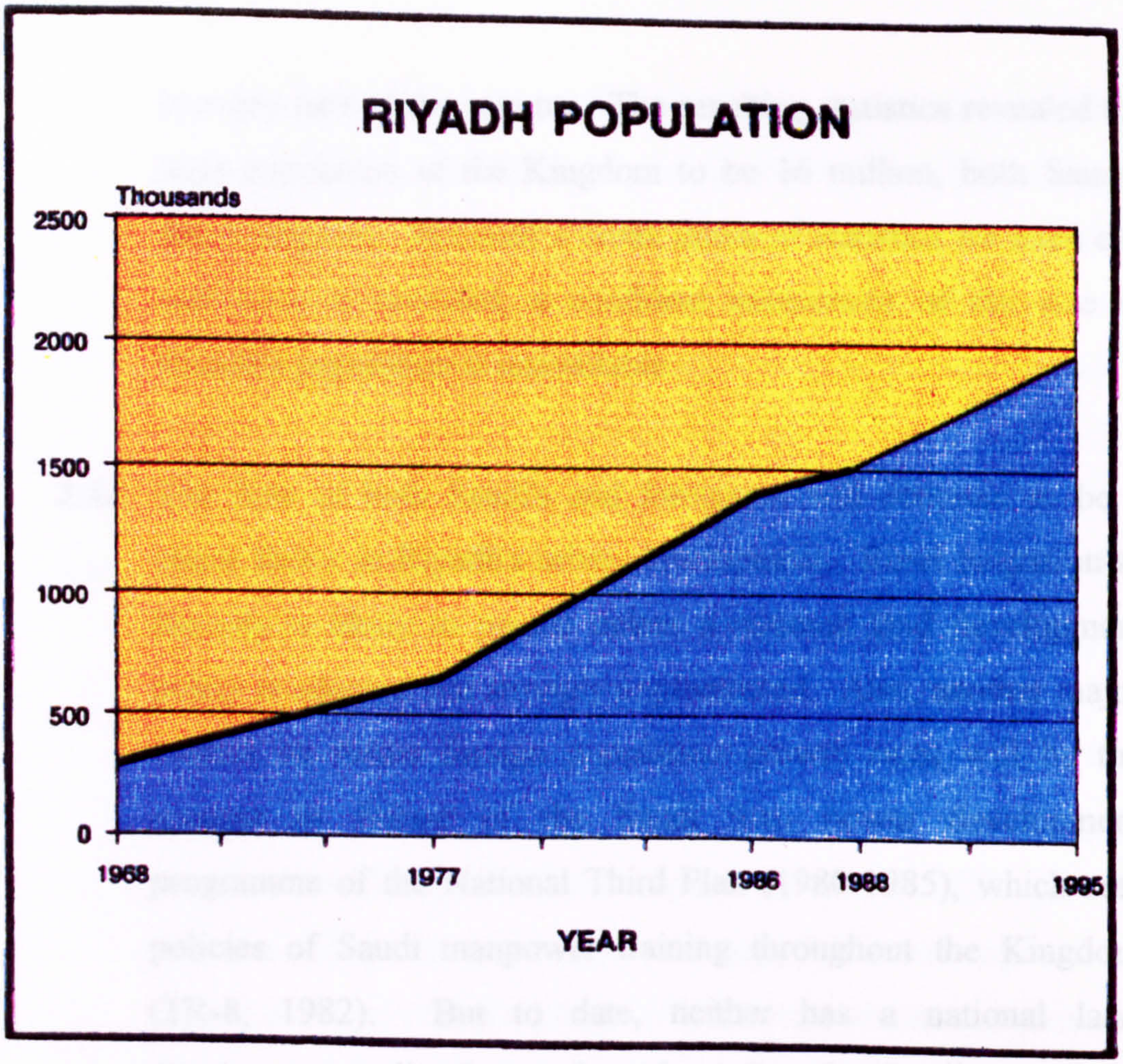


Figure 3.2: Population Forecast for Riyadh Population.

Source: March to Development HCFDR, Projects and Planning Centre, 1990.

in every part of the country. The resulting statistics revealed the total population of the Kingdom to be 16 million, both Saudi's and foreigners. But until a break down of statistics for each city and town is revealed, a confident assessment of the size of Riyadh's population is unavailable.

3.32 The flow of both Saudi's and foreigners will continue to be a major factor in Riyadh's urban development. Rural migration to the city is likely to persist unless a national land development policy is adopted and strongly implemented. Also, another major control on future foreign population growth rates will be the success or failure of the Saudi man power development programme of the National Third Plan (1980-1985), which sets policies of Saudi manpower training throughout the Kingdom (TR-8, 1982). But to date, neither has a national land development policy been adopted nor has the Saudi manpower training programme shown signs of success.

3.33 Most developing countries, of course, are facing accelerating urbanization, along with service and industrial growth. Cities in developing nations now commonly absorb around two-thirds of their population increase. According to this rate, some 1.9 billion people would be living in the urban areas of the developing countries by the year 2000, adding 600 million urban dwellers at the end of the decade. At the end of the century, world population will have shifted to being predominantly urban from being predominantly rural. A second trend is the continuous increase in large cities in developing nations; currently, half of their urban

population are in some 360 cities each being of more than 500,000 inhabitants. At the beginning of the twenty first century, there will be over 520 cities of this size. Regarding mega-cities, 20 out of the 25 largest cities in the world will be in the developing world, each city with more than 10 million (Bartone, 1991).

3.34 A study by HCFDR has forecast that the size of Riyadh's expected population could reach over 3,000,000 by the year 1996, of whom 66% would be Saudi's. And by the year 2002, the city's population might reach 3,380,000 inhabitants, with 90% of them being Saudi's (Tadweer, HCFDR, 1992). According to these estimates, the HCFDR expect around an 11% rate of increase of population each year, although this seems higher than some observers believes likely. The future population maximum capacity of the undeveloped area of the city of Riyadh was estimated by HCFDR for phase one of Urban Boundary Limits as able to absorb a population of around 3,400,000; added to the estimated population of 1986 of around 1,400,000 persons, the total maximum potential population of Riyadh would be around 4,800,000, with a density between 60 to 300 person/hectare. Within Phase Two of the Urban Boundary Limits (UBL), a maximum absorbtion capacity of a population of 1,900,000 at 60 persons/hectare density would increase the total future population capacity of the city - according to HCFDR - to 6,700,000 (HCFDR, 1987).

3.35 If we suppose that the 11% yearly rate of population increase

assumed by the HCFDR is realised, and if we take the population in 1992 as according to the estimate of 2,300,000, the city of Riyadh would reach a mega-city size by the year 2009 AD, when its population can be estimated to reach around 11 million individuals. Table 3.2 shows past, present, and future population estimates for Riyadh. If this size of population in the city were to be reached at this relatively early date, it seems very possible that a deleterious urban situation would occur beyond adequate means of control, associated with the risk of severe problems such as tremendous congestion, over population, over crowding, pollution and various urban environment problems, over capacity use of infra-structure, wide spread slums and other urban ills. It must be hoped that the government takes all means possible to stop reaching that size by using effective tools to better control the growth of the city, if such population growth size would actually take place according to previous estimate.

Table 3.2: Riyadh's past, present and future population growth

Population	Year	Annual Growth rate %	Source
7,500	1858	-	W G Palgrave
19,000	1916	1.6	St John H Philby
27,000	1928	3.2	William Rugh
47,000	1938	5.5	Town Planning Organization
83,000	1948	6.4	" " "
106,000	1953	5.0	" " "
160,000	1960	8.6	" " "
300,000	1968	9.1	Doxiadis Households' Survey
350,000	1970	5.6	Dr Al Sharif, Doctoral Thesis
690,000	1977	7.4	SCET International/SEDES Survey
1,389,000	1986	11.0	HCFDR Reports
2,300,000	1991	11.0	" "
2,553,000	1994	11.0	Forecasted*
3,875,632	1999		"
6,530,166	2004		"
11,003,708	2009		"

*Forecasted based on the HCFDR assumption of yearly growth rate of 11% since 1977

RATE OF URBANIZATION AND THE DEMAND FOR URBAN GROWTH

3.36 The economic boom of the 1970s changed the economic structure of the country drastically and affected all walks of the country's life, clearly recognizable through the very fast urban growth directly influences by the huge national income transferred by the government via spending on various public projects, high salaries and wages, and real estate development loans.

3.37 Planners were not ready to deal with the highly accelerated urban explosion, and the subsequently disorganized development occurred which insufficiently reflected the structuring elements intended by the Riyadh Master Plan. Because of this, one has the feeling that a consistent image of the city is absent. The essence to deal with urgent and immediate problems has kept decision makers from shaping the type of image they might have desired for the future city (MOMRA, TR-6, Vol. I, 1979).

3.38 As to the increase of urban growth, in 1968 just 30% of Riyadh's population lived outside the central area. In 1978, this percentage had increased to 50% and was settled on land extending as far as 20km from the old city centre (Figure 3.3), shows city's gradual urban growth between 1950-1991.

The typical concentric growth pattern was broken by the development of new communities along the main artery roads, and around the new growth centres such as the old airport, Malaz

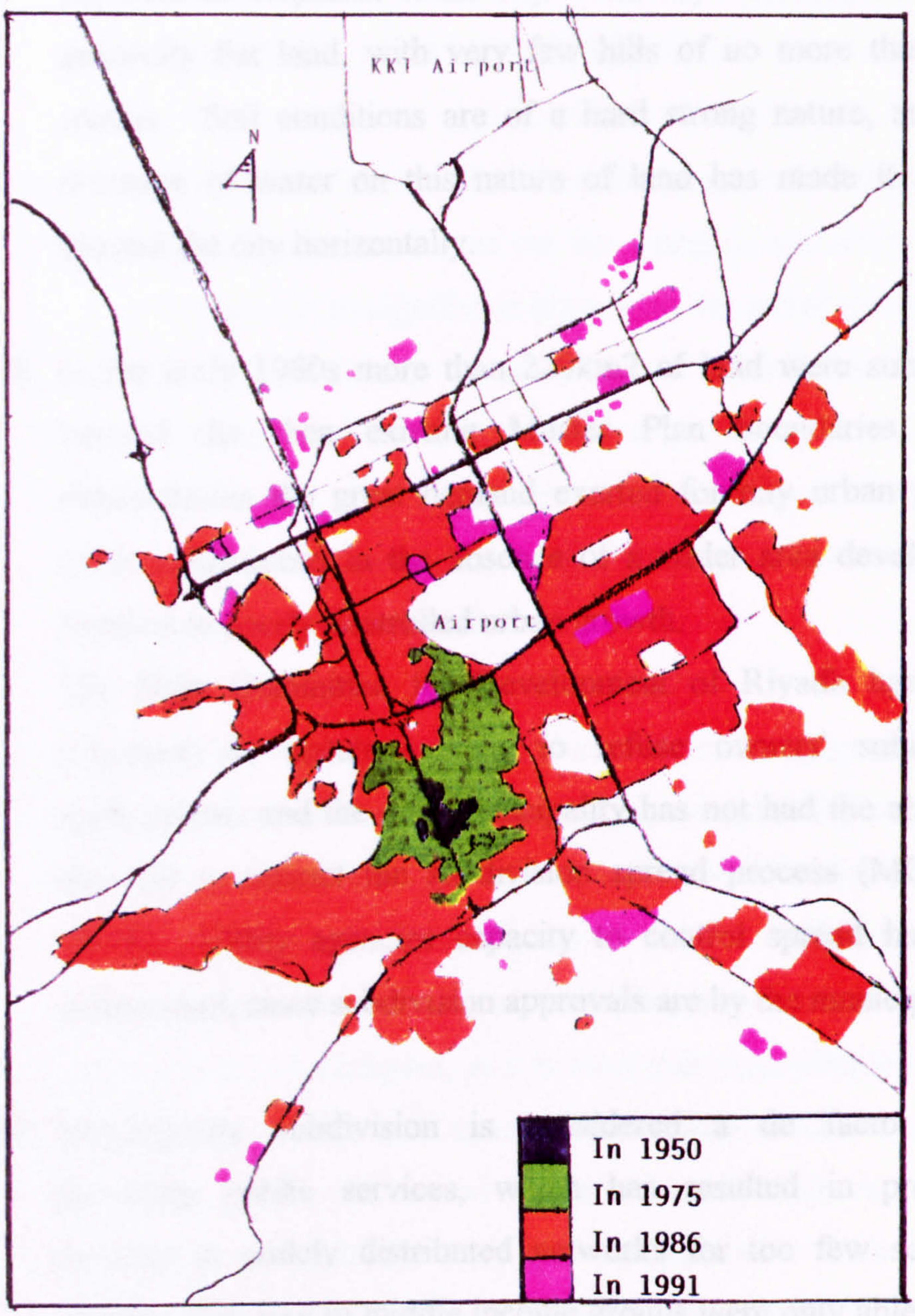


Figure 3.3 : Riyadh Urban Growth since 1950

and the Industrial area. Besides 'leap frog' development took place in more remote areas (MOMRA, TR-6, Vol. I, 1979).

3.39 The topography of Riyadh has little natural obstacles to the physical development of the city. The city boundary limit is on generally flat land, with very few hills of no more that 10-20 metres. Soil conditions are of a hard strong nature, and easy drainage of water on this nature of land has made it easy to expand the city horizontally.

3.40 In the early 1980s more than 220km2 of land were subdivided beyond the then existing Master Plan boundaries, which demonstrates the great demand exerted for city urban growth. Such subdivisions in the absence of a wider area development resulted in poorly controlled urban growth.

The High Committee for Development of Riyadh has rarely practised its statutory right to refuse owners' subdivision applications, and the city municipality has not had the ability or the will to restrict the subdivision spread process (MOMRA, TR-9). Utility agencies capacity to control spread has been constrained, since subdivision approvals are by the municipality.

3.41 Municipality subdivision is considered a de facto means providing public services, which has resulted in providing services in widely distributed networks for too few scattered people. Yet, low to middle income groups were only able to buy land at a far distance from the city centre, as land prices close to the centre were inflated by land speculators (MOMRA, TR-10,

1980). But to the absence of comprehensive subdivision regulations, a repetitive urban design resulted that does not represent any creative innovation from the standard orthogonal grid recommended by the Doxiadis Master Plan (TR-9, II, 1981).

PRINCIPLES OF ISLAMIC SHARIA'A

3.42 Potentially, some Islamic Sharia'a principles, could influence the urban growth process, but as we are going to see, they actually had very little or no significant impact on the urban development process. The driving force of urban growth has been an economic one, and most development problems are of strictly planning nature. The followings are the principal elements of Islamic Sharia'a, where they might have been most likely to influence the urban environment:

3.43 Usury (Reba): Reba is defined in Islam as 'exchanging cash liquid money of the same kind with one party paying back extra at once or in later time'. This type of transaction is forbidden in Islam, and is also applied to putting money in the Bank and getting interest back. This is a clear principle, in a society that very much practices its religion, so it is clear that most people invested in development and land speculation, mainly in the late 1970's and early 1980's, for reason of the extremely high return from investment in buildings and land speculation. This was an opportunity to earn a return on capital which people could not obtain by putting their money in the banks. There were few other investment opportunities in Saudi Arabia. This is not suggesting

that the prohibition of usury is a main cause of Saudi urban growth, but it can be argued that the limited internal investment opportunities have led Saudi people to concentrate on land investment.

3.44 Islam gives a land owner an obsolute land ownership, but it does not give him an absolute right to use it through development, he has to follow and obey (Wali Alamer) the government in what ever rules are put for use in this case plans and planning regulations which could be similar to any rules applied in the West or any other country such as set back, and so on. But a land owner cannot be forced according to Islam to develop his urban land, or not to, except by rules that can be applied by government planning agencies. Taxes (Zaraeb) are not clearly forbidden in Islam, and governments can apply taxes on undeveloped land via various indirect means.

3.45 One of the five basic pillars of Islam is 'Zakat', which is to give away to the poor and needy 2.5% of net profit or rent of property of cash which is held by the beneficiary for more than one year. On land with no rent or not put up for sale, there is no Zakat levy. But, there is very slim evidence to support the idea that Zakat had any impact in either halting or increasing urban development.

3.46 With regard to land designated for public services when subdivision permission was given, in many cases the land will not be taken by the responsible agency either for a school, gardens or other services, and therefore no compensation is received by the

subdivision owner. In this case, the owner is entitled by Sharia law to sell the land if the ownership is not transfered to the related government department. The land will be then used in most cases as residential. That this has occurred in some subdivided areas has not been caused by Sharia principles, but rather because of the failure of responsible agencies to speed up aquisition for the purpose of what the land was designated for.

3.47 In general, Islamic practice has had very little influence in shaping the modern built environment. For instance, Islamic principles do not specify sizes of windows, streets, floors, or of land area needed for recreation, and so on. The responsibility for controlling and shaping the local urban environment and for the inconsistency of development lies primarily on the shoulders of planners and of the quality of implementation by planning authorities.

3.48 We must therefore conclude that the most likely Islamic principles which might have influenced urban development growth have actually had very little effect on influencing the urban growth.

SOCIAL AND CULTURAL LIFE

3.49 As mentioned earlier, the 1970s have brought a shift in Saudi urban living, as that previously only available to high income groups, came within the reach of the middle class people. This included many life style changes such as having a large house for

individuals, large shopping centres for expanding market, and so on. These brought extraordinary changes in Saudi city size and in the structures within.

3.50 Cultural life, daily living habits, family size, and other patterns of social behaviour are determinant factors that affect any urban settlement's growth. In Saudi Arabia, large family size is very common, and the tendency of having a large number of guests at once has created a demand for large houses, and therefore greater demand for urban space. And with rising expectations, a large family with many children who become mature and get married will find these sons move out by building their own houses, or by temporarily leasing until they build one. Another social aspect that pushes urban development is that in the last decade and a half, having a brand new villa has become a mark of social status that almost everybody wants to have, even if they already own their house. So it has become fashionable in Riyadh for a majority of people who were living within the 1970s city limits, to move out and build in the outskirts of the city.

3.51 These tendencies are not unique to Saudi Arabia or Riyadh, but they are a force bringing relatively unfamiliar pressures to urban change.

3.52 Economic prosperity has enabled many individuals to own an automobile, hence easing mobility, along with a wide network of roads and highways extending urban growth to remote areas of the city without effective control. Strong family ties have

encouraged relatives of city residents who live in rural areas to emigrate to the city. So when an individual moves to the city, the rest of his relatives follow including cousins and other relatives. This certainly contributes to rural migration.

Conclusion

3.53 In this chapter, we have seen how the economic factor of increased income of the country had and still has a major affect on urbanization, and the speed at which it has grown. Also of critical importance is the demographic effect. So government revenue and expenditures along with population growth rate will determine and remain critical indicators of the city's growth trends in the future.

CHAPTER FOUR
PROCESS OF CONTROL OF URBAN GROWTH AND DEVELOPMENT

INTRODUCTION

4.01 This chapter describes how the process of controlling developments and their growth stages has been conducted in Riyadh, by introducing the main influential elements in that process; namely the various government agencies, plans and rules, which are in charge of operating, directing, managing and implementing the urban development process.

4.02 The chapter defines each agency and branch of government and its designated role in operating the control of development mechanisms and it identifies the number of authorities and influences their relation to the process. Those authorities and influences in the case of Riyadh are the Ministry of Municipal and Rural Affairs (MOMRA), other Ministries with an indirect involvement, Riyadh Action Master Plans (RAMP), Municipalities, Urban Boundary Limits, the High Commission for the Development of Riyadh and the process of development control and of approvals. Figure (4.1) shows the planning authorities' structure in the city.

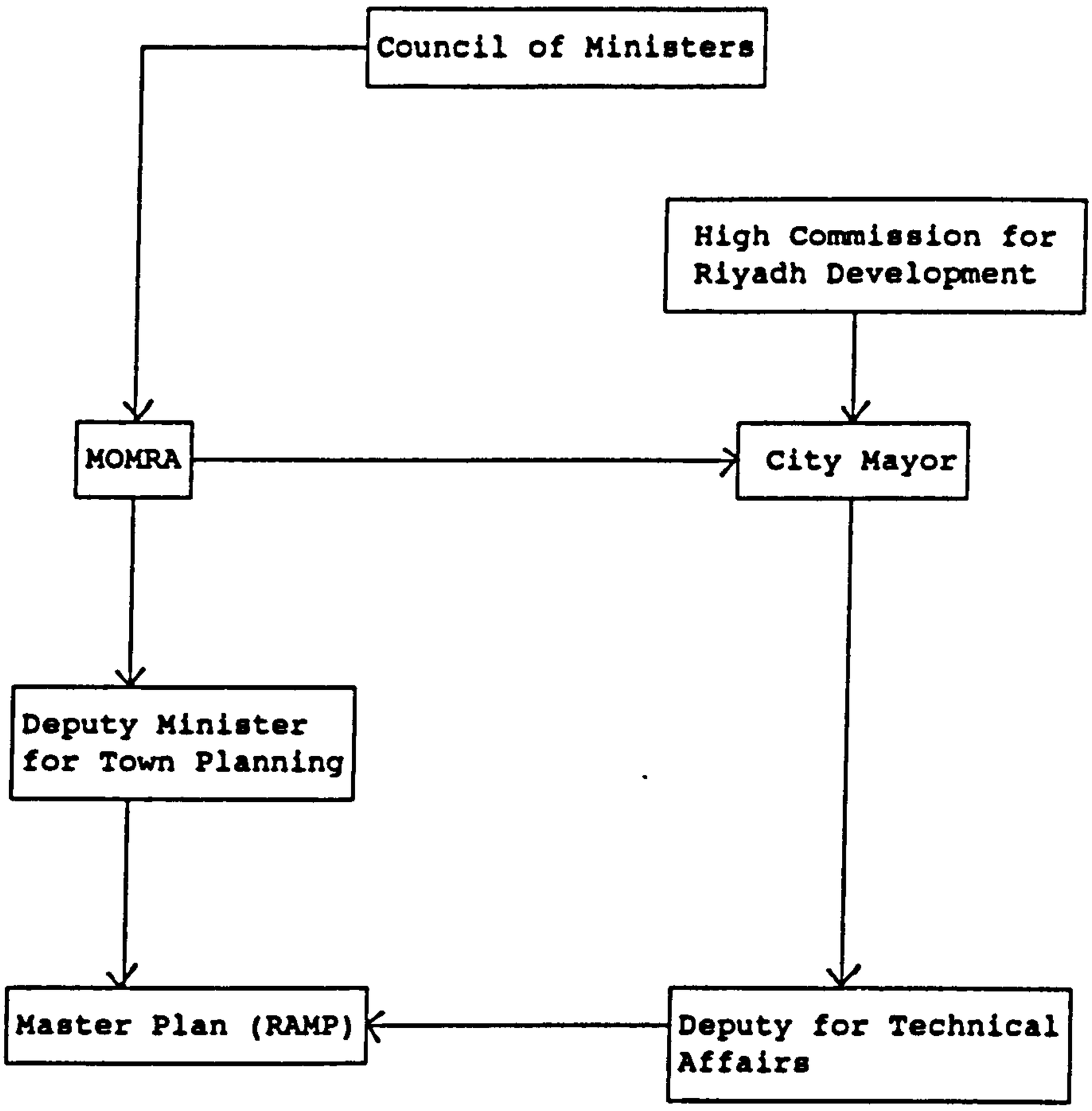


Figure 4.1: Riyadh Planning Authority Structure

MINISTRY OF MUNICIPAL AND RURAL AFFAIRS (MOMRA)

4.03 The existence in the far past of a situation of non-government involvement or little involvement in directing the city development process, which gave unlimited freedom to individuals and institutions in their courses of action, created critical social and economic problems when these problems began to increase pressure on city life. The government then intervened by direct involvement in the development process. Given the city's increasing size and its socio-economic planning goals which could not be achieved without physical planning, this became a crucial need. A city planning office had not existed for a long time in Riyadh prior to 1971. Hence its dealings with other agencies involved in city planning were limited. The establishment of the Ministry of Planning in 1969 (which prepared the First National Development Plan) did not solve this problem and some obstacles that prevented the implementation of the plan were found to be of a physical nature. For these reasons it was decided to separate the Deputy Ministry of Municipal and Rural Affairs from the Ministry of Interior, which had previously overseen urban planning in the Kingdom and to establish a new independent Ministry of Municipal and Rural Affairs (MOMRA) in 1975. (Technical Report No.6, Vol.1, 1979).

4.04 MOMRA, since its establishment, has played a major role in the urban development process in Riyadh and in other Saudi urban areas. The Ministry's main functions have become: determining

the development activity that it will carry out; recommending the distribution of personnel and financial resources to each city; and helping cities in technical and administrative matters. These functions are delegated to various deputies as follows (Technical Report No.7, 1979):

- Deputy Ministry for Technical Services: to establish technical standards (such as water distribution, laying out streets, etc.) and guide and provide technical assistance to such projects.

- Deputy Ministry for Town Planning: to provide planning standards and assist and give general guidance to the Municipal planning departments.

- Deputy Ministry for Administrative Services: in charge of managing the affairs of the Ministry.

- Deputy Ministry for Rural Planning: concerned with programmes that are essential for developing and servicing the rural areas.

- The Directorate General for Planning and Programmes: to propose budget distribution and initiate priorities for the Five-Year Plan by organising and evaluating proposals received from various urban areas.

4.05 The planning of built up areas in Saudi Arabia has been delegated to the Ministry of Municipal and Rural Affairs through the Deputy Ministry of Town Planning designated to deal directly

with that, while social and economic planning is the duty of the Ministry of Planning. To carry out his various and large amount of duties, six departments were established under the Deputy. The following are the divisions of these departments and their main functions (Tech. Rep. 6 Vol. III, 1979):

- *Research and Studies Department:* prepares reports and plans for urban development of cities and regions, evaluations and follow-up reports and planning studies, etc.

- *Local Planning Department:* evaluates and endorses master plans, execution and subdivision plans for cities and towns and provides all requirements for physical planning at the local level.

- *Follow-up of Consultants Department:* evaluates and follows up consultants' implementation of their work, makes reports on project progress, scope of work, and initiates action for contract bids.

- *Coordination of Projects Department:* coordinates all urban development projects within and out of the Ministry.

- *Surveys and Cadastral Registration Department:* supervises aerial photography and mapping of the 106 city and town municipalities and makes record maps.

- *General Administrative Affairs Department:* administers personnel, financial and legal matters, awards contracts and

maintains a central library, and undertakes public relations activities.

4.06 Through these departments, the Town Planning Deputy oversees all issues related to planning of Saudi urban areas and of rural ones. These functions as indicated by (Technical Report No.6, Vol.III), can be specified as follows:

- Assume studies and surveys connected to housing and urban development in cities and regions.

- Initiate development studies and detailed plans for cities and regions in agreement with their master plans.

- Develop programmes for implementing the Master Plan in accordance with the Saudi Five-Year Development Plans.

- Prepare development plans and formulate general growth policies in cooperation with the Ministry of Planning.

- Create a system of revision and comments on regional plans and master plans for cities.

- Gather data and carry out surveys to develop a system of programming and follow up for the Urban Data Bank.

- Carry out aerial surveys and prepare survey maps for the country's urban areas.

- Revise and approve the detailed plans of cities within the general framework of the master plan.

- Evaluate and comment on the subdivision plans for cities which should be in conformity with regulations.

- Follow up consultants' work on regional and master plans for urban settlements.

- Make reports on the progress of the developing master and other development plans.

- Coordinate urban development with utilities, services and public works programmes.

- Combine socio-economic and physical planning in accordance with the Five-Year Development Plan objectives.

- Participate with other governmental departments to ensure coordination and to provide them with the planning data needed for master plans.

- Create a system of coordination for revisions and comments on master plans for urban settlements.

- Develop standards for physical planning and update them.

- Follow up the implementation of these standards to ensure that

they are applied correctly, which includes two inspections per year.

- Provide technical assistance to local and regional planning authorities whenever required.

- Supply all needed documents (maps and data) for their work.

4.07 As we can see, most of these functions involve a wide range of responsibilities that seem beyond the Ministry's staff capacity. Some have never been carried out and some were performed poorly. Performing such tasks efficiently required a very skilled staff which the Ministry does not have now and did not have in the past.

RIYADH ACTION MASTER PLAN (RAMP) (URBAN DEVELOPMENT PLAN):

4.08 Prior to the introduction of Master Plans for Saudi Arabian cities, the existing methods of controlling development were the zoning regulations introduced in the late 1930s. In the 1950s, the adoption of the villa type of accommodation and of high rise residential buildings was integrated into specific rules that were practised throughout the country until the end of the 1960s. These rules were introduced in the form of a circular by the Deputy Ministry of Interior for Municipalities - then responsible for planning of all urban and rural areas of the Kingdom - distributed to all municipal and planning offices.

4.09 All developments in the city that have occurred in the period of study were following the output of two master plans. The first ever master plan was the Doxiadis Master Plan adopted in 1973 (Figure 4.2). Then the SCET International/SEDES Master Plan of 1977 superseded the use of the previous Doxiadis Plan.

4.10 The Doxiadis Plan simply endorsed the planning regulations that had existed previously and extended their applications, mainly in set-back requirements and minimum lot size which had a tremendous influence on the development of Riyadh during the 1970s and thereafter. (Al-Hathlol, 1981).

4.11 The increase of oil prices world wide in 1973-74, affecting the main export product then and now for the country, created an economic boom that eventually produced pressure for urban development to grow at an accelerating pace. At this stage, the Doxiadis Plan quickly became an outdated one. So a new consultant was asked to make a new Master Plan for Riyadh and other towns.

4.12 Therefore, in 1976, the Ministry of Municipal and Rural Affairs (MOMRA), and SCET International/SEDES of Paris, made a contract initiating the Riyadh Action Master Plan (RAMP) in which the major goals of the contract were to be:

1. To update and revise the existing Doxiadis Master Plan. In this part of the contract, a long term plan with formulated objectives was to be prepared.

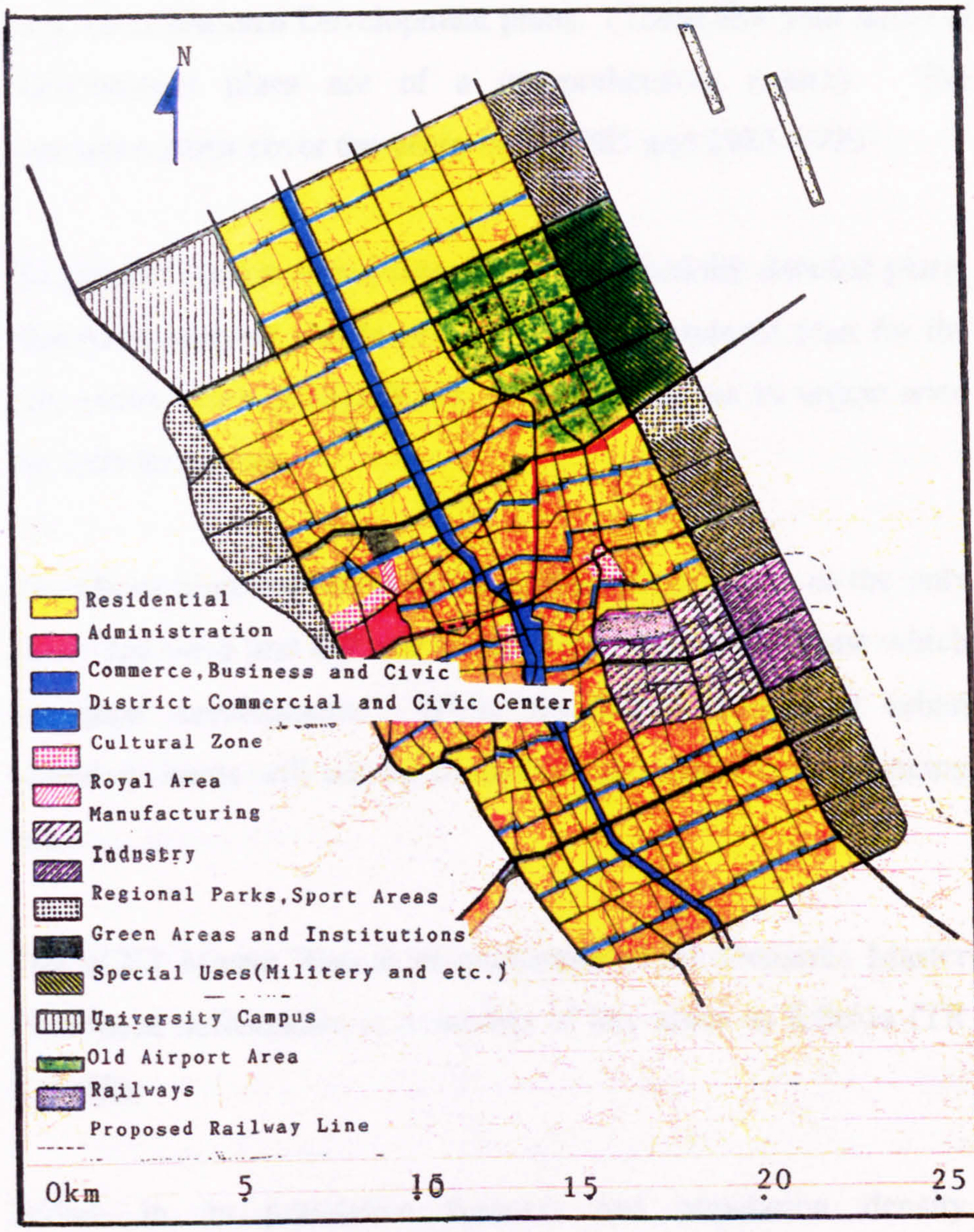


Figure 4.2 Doxiadis Land-use proposals for Riyadh for the year 2000

Source: Doxiadis Associates 1971

2. To make execution plans or detailed implementation plans for urban development to go along with the periods of the Second and Third National Development plans. (These five year national development plans are of a comprehensive nature). The execution plans cover the years 1980-1985 and 1985-1990.

3. To prepare Action Area Plans: These are specially detailed plans. The main purpose was to prepare a redevelopment plan for the city centre areas of Riyadh city, where there was an urgent need for redevelopment.

The above plans will be used throughout the research as the only plans that were and still are in use, being the ones against which to judge development. While the lately introduced urban boundary limits will not be considered as a plan but a planning tool.

4.13 The SCET Master Plan in its evaluation of the Doxiadis Master Plan listed deficiencies in a number of key areas as follows (TR 8, 1982):

1. Failure in its population forecast and population density distribution in the city.

2. It did not construct the city as a planned hierarchy of communities from neighbourhood unit to the whole city.

3. Car ownership and traffic flow had increased tremendously, far

exceeding projections by the plan.

4. Absence of coordination among infrastructure agencies resulted in costly delays.

5. Pressure to develop in the city's central area and an increase in land prices on main roads, which led planning authorities to permit higher bulk and density contradicting the Doxiadis zoning regulations.

6. Planning concepts such as a pedestrian system, the pattern of urban development and the hierarchy and location of services, were either changed or not enforced.

4.14 In all the above listed failures of the Doxiadis Plan, the SCET Master Plan has currently failed on them too as we are going to see later in this research.

Failure of the Doxiadis Master Plan

4.15 The major failure of the Doxiadis Master Plan for Riyadh is that it did not have accurate or at least approximate predictions of the speed and size of the city's growth. Some of the Doxiadis Plan goals and provisions contradicted the plan itself. For instance, for population overall density, the Plan's stated goal was that 60 persons per hectare was desirable and the total residential net density would be about 200 (Doxiadis, 1971). But the Plan included rules ad regulations which ensured that the overall residential density would never exceed 87 persons per hectare

and net residential density would never be more than 142 per hectare - these rules related to minimum lot size, bulk and height regulations and the minimum street width. (Al-Hathloul, 1981).

4.16 Also, the Doxiadis emphasis was ostensibly on preserving the city's traditional elements while the Plan introduced the grid as a plan for the city. The Doxiadis Plan simply confirmed existing regulations, continuing the use of some regulations which even if implemented would contradict the Plan objectives such as the setback allowing windows on the setback to open directly to the next dwellings within short range, totally violating home privacy which the Plan stated as one of its goals (Al-Hathloul, 1981). But the SCET Plan in its attempt to alleviate this problem abolished the rules of setback in some areas of the city, introducing the intensive use of residential land and increased population density. But in other areas the SCET Plan kept the previous Doxiadis rules of setback without solving the problem of private homes' visual privacy. Hence the two plans share some similar mistakes and failures.

4.17 It can be concluded, in general terms, that the same failures and deficiencies that can be found in the SCET Master Plan were to a lesser degree the same that had occurred previously with the Doxiadis Master Plan, mainly:

- Failure to provide accurate predictions as to the urban and population growth, therefore, failure in projecting accurately the needs for utilities and services.

- Contradictions in the Plan's rules and regulations and failure to provide a mechanism to implement stated goals and objectives, as is going to be seen in the cases of inconsistency of development to SCET Master Plan described in Chapter 8.

4.18 The Riyadh Revised Master Plan (1982) was the final summary document of the RAMP. The previous Doxiadis Plan had predicted an urbanised area of 300 square kilometres by the year 2000 but this size of developed area was reached in 1986. The Action Master Plan for Riyadh, therefore, aimed at giving solutions to the rapid urban growth that the city had experienced and at harmonising the various land-use activities. The main goal of the RAMP was to provide a good living environment for the city's inhabitants and for this goal, four main objectives were proposed:

- To improve public services quality and accessibility.

- To provide a comprehensive transportation network.

- Public utilities to be provided in accordance with development priorities.

- To improve the city image.

4.19 To reach these objectives, the strategy was developed of emphasising the process aspect of planning, with the development of mechanisms to help this process, while protecting home

privacy and providing equal access to all services within the city. Based on these objectives and policies, four urban growth options were developed (these options A, B, C, D of development growth are shown in Figures 4.3, 4.4, 4.5 and 4.6) and RAMP indicated that as none of these alternatives was totally suitable, a combination of all four options should be taken (TR8, 1982). Figure 4.8 illustrates the RAMP land use option that was taken.

4.20 But the fact is that, in practice, option A was taken as the guide for future urban development. This was basically an extension of the Doxiadis Plan, which the RAMP did not admit. This can be clearly noticed by combining Doxiadis proposed land use Figure 4.2 with RAMP proposed land use Figure 4.8, and we get Figure 4.7, according to which the whole city has been developed in the last one and a half decades, with the exception of some inconsistent development that will be mentioned later. This land use map (Figure 4.8) has accordingly to be considered as a source for evaluating the current consistency of development in the city, along with other elements of the Master Plan and other mentioned factors. As this Plan stated, the approach has been "process orientated" rather than "end-state", that is to phase out development of the city in incremental five year stages according to the National Five-Year comprehensive plan. This process approach seemed to be chosen in order to avoid rigidity and to take account of unexpected events. This would also give room for the other mentioned tools of control to play a role to a certain degree in the development process. But this phased development approach is a large part of RAMP that was not implemented.

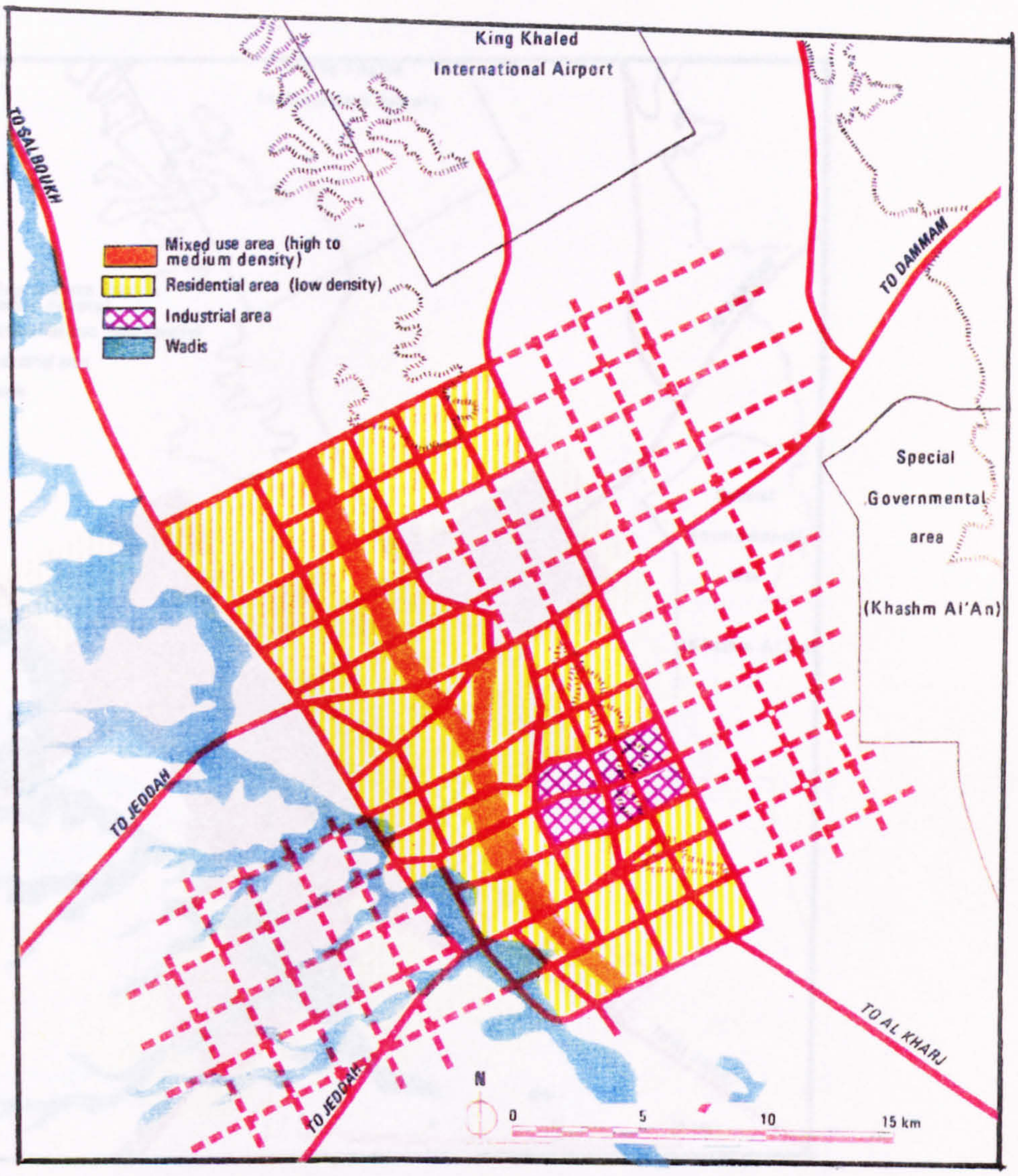


Figure 4.3 Alternative 'A' for Urban Growth for Riyadh proposed by SCET International/SEDES

Source : TR8, 1981

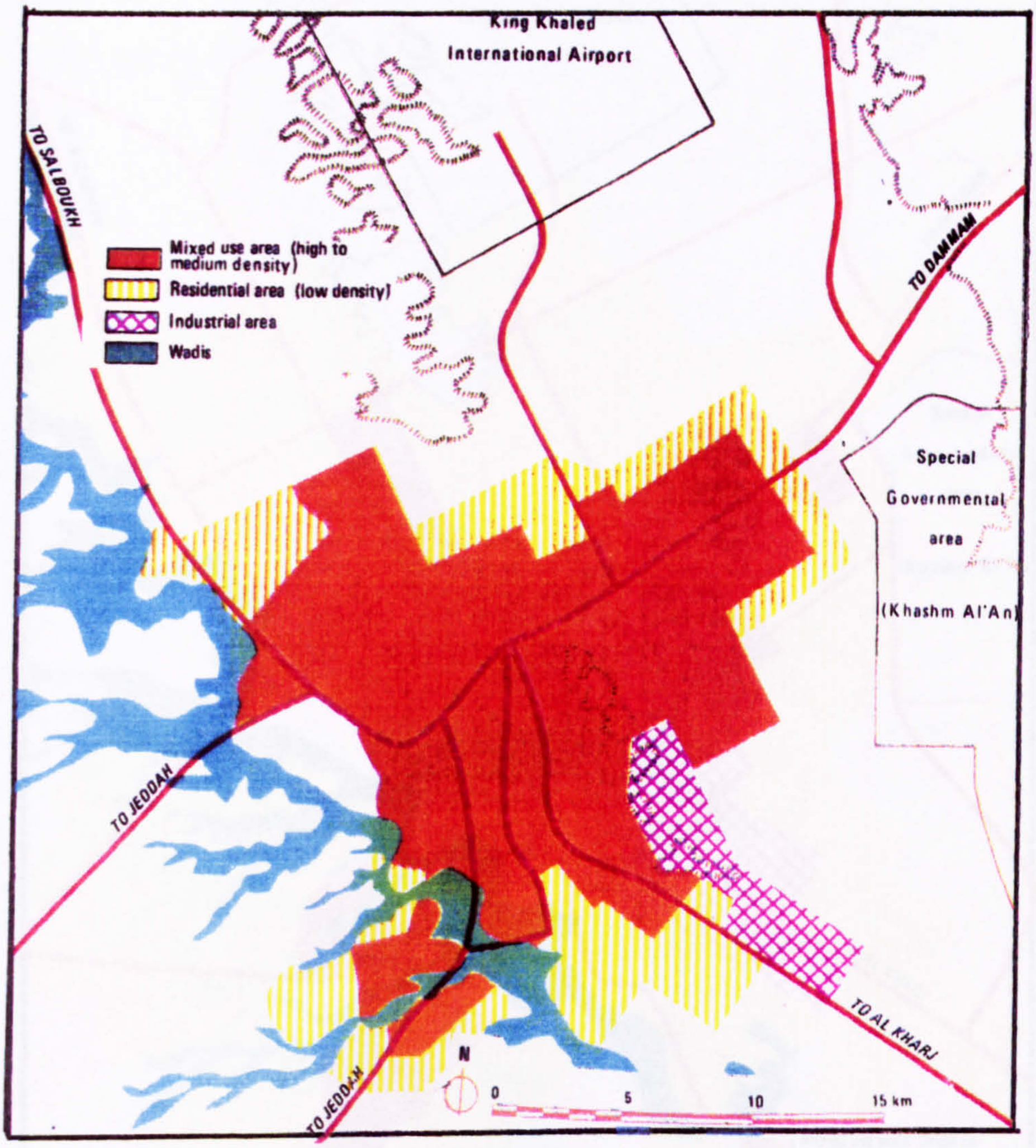


Figure (4.4): Alternative Urban Growth `B' for Riyadh:
There is a disproportionally high density mixed use area in this option compared to others who have it absorb as large population as possible in the future without pressuring a horizontal growth of the city.

Source: TR8, SCET, 1981.

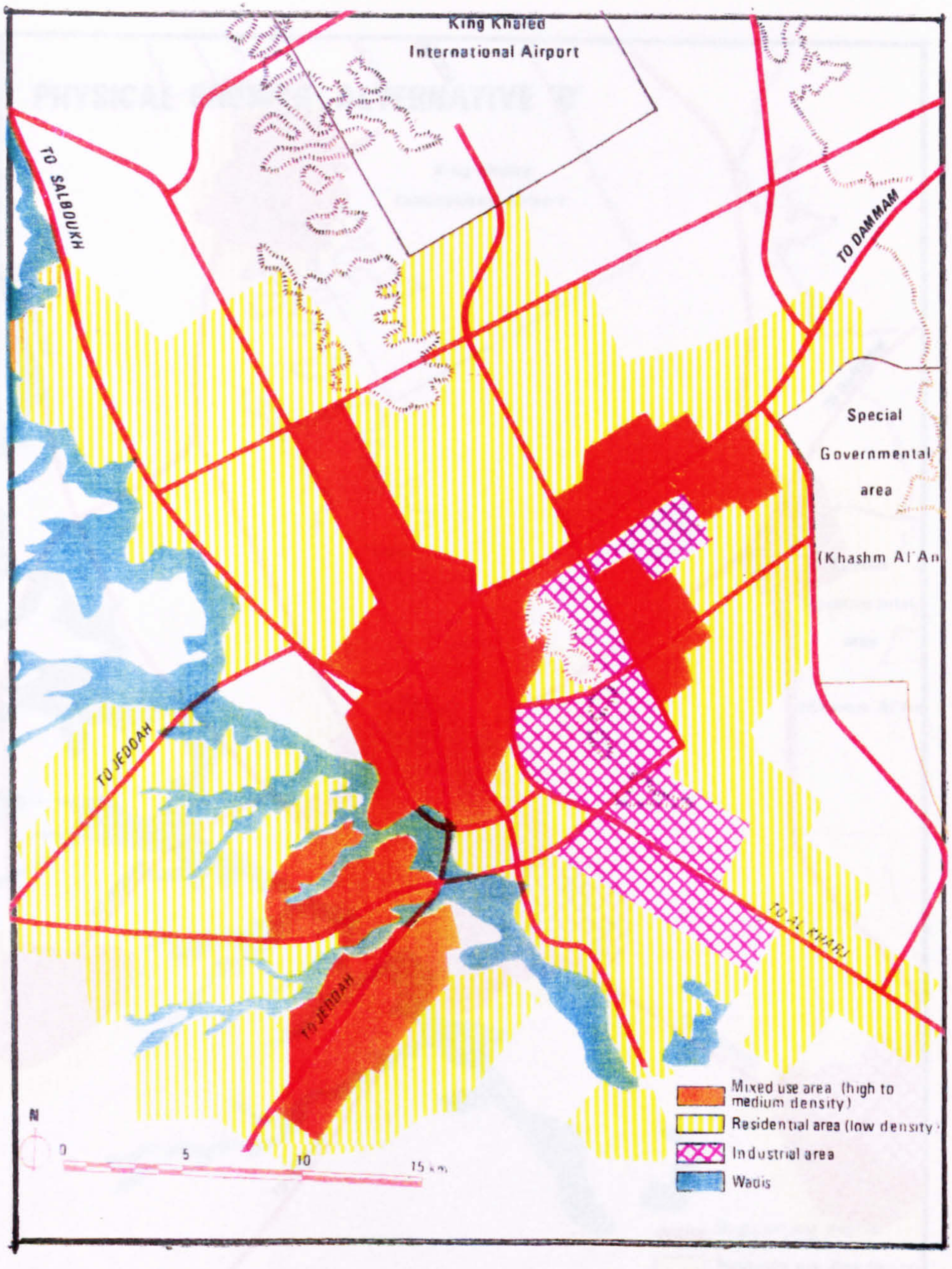


Figure 4.5 Alternative Urban Growth 'C' proposed

Source: TR8, SCET, 1981

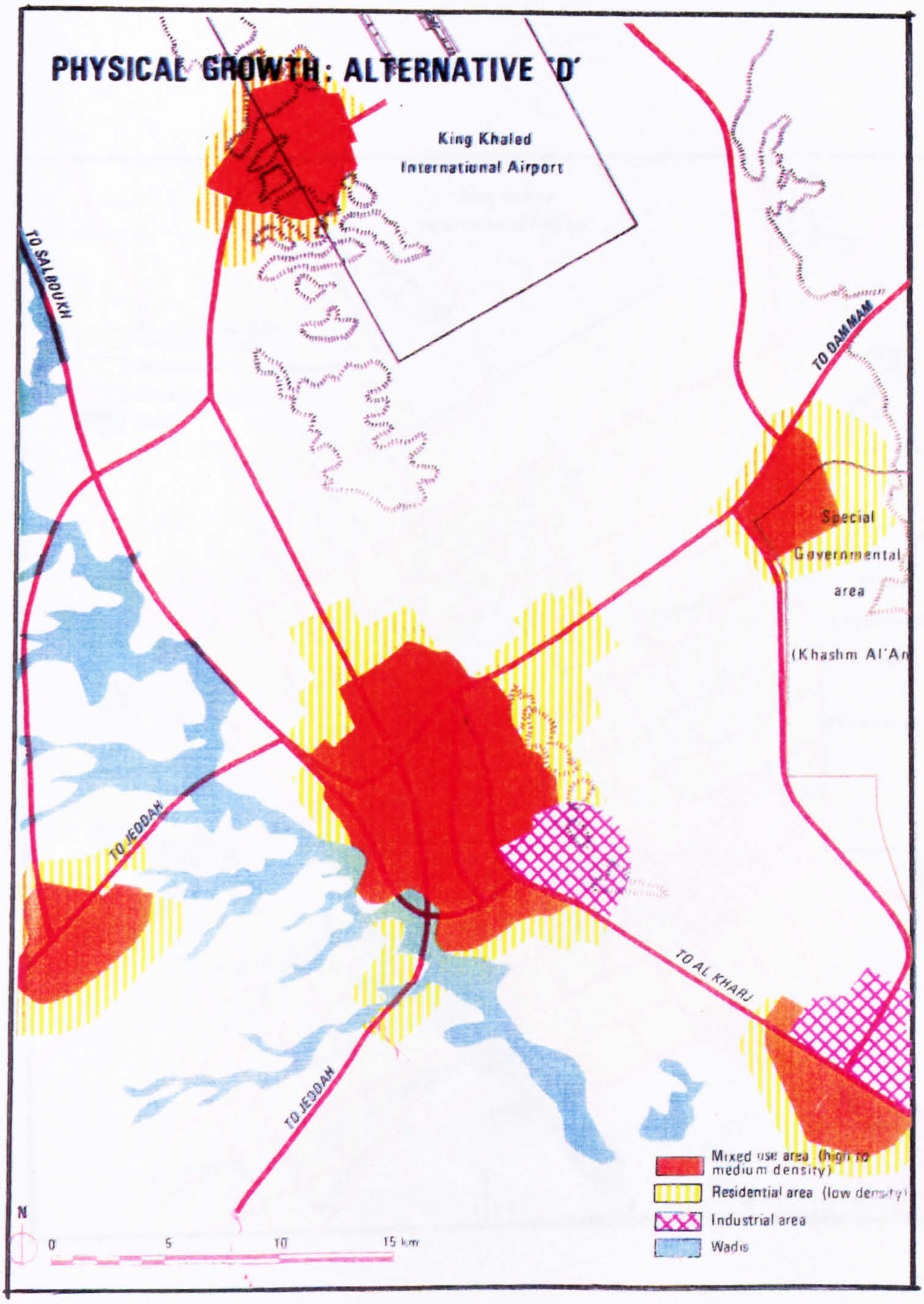


Figure 4.6 : Alternative 'D' for Urban Growth

Source: Tech Report 8, SCET Intern., 1981

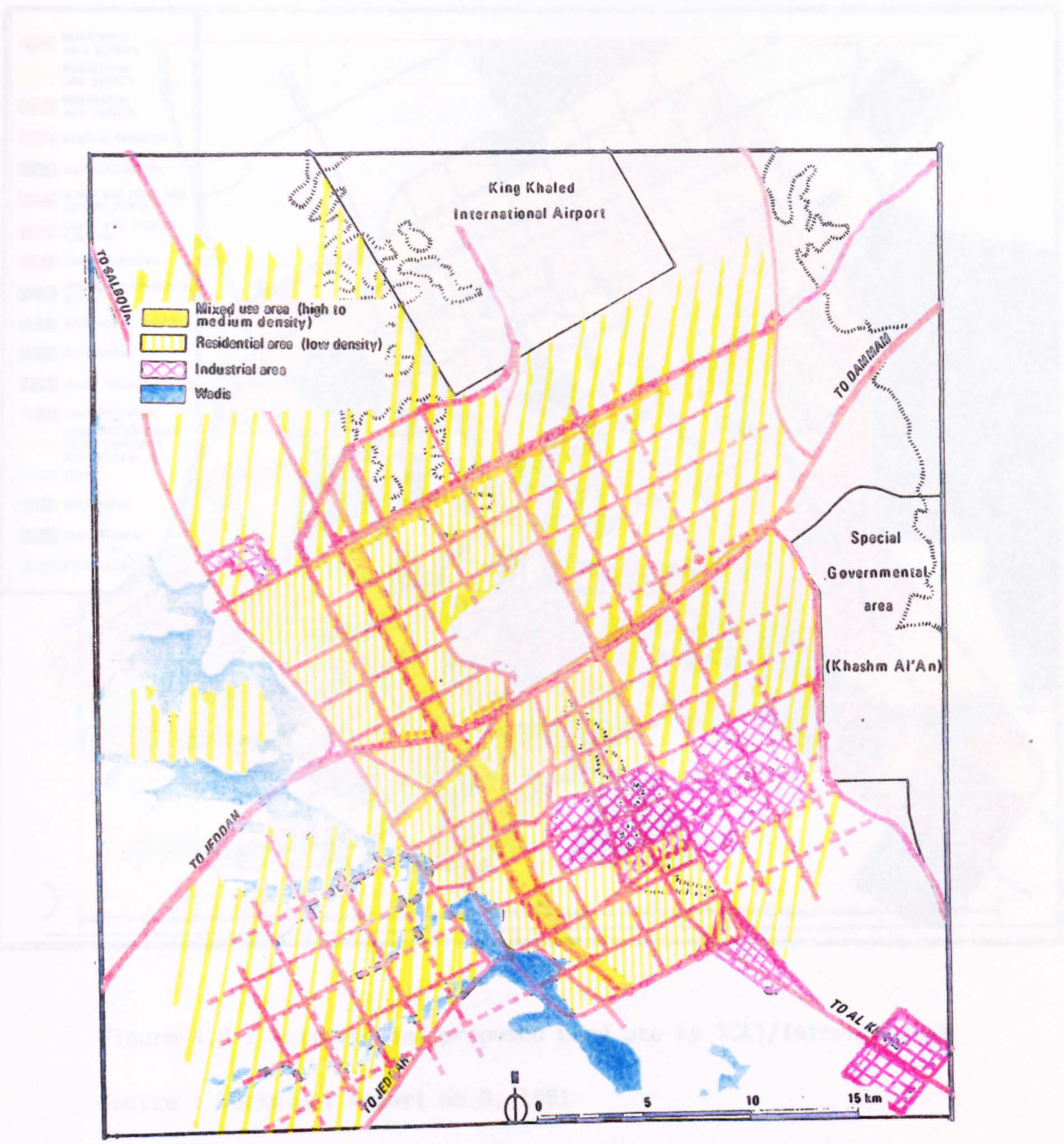


Figure 4.7 : Option A with an outward extension.

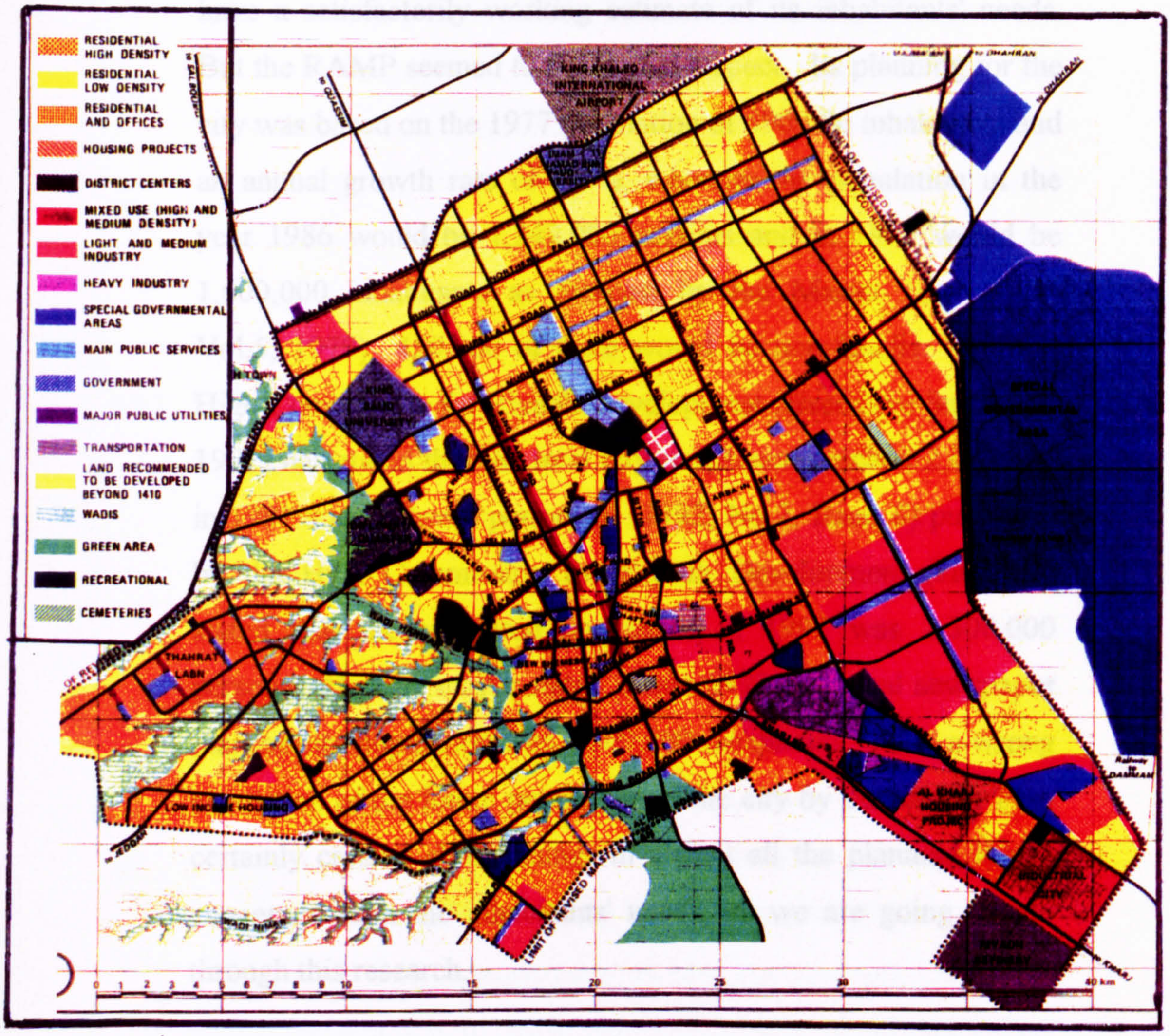


Figure 4.8 : Existing and proposed Land use by SCET/International

Source : Technical Report No.8, 1981

4.21 It is very important in the planning of an urban area's future to be accurate to a certain degree in anticipating the expected population size that will be going to live in the area, in order to have a satisfactorily working estimate of its inhabitants' needs. But the RAMP seemed to fail in that respect. Its planning for the city was based on the 1977 population of 690,000 inhabitants and an annual growth rate of 9.7%, whereby the population in the year 1986 would be 1,242,000 persons and in 1992 would be 1,600,000 inhabitants as forecast by the Master Plan (TR6, Vol.5, 1979) 450,000 of them would be non-Saudis. But the High Commission for Riyadh Development (Executive Summary, 1991) has stated that the total city population reached 2,073,800 in 1991 and Tadweer periodical (1992, No.2, Issue 8) published by the High Commission for Riyadh Development (HCFRD) stated that the estimated population in 1992 was 2,300,000 persons. The city mayor stated in late 1993 to a local newspaper that the city population was 3,000,000 inhabitants. Such a wrong estimation of the future population of the city by the Master Plan certainly created shortcomings in almost all the planning issues concerned with the inhabitants' needs, as we are going to see through this research.

4.22 Although the SCET Master Plan was supposed to cure the Doxiadis deficiencies, the fact is that most, if not all, of these were transmitted to the SCET Plan. The SCET Master Plan was really just an extension of the Doxiadis Master Plan allowing for an increased urban boundary with some other revisions, as is evident by inspection of its rectangular plan divided into an

orthogonal grid with a linear business centre running along its spine (Figures 4.2 & 4.8), with just about the same roads layout and zoning. This weakness of the SCET (RAMP) work has been reflected in inefficient planning mechanisms during the city's development process. But although the SCET Plan has constantly been in use, it has never been approved by the Council of Ministers, which has contributed to the lack of enforcement of its provisions. But it was and still is used as the main guide for the city's development.

4.23 The RAMP has not ever been raised to statute status, presumably to allow the implementers not to implement it in the case of uncertain urban activities or for some other unknown reasons. However, the objectives, proposals, goals and frameworks of the RAMP plans have been followed all the way through; they have been adopted by all planning agencies and for almost all developments that have taken place since 1977. Effective control had been according to the RAMP plans, since which, no other plan has been introduced with the exception of the Urban Boundary Limit (UBL) adopted by the Council of Ministers in 1986, which is not considered a full plan but was introduced as a temporary solution to curb the uncontrolled horizontal urban growth of the Kingdom's cities. The UBL only designates the cities' maximum outer line of growth with no details. So the RAMP plans will be considered as the only existing Master Plan for the city with all its components of Revised, Execution and Action Area Master Plans.

Land Use Plan:

4.24 It was predicted by the Revised Master Plan (SCET), that the built up area would increase from 17,000 hectares in 1980 to 84,200 hectares in 1990, that is an increase of 400%. And the residential area would increase from 9,000 hectares to 34,800 hectares, a 290% increase. Governmental land use would increase by eight times. In air and rail transportation, a decrease to 500 hectares from 3,200 hectares was expected due to the transfer of airport services to the new KKI Airport to its new location north of the city, outside the limits of the Revised Master Plan. Also, the Plan expected an increase of recreation and sports area to 9,800 hectares from 140 hectares. Table (4.1) gives a summary of predicted major land use changes between 1980 and 1990 (TR8, SCET, 1982).

MUNICIPALITY OF RIYADH

4.25 The process of development control is a management system conducted by the Municipality to legalize and organize urban growth and development, by applying directly rules and regulations set out for various development activities in the city. So the municipality in Riyadh, as in other Kingdom towns, administers daily development control activities and is involved in direct implementation of what is a part of a comprehensive plan.

Table (4.1): SCET Plan predicted major land uses between 1980 - 1990 (in hectares).

MAJOR LAND USES	1980 (1) AREA	%	1990 (2) AREA	%
Residential uses	9,000	53.6	34,800	41.0
Non-Residential:				
Government	150	0.9	1,200	1.5
Business, Commercial & Wholesale	190	1.0	2,000	1.2
Industry	250	1.4	4,700	5.6
Warehouse	200	1.2	4,000	4.8
Utility Corridor	-	-	200	0.3
Education	230	1.3	2,100	2.5
Recreation & Plant Area	140	0.8	9,800	11.6
Religious	60	0.35	200	0.3
Cemeteries	80	0.5	300	0.4
Health	250	1.4	500	0.6
Transportation (air & rail)	3,200	19.0	500	0.6
Road & Street Network	3,100	18.25	20,500	24.3
Area to be developed beyond 1990	-	-	4,000	4.8
Special government uses	150	0.9	400	0.5
Total Non-residential	8,000	47.0	49,400	59.0
Grand Total	17,000	100	84,200	100.0

(1) was updated from 1977 survey

(2) Revised Master Plan

Figure 4.8 which was shown earlier, presented details of the future land use proposed by the Revised Master Plan (TR8, SCET,1982).

Source: TR 8, SCET

4.26 The Riyadh Municipality is headed by a Mayor assisted by a number of deputies, of whom the main is the Depute Mayor for Technical Affairs, who manages a number of departments that deal with building permits, surveys and planning. In Riyadh, the Governor has a decisive role in appointments and activities of the Municipality (Tech. Rep. No. 6, Vol. III, 1979). When the city became so expanded that is was difficult for the Municipality to manage, the city was divided into 17 sub-municipalities, to manage and process less major municipal issues on behalf of the main Riyadh Municipality, thereby easing daily development operations. Riyadh Municipality has the responsibility of implementing all work for improvement of recreational and health services, and for protection of the public in its area as its stated goal.

4.27 Under Article 5, detailed in Article 23 of the Municipal and Rural Regulations for Planning and Development of Riyadh, the Municipality has the right to act as follows:

- To arrange and co-ordinate city services in accordance with an organizational plan approved by the responsible authority.

- To issue the essential permits for construction and all public and private developments.

- To have the city clean and to keep its appearance, to establish public gardens, open spaces, parks and swimming

pools, along with their organization administration and supervision.

- Public health protection, reserve lands and water storm drainage.

- To oversee food stuffs and consumer commodities in co-operation with responsible authorities.

- To create and manage slaughter houses.

- To build markets and locate shopping centres.

- To give permits to professionals.

- To protect the residents' safety by demolishing dangerous building.

- Designate places for truck and car parking.

- To arrange public transportation and limit its cost with responsible agencies.

- To set and collect municipal taxes, fines and penalties.

- To oversee the practice of professionals.

- To preserve buildings of cultural and historical value.

- To promote cultural, sport and social activities with concerned agencies.

- To prevent begging, and construct homes for the handicapped and orphans in association with the responsible authorities.

- To build cemeteries and oversee the cleaning and burying of the dead.

- Protect inhabitants from ill and wild animals, and to take care of stray animals.

- Protect private and public lands within its boundary.

- To follow through any other decisions of the Council of Ministers.

4.28 Also, under Article 7, the Municipal Authority works under the Minister of Municipal and Rural Affairs (MOMRA). According to Article 32, all land within the municipal boundaries with no legal ownership is considered municipal property. Also, in the case of municipal instructions which are not obeyed the Mayor has the right to implement them, and to get the cost from defaulters under Article 44 of Municipal and Rural Regulations Tech. Rep. No. 6, Vol. III, 1979).

4.29 The Municipality's current role is applying development rules and

regulations that were prepared by a superior planning authority, to be implemented rigidly by applicants, without the power to change or amend any of these rules. For instance, a request for a large scale project or a request to develop with a different use from what the plan had proposed, is received and reviewed by the Municipality but the decision to give permission to such a development is decided by the High Commission for the Development of Riyadh.

THE HIGH COMMISSION FOR THE DEVELOPMENT OF RIYADH (HCFDR)

4.30 The Commission was created by a Council of Minister's Decree in 1974, the pre dawn of the era of fast urbanization growth. After the Commission's establishment it extended its activities to include the city's economic, social and cultural development, protecting the environment, managing the urban development of the city, and organizing the provision of public utilities and services. To deal with all these concerns, the Riyadh Development Authority (RAD) was created as the executive branch of the High Commission by ministerial decree in 1983. As part of its general planning activities, the RAD made studies on the Riyadh Urban limits and also comprehensive transportation network studies for the city. (Riyadh Development Authority, March of Development, 1990).

4.31 The HCFDR has the following members:

Riyadh Governor as Chairman

Deputy Governor as Vice Chairman

Riyadh Mayor

Deputy Major or Riyadh (For Technical Affairs)

Deputy Mayor of Riyadh (For Admin. Affairs)

Deputy Minister of Municipal Affairs, MOMRA

Deputy Minister of Town Planning, MOMRA

Deputy Minister of Town Planning, MOMRA

Deputy Minister, Ministry of Planning

Deputy Minister, Ministry of Finance

Deputy Minister or Representative of Concern Ministry or agency. Figure 4.9 shows HCFDR line of responsibility.

4.32 The Commission has the power to invite any person to its meeting on an ad hoc basis. The High Commission's responsibility is defined by decree as follows:

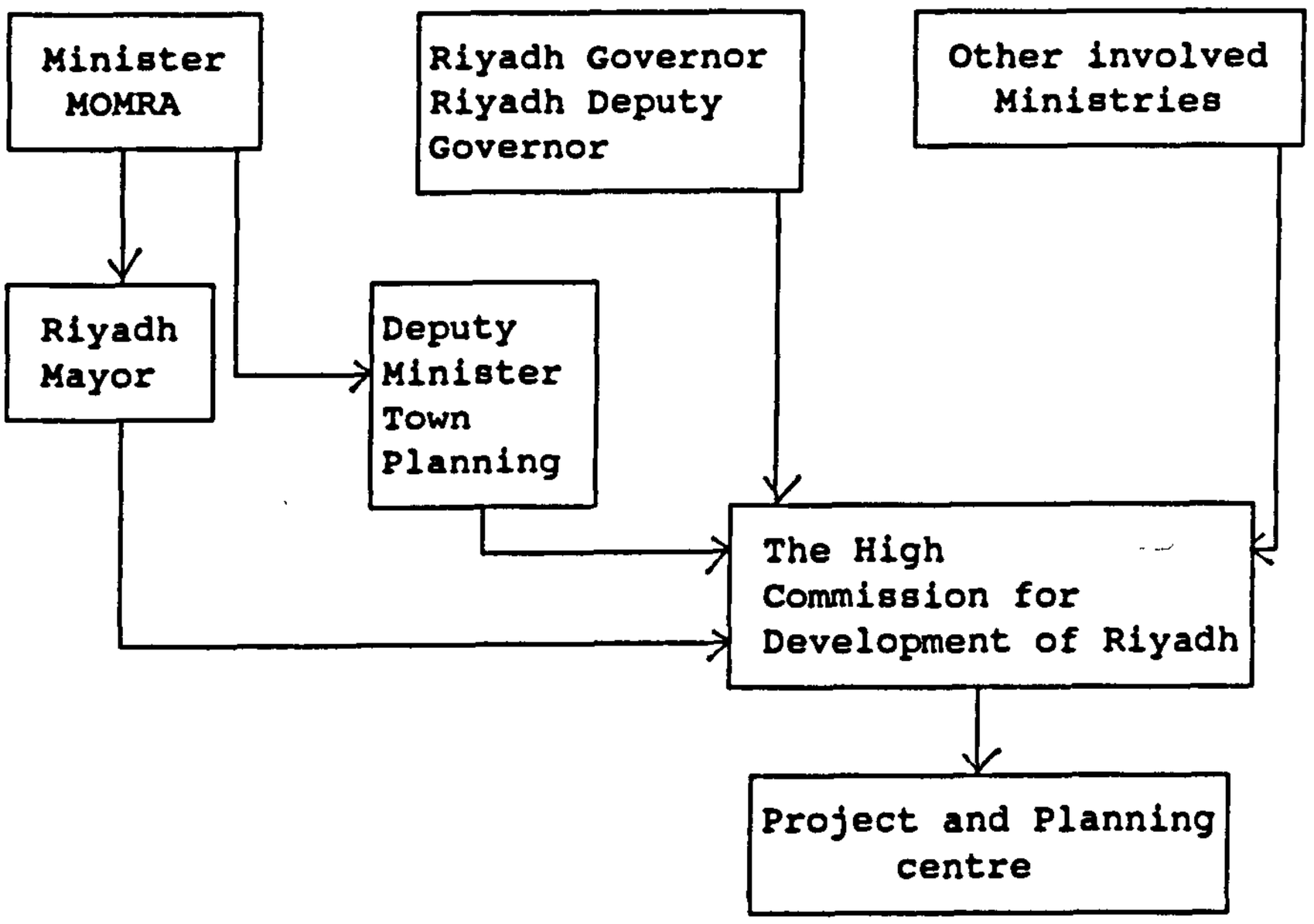
- To create a broad policy for Riyadh development.

- To adopt development regulations based on the Master Plan.

- To approve development projects to be carried out by government agencies or the private sector.

- To authorise the implementation timing of the Master Plan.

Figure 4.9 The HCFDR line of responsibility



Source: Tech. Rep. No.7, SCET International, 1979

- To allocate property within the city boundaries for public use.

- To adopt programmes of public services and their costs.

- To allow the participation of the private sector in city development projects.

- To permit implementation of the Plan by the Municipality.

- To suggest revisions to the Plan when needed.

4.33 The High Commission is authorised to delegate some of its powers to the Municipality. Prior approval of the High Commission is required before any funds for projects in Riyadh are allocated from the National Budget. The HCFDR are allocated from the National Budget. The HCFDR is also empowered to arbitrate all conflicts that occur over implementation of the Plan, specially on building and land use regulations. In this case it may appoint a specialised advisory committee, included a judge nominated by the Ministry of Justice, a legal advisor from MOMRA, and an "engineer" from Riyadh Municipality. The Commission is basically in charge of supervising the implementation of the Master Plan. While it passes revisions to the Master Plan, final revisions must be taken by the Council of Ministers (Tech. Rep. No. 7, 1979).

Riyadh Planning Administration

4.34 The planning administration for the city of Riyadh is divided between the High Commission for Development of Riyadh, the Riyadh Municipality, and the Ministry of Municipal and Rural Affairs. The municipality headed by the city mayor runs almost all the daily city planning activities and directly implements plans, rules, and regulations set by MOMRA. Also the municipality has the power to issue rules of its own for purely local concerns. But most of the rules and regulations that are issued as directives from the mayor are of a minor status, such as dislocating some unwanted uses which were previously permitted. But as the Riyadh Municipality is in category A among Saudi cities, according to MOMRA's classification it enjoys considerable freedom compared to lesser cities. According to the Kingdom's planning administrative structure, all municipalities and mayors are under MOMRA authority. All major issues have to be reported by the Municipality to MOMRA. For instance, if a land subdivision request submitted to the Municipality of Riyadh is inconsistent with the RAMP landuse map and proposes a use that is different to the existing or the designated use, the Municipality does not have the authority to grant permision without MOMRA's consent. In summary, a Saudi municipality is seen as a branch or a department of MOMRA except in cities of A size, which enjoy some degree of autonomy.

4.35 The High Committee for Development of Riyadh (HCFDR) oversees development in the city in general on the major issues

which have been stated in the preceeding pages, and on any other major planning issue that might arise which requires high level authority such as adding more than the number of floors permitted in an area, and so on. Also, in city major planning cases such as laying infrastructure the municipality reports to the HCFDR for decision.

4.36 The Ministry of Municipalities and Rural Affairs (MOMRA) is the main government institution in the Kingdom that oversees and has the main responsibility for the Saudi planning system. It has many major planning responsibilities of which some are delegated to the various municipalities. The Ministry has many tasks, it prepares and endorses and revises development plans for cities, endorses land subdivisions, gathers urban data, maps and so on. Figure (4.10) lists the authorities and function of the three planning institutions.

CITY URBAN BOUNDARY LIMITS

4.37 The fast and in most cases uncontrolled acceleration of growth of the Kingdom's urban areas has created an intolerable situation of urban sprawl, high land speculation, and lagging public services and utilities. To have some control over urban growth and to put an end to that, in 1984 the Minister of MOMRA instructed the Deputy Ministry for Town Planning to initiate urban boundary limits for the whole of the country's urban areas. While this programme was under preparation, the Council of Ministers issued a decree in 1986 to stop all land subdivision in the

Figure 4.10: The main functions of planning institutions in Riyadh

Higher Commission for Development of Riyadh (HCFDR)	Ministry of Municipal and Rural Affairs (MOMRA)	Riyadh Municipality
- City economic, social and cultural development - City environment - Organizing public utilities network - Comprehensive city transportation network studies - Approve development projects by government and private agencies - Permit implementation or suggest revision of the Master Plan	- Prepare development plans and reports for urban areas - Evaluate and endorse Master Plans and subdivisions - Supervises, carry out and record aerial photography and mapping of cities and towns - Oversees all issues related to planning of Saudi urban and rural areas - Gather urban data and carry out survey - Revise and approve detail plans of city within the framework of its Master Plan - Develop and follow up implementation of standards for physical planning - Coordinate urban development with public services work	- Arrange city services according to the plan - Issue permits for public and private development - Clean the city and its appearance - Build gardens, open space and parks - Protects public health (Food and air) - Reserve land for public use - Prevent hazardous uses - Permits and oversees the practice of professions - Preserve cultural and historical buildings - Protects private and public lands within its boundary

Kingdom's urban areas for two years, in order to get the proposed urban boundary limits established.

4.38 In 1989, the Council of Ministers in its (175) decree adopted the submitted urban boundary limits for all the Kingdom's urban areas.

BASIS OF URBAN BOUNDARY LIMITS

4.39 The definitions associated with the urban boundary limits are:

1 - Urban boundary limits (UBL): Lines indicated in urban area maps that draw boundaries for areas suitable for urban activities settlement, and for absorbing growth in urban cities and towns until the year 1425 H. (2005 A.D.), to reach optimum economic efficiency of economic resources allocated and the optimum city size.

2 - Development preservation boundary: Lines indicated on the town map as a boundary on lands reserved for future development that are located adjacent to the Urban Boundary Limits.

3 - Limits of First phase of Development for 1995: A line that includes the current built up area and vacant land around it needed to be developed by the year 1995.

4 - Limits of Second Phase of Development: Includes the

areas between the First Phase of Urban Boundary Limits and the Urban Boundary Limits line. This land area is divided into two phases, each of five years, to be decided by MOMRA before the end of the first phase Figure 4.11 shows the current Urban Boundary Limits in Riyadh.

General Controls on Development

4.40 The general controls on development are (Decree No.175, COM 1989):

1. For vacant (white) land out of Urban Boundary limits:

a. Main roads and public infrastructure can be built in lands between the Development Preservation Boundary and the Urban Boundary Limits without waiting for a request for its subdivision by its owners, without exceeding the percentage allowed by regulations.

b. A stop on subdividing and developing all land in area in (a), until MOMRA decides on what, how, and when to develop these lands.

2. For vacant (white) lands inside the Urban Boundary limits:

Municipalities take the necessary steps towards subdividing these lands in phases bearing in mind the areas serviced, and population density, according to the following:

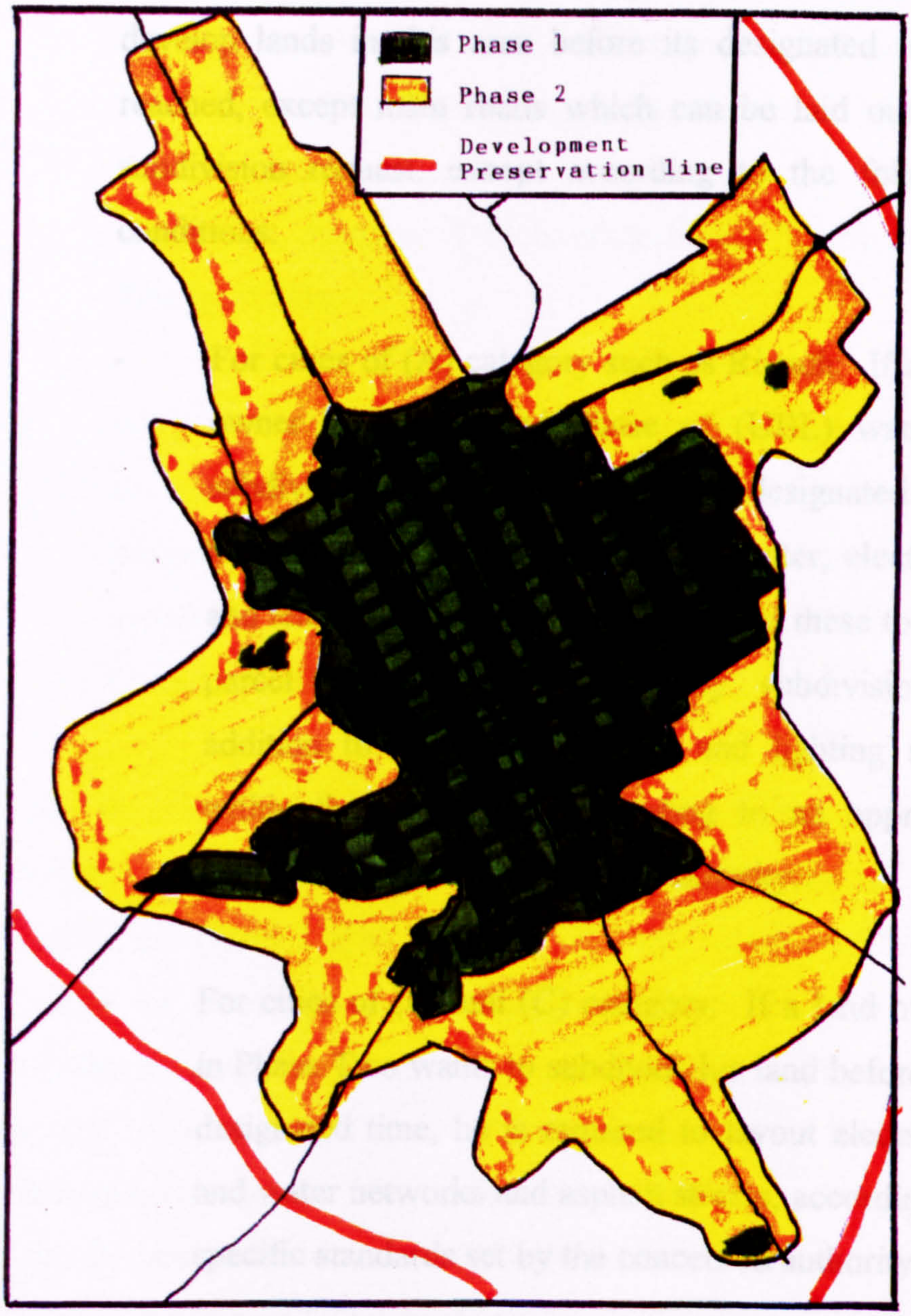


Figure 4.11 : Riyadh Urban Boundary Limits

Source : Adopted of Riyadh Urban Boundary Limits, HCFDR, 1987

a. Phase one development: To subdivide vacant lands in this area without waiting on a subdivision request by its owners, in order to lay out basic infrastructure.

b. Phase two development: It is not permitted to subdivide or develop lands in this area before its designated time is reached, except main roads which can be laid out on a subdivision request, except according to the following conditions:

- For cities of (A) category such as Riyadh: If a land owner in the Second Phase of (UBL) wants to subdivide his land before the area's designated time, he is required to connect it to the water, electricity and telephone networks, and to extend these to each parcel according to preliminary subdivision in addition to asphalting, paving and lighting street within the subdivision according to an approved specification by the concerned authority.

- For cities of (B) and (C) category: If a land owner in Phase Two wants to subdivide his land before the designated time, he is required to layout electricity and water networks and asphalt streets, according to specific standards set by the concerned authority.

3. All government agencies responsible for infrastructure and public services ought not to execute any service in a

phased area before completing the preceding phase utilities and services, except for roads and main water, electric and telephone networks.

4. When the need arises to amend the Urban Boundary Limit for a given town, MOMRA will prepare a full study for that town then send it to a committee formed in MOMRA that includes members from MOMRA and the Ministries of Interior, Finance, Telecommunication, Electricity and Transportation.

5. All government, public and other private institutions must co-ordinate with MOMRA in preparing an implementation programme for development in the frame work phases according to the real city needs (Decree 175, 1989, Council of Ministers).

4.41 Land for Phase 1 and Phase 2 Urban Growth has included some un-subdivided land; Figures 4.12 and 4.13 show the states of land in the Phase 1 area at 1987. A study conducted by the Centre for Projects and Planning estimated the maximum population capacity of land in the first phase of development growth to be (3,400,000) inhabitants, an additional 2,000,000 inhabitants above the 1987 estimate of population of the city. And the estimated costs of providing basis infrastructure for Phase 1 was around 25 billion riyals (in 1987 prices), or around 6.5 billion dollars. (Urban Boundary Limits for Riyadh, Riyadh Municipality, 1987).

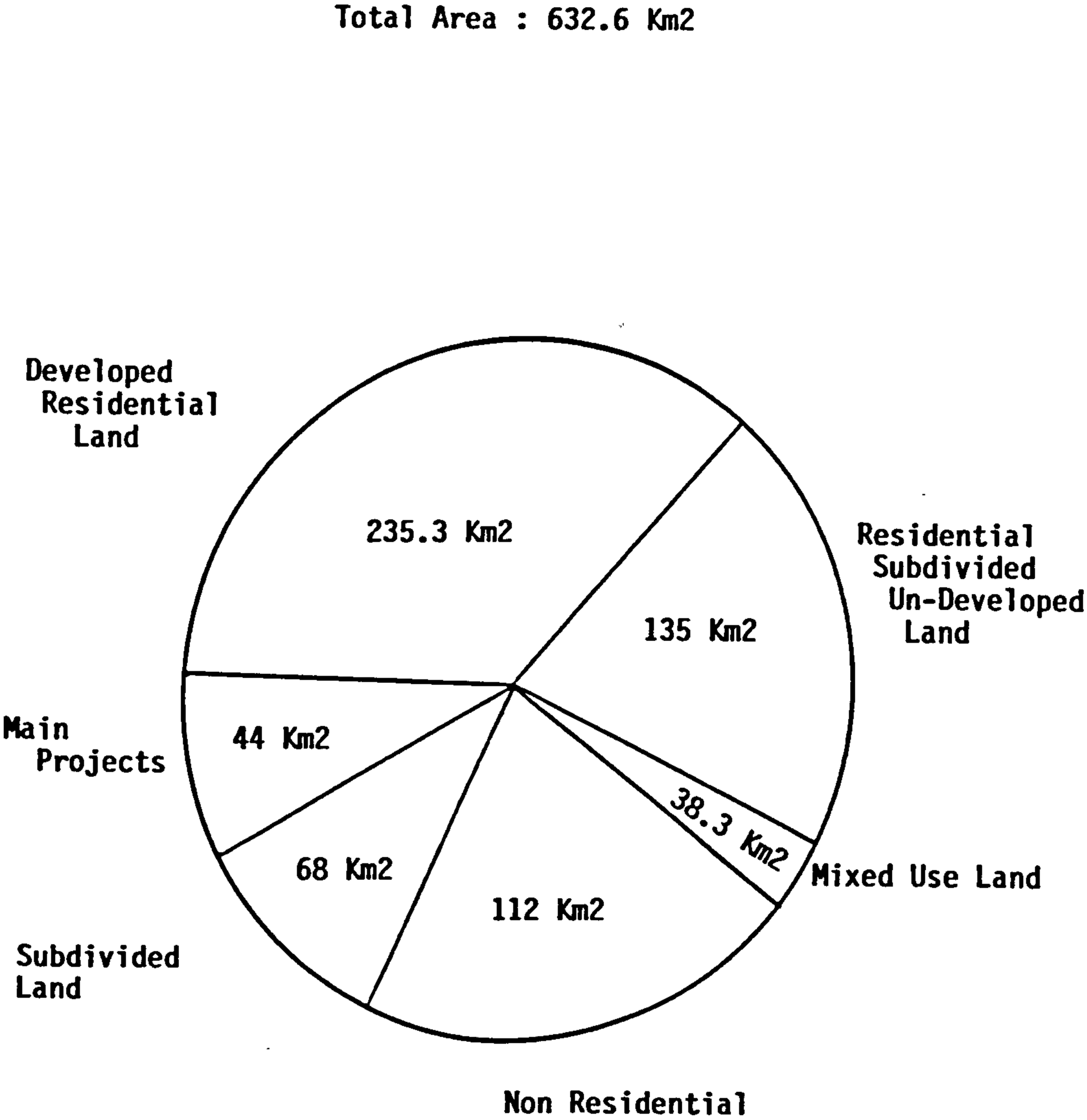


Figure 4.12 : Land Categorisation in Phase I of UBL

Source: Riyadh Urban Boundary Limits, HCFDR, 1987

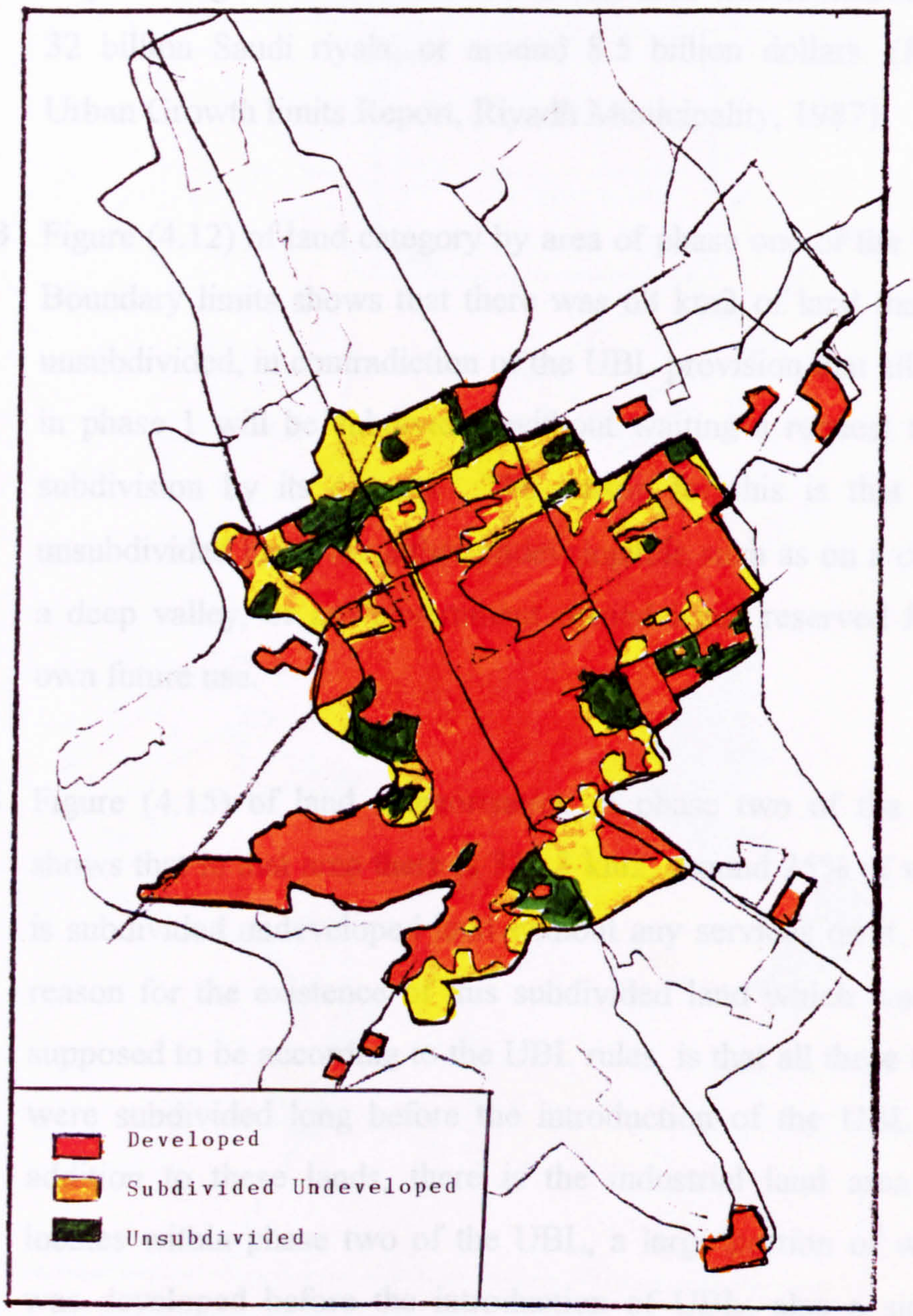


Figure 4.13: Land conditions and location on Phase I of UBL

Source: Adopted of Riyadh Urban Boundary Limits, HCFDR, 1987

4.42 The total subdivided lands in the Phase 2 area was 316,3 km2 with a total of 711,1 km2 of unsubdivided lands (Figures 4.14 and 4.15). The estimated capacity of subdivided lands in that area was around 1,700,000 inhabitants, and the approximate cost of providing basic infrastructure in that area was estimated to be 32 billion Saudi riyals, or around 8.5 billion dollars. (Riyadh Urban Growth limits Report, Riyadh Municipality, 1987).

4.43 Figure (4.12) of land category by area of phase one of the Urban Boundary limits shows that there was 68 km2 of land that was unsubdivided, in contradiction of the UBL provision that all lands in phase 1 will be subdivided without waiting a request for its subdivision by its owners. The reason for this is that these unsubdivided lands are either undevelopable such as on a cliff or a deep valley, or are government owned lands reserved for its own future use.

4.44 Figure (4.15) of land categorisation in phase two of the UBL shows that in that area there is 316.3 km2, around 25% of which is subdivided undeveloped land without any services on it. The reason for the existence of this subdivided land which was not supposed to be according to the UBL rules, is that all these lands were subdivided long before the introduction of the UBL. In addition to these lands, there is the industrial land area that locates within phase two of the UBL, a large portion of which was developed before the introduction of UBL; also a similar case is the Karj Housing Project, which was built by the government and connected with electricity a long time before the

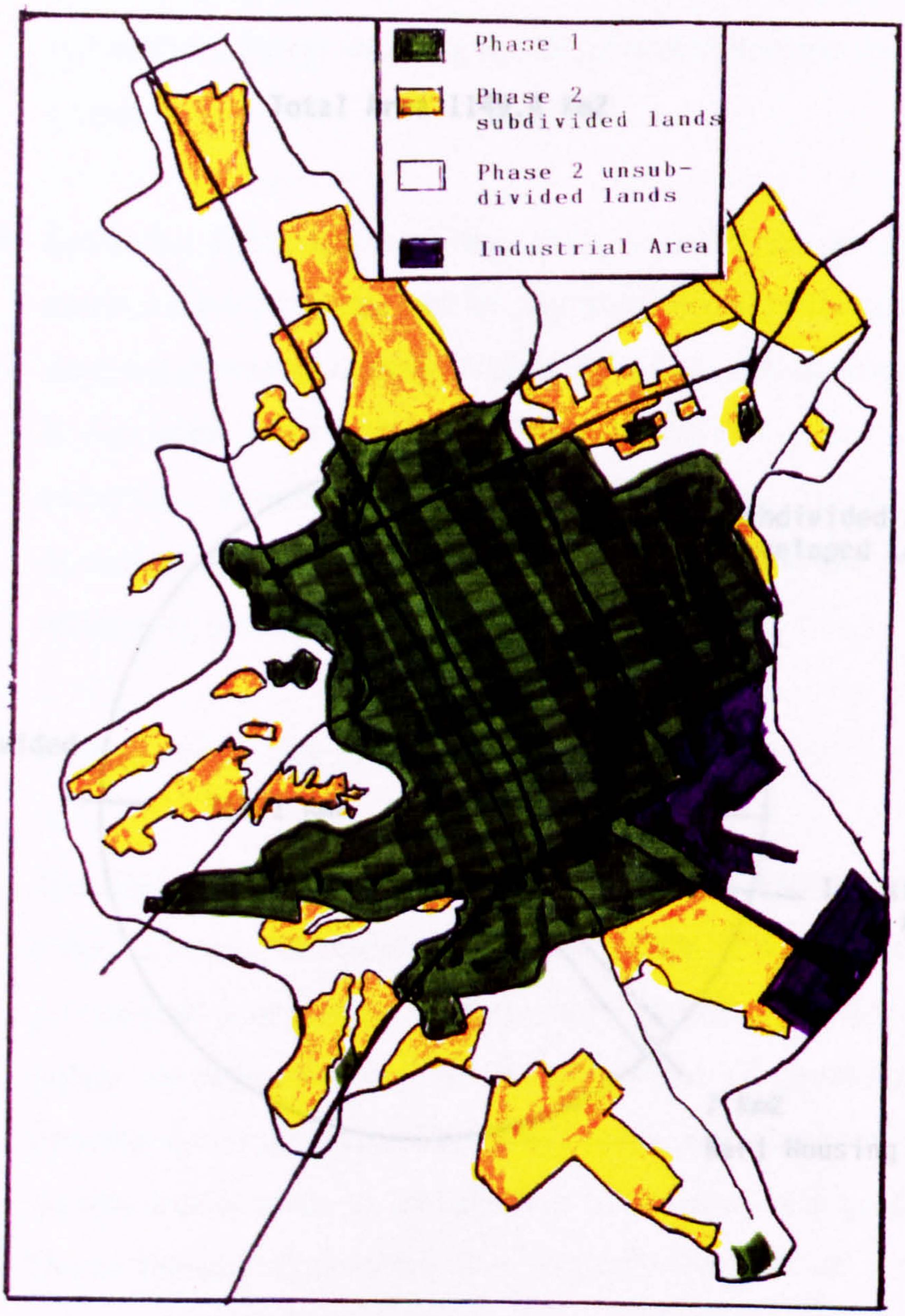


Figure 4.14 : Land Locations and Conditions in Phase II of UBL

Source: Adopted of March of Development, HCFDR, 1990

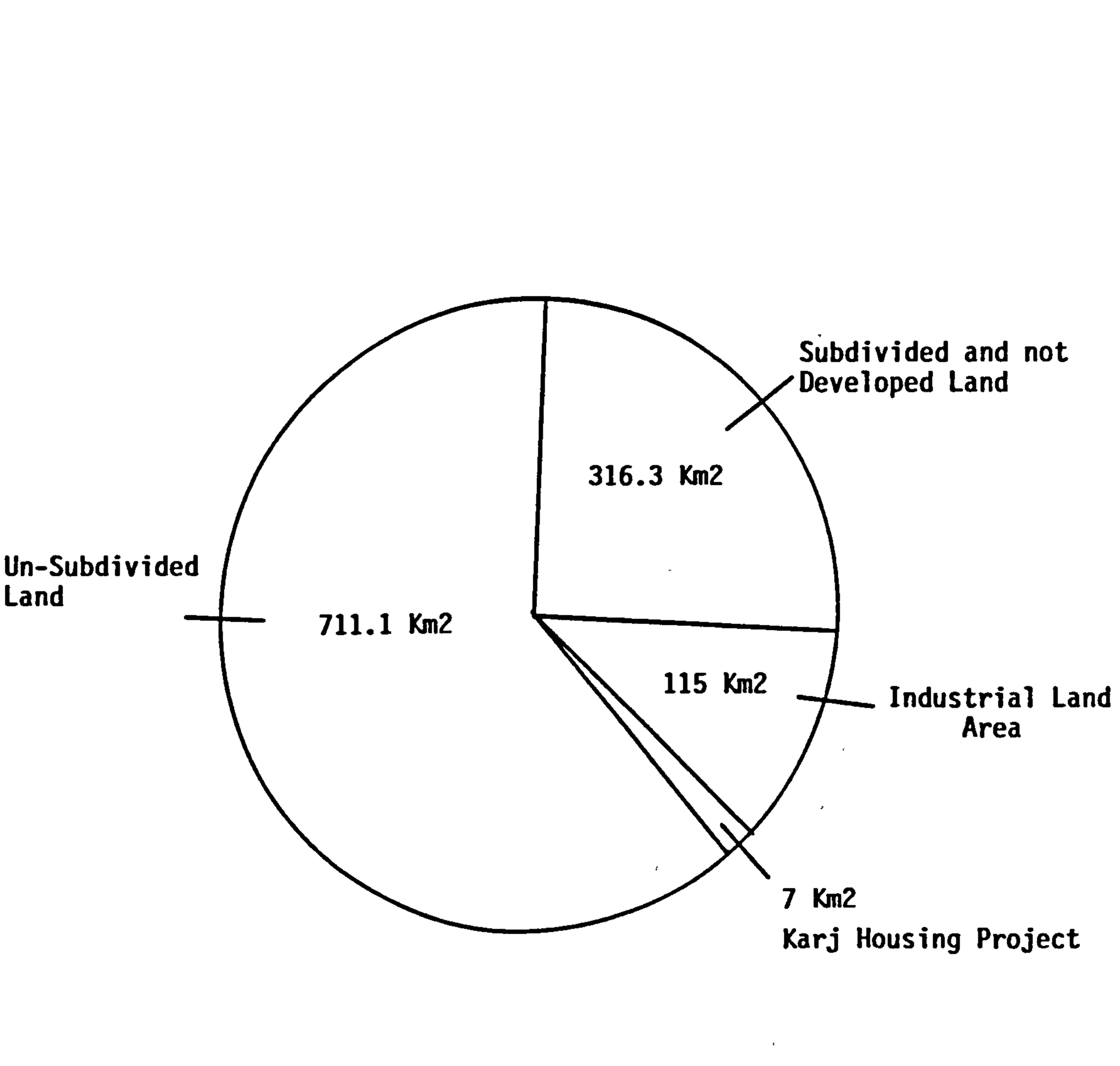


Figure 4.15: Land Categorisation in Phase II of Urban Boundary Limits

Source: Riyadh Urban Boundary Limits, HCFDR, 1987

introduction of the city limit. Other than these, there are currently no services whatsoever that are laid out in that area, except for asphalted streets laid by an owner also long before the introduction of the UBL. Also, there are subdivided undeveloped land areas in phase one that are not covered by any services yet, and services barely reaching the developed areas due to financial strains.

4.45 Since the introduction of the UBL in 1989 up to 1995, no services have been laid out by any land owner in the phase two area, and therefore no subdivisions have been released since then in that area. The cost of building infrastructure for one land owner is extremely expensive, hence land owners were discouraged from subdividing their lands in the phase two area which was the main aim of the UBL.

Comments on Urban Boundary Limits (UBL)

4.46 The UBL is basically a time-table of laying out infrastructure and public services in sequential phases. Due to the fact that the government has always been the only provider for utilities and public services, meeting the heavy burden of providing such services in greatly expanding urban areas, private developments usually follow such an introduction of services in a given area. Hence the government are able to apply this tool as a way of trying to control the growth of cities via the planned introduction of infrastructure services.

4.47 This, however, is a very broad tool to control development because it not only sets the maximum allowed future urban boundary. It does not give a solution to many incidental problems. It does not provide an adequate solution to the still existing urban sprawl and to the problem of many various sizes of land parcels that are scattered throughout the Phase 1 area. So instead of preventing land speculation, the UBL has intensified it. Land speculators know now where and when infrastructure services will be provided and, realizing the need for such lands in the near future, can hold on to these lands to get the highest bid. Since the introduction of the UBL, Riyadh land prices have risen (1992-1993) by a much as 300% in some areas, and the lowest areas have had an increase of 100% since 1989.

4.48 The UBL was a quick reaction to fast urbanization to bring it more under control. But it was introduced too late, that is when the city has reached its ultimate outward size. And it met many associated problems of urban chaos such as land speculation, leap frog development, incompatible development and inadequate utilities and public services. And the condition for giving a subdivision permit in a Phase 2 area was like the question of which one comes first, the chicken or the egg. If a land owner provided all indicated services under this condition according to a non revisable (preliminary) subdivision, then he would not need a subdivision permit after all. This condition allowed the participation of the private sector to continue the trend of urban expansion in a leap-frog fashion, thus continuing the previous problems mentioned.

DEVELOPMENT CONTROL PROCESS AND APPROVAL

4.49 The process of development control and permits is managed by the Municipality of Riyadh. It controls development through six measures: Land subdivision, zoning, planning codes, urban boundary limits, municipal permit, planning directives.

Land Subdivision Proposed Regulations

4.50 The Riyadh Action Master Plans (RAMP) (Report number 9 II) (Planning Regulations) proposed land subdivision regulation and minimum standards that should be observed by land owners and planning departments, indicating that all new subdivisions should conform to zoning regulations, execution plans and the Revised Master Plan. In order to meet the various objectives of these regulations, all subdivisions shall be in accordance with the following general standard:

1 - All proposed subdivisions shall conform with the minimum zoning and building regulations.

2 - The land that would be subdivided should be suitable for development in terms of its soil and other topographic features to provide a suited healthy use, and should not be subdivided unless adequate corrections of unsuitability is made.

3 - Laying out street of the subdivision should provide the most advantages for its adjacent area. For street layouts the following considerations should be followed:

a - Streets proposed shall be adjusted to the contours of the land so as to provide usable lots and streets of reasonable level.

b - Minor streets within the subdivision should be designed to discourage speeding traffic.

c - Lots on major arterial streets of 60m or wider should be provided with secondary access streets to allow for better use..

d - Culs-de-sac should not be more than three hundred (300) meters in length, and be provided with a closed-end turn-around of at least thirty (30) meters of diameter.

e - Temporary dead-end streets may be allowed if a future extension is expected.

f - Curvilinear streets are permitted for minor and collector residential streets in order to discourage speeding traffic.

g - Major arterials should be at least 600 meters apart,

and collector streets a 200 meters minimum apart.

h - No streets shall intersect any other street at less than (60) degrees.

i - Centre line offsets of less than 50 meters in the horizontal alignment of streets across intersections should be prohibited for (g, h and i). See Figure 4.16.

4.51 Figure 4.17 shows an example of subdivision designs, the curvilinear and the current design. The current is a very dominant design in Riyadh and in other Saudi urban areas; the curvilinear is only found in some Government housing for its employees. The curvilinear design consumes less land as it had fewer streets and intersections, and if it was adopted for all the Kingdom's urban areas it would reduce some problems of horizontal growth and optimize the use of land.

4 - For lot design in the subdivisions the following standards should apply:

a - Each lot should locate on a public street.

b - The orientation of lots should be with respect to sun angles and wind direction.

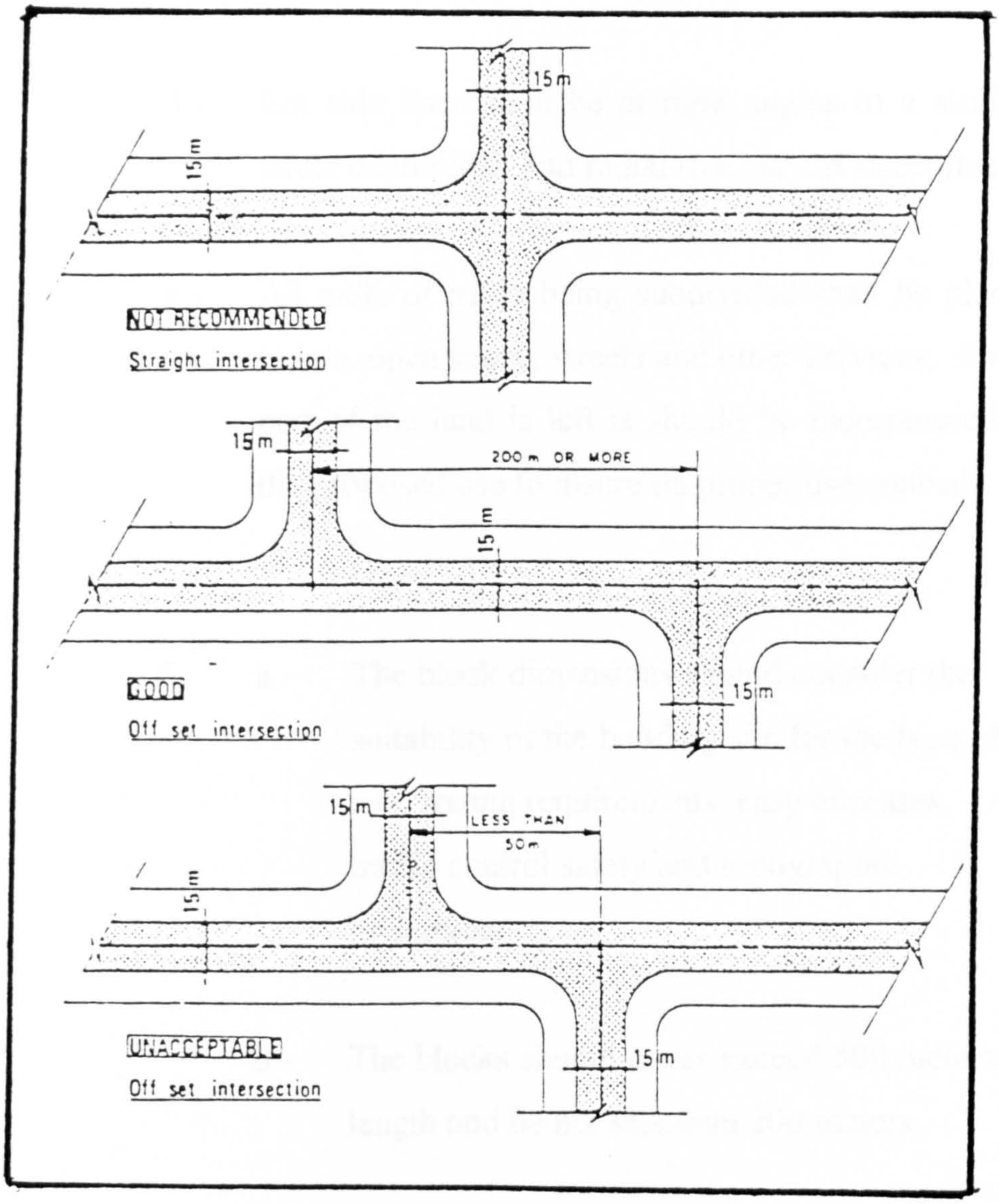


Figure 4.16 : Street Intersection

Source : Tech. Report No.9, Vol.II, 1981

c - In no case shall the width of the lot and the frontage to the public street be less than 20 meters.

d - Lot side lines shall be at right angles to a straight street centre line, and radial to a curved street line

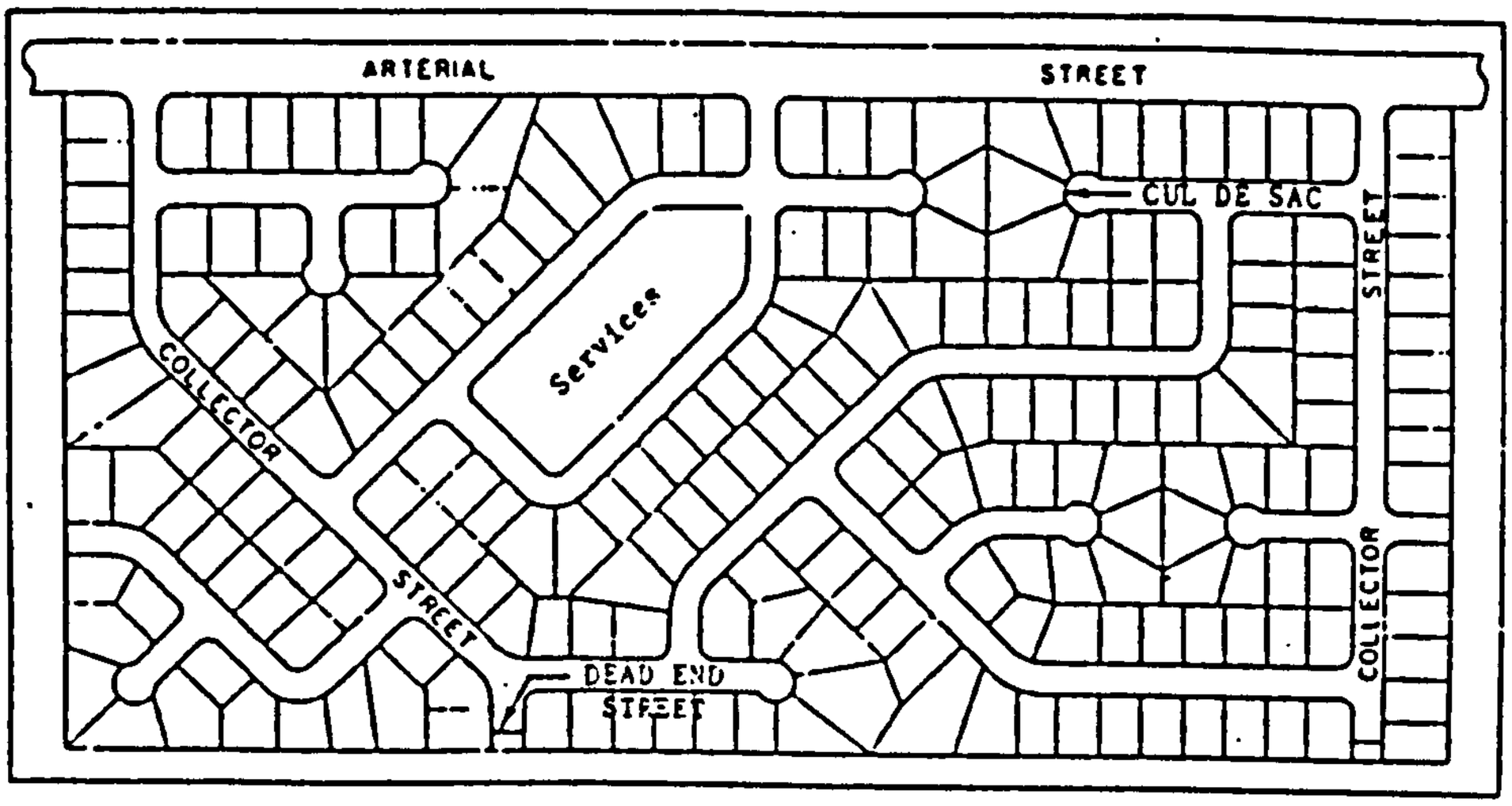
e - All parts of tracts being subdivided shall be placed in lots, open space, streets and other services; if any part of the land is left is should be incorporated in the proposed use to insure its proper use control.

5 a - The block dimensions should consider the suitability of the building site for the type of use, zoning requirements, easy accesses, traffic control safety and topographic limitations.

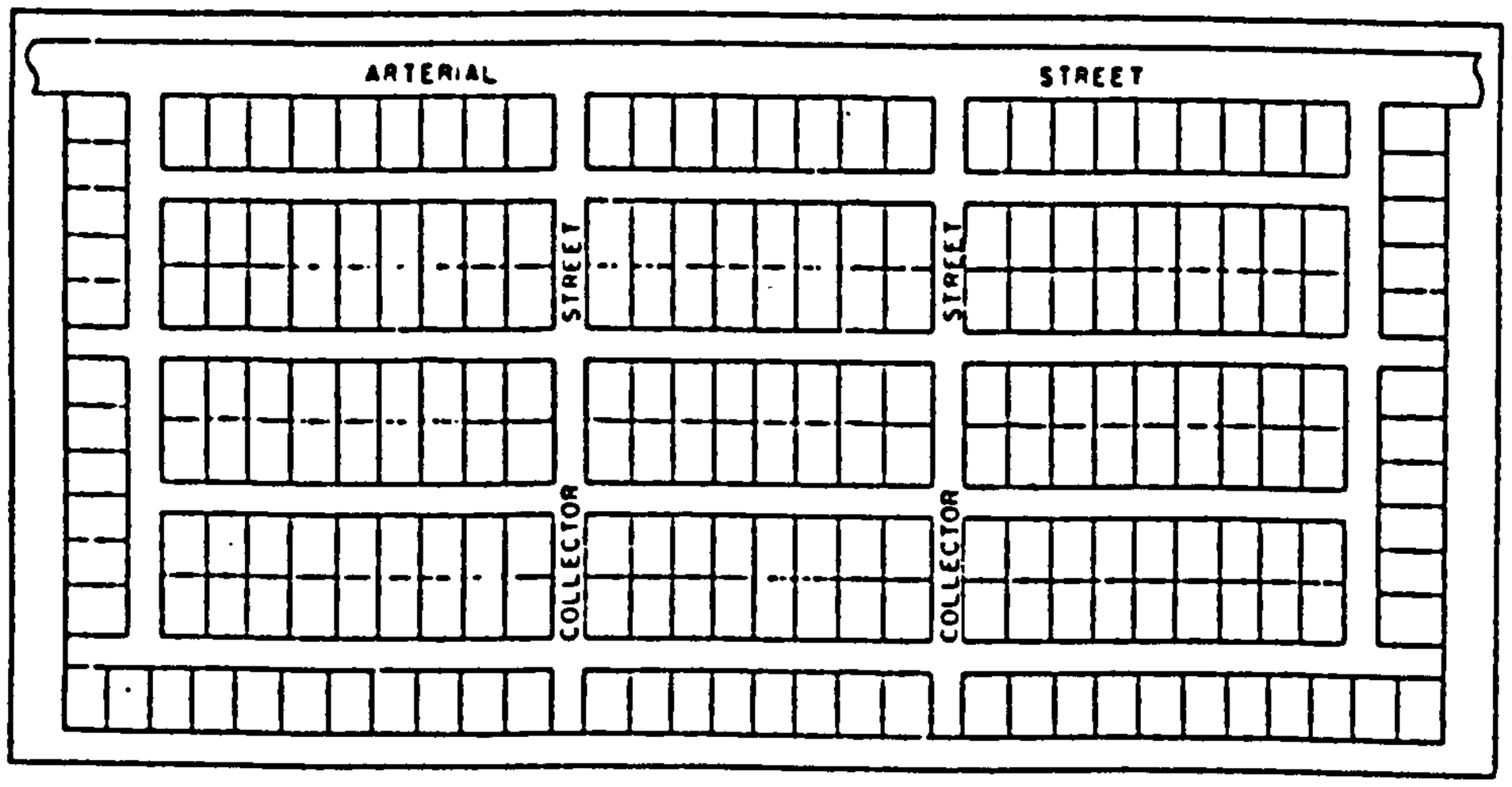
b - The blocks should never exceed 500 meters in length and be not less than 200 meters.

c - Blocks designated for mixed uses shall be of dimensions as the Riyadh Planning Department sees necessary.

6 a - When easement for utilities is required it should not be less than 5 meters in width in a proposed subdivision.



CURVILINEAR DESIGN



CURRENT DESIGN

The above illustrative examples show that:

While each area has the same acreage, overall dimensions and approximately the same number of lots, the curvilinear design requires 10% fewer intersections and 17.6% fewer streets.

Figure 4.17 : Example of Subdivision Design

Source : Tech. Report No.9, Vol.II, SCET, 1981

b - When subdividing an area, existing natural drainage shall be kept as it is or altered only if necessary. Also this area should not block another area's natural drainage.

c - Pedestrian walkways should not be less than 4 meters wide to provide easy access.

7 a - The property owner should dedicate at least 50% of the total area to be subdivided for public services, and these areas should be continuously kept by the public service agencies until their designated use has been utilized. This is merely a proposal by the (SCET) plan, as the current rules applied are 33% of land subdivision as maximum and any access to the percentage entitle the subdivision owner to a compensation.

b - The public service areas should conform to the Execution Plan boundaries and recommendations.

8 - All public services shall be provided by the municipality and public agencies.

9 - Street shall be wide enough to include major arterial secondary through, collector and minor streets, but

in no case shall be less than 15 meters wide.

10 - At least 3 meters width of sidewalk to be provided on each side of all arterial streets. And of at least 2 meters in width on each side of minor and collector streets, and on one side of secondary access streets (TR 9 II, 1982). All the above proposed regulations have been adopted and applied but not always strictly applied as there is many inconsistencies to these rules that are existing.

Land Subdivision Approval

4.52 Subdivision is the first step toward starting development, and in Riyadh and other Kingdom cities it was unlimited land subdivision permissions that contributed to the current pattern of scattered development. There are three stages for the procedure of approving land subdivision (Tech. Rep. 6, Vol. III, 1979):

1 - The landlord ought to submit:

a. Official document (deed) to confirm his ownership.

b. A letter explaining the purpose of the subdivision.

c. A property survey by a professional firm.

2 - The Municipality must:

a. Confirm the survey map accuracy submitted by the landlord.

b. Make a location map in relation to the Master Plan for the land.

c. Transfer the proposal with comments to the Planning Committee in the Municipality.

3 - The Planning Committee then:

a. Confirms the accuracy of the survey plan and the location map.

b. Subdivides land containing roads and public facilities such as schools and part areas.

c. Make an execution plan for electric and water supply, roads, etc.

d. After the subdivision is approved by the Municipality, copies are sent to the owner and the concerned government agencies.

4.53 The process of planning responsibility and the various steps in the planning process from the level of the RAMP plan to the final

development of subdivision is summarised in figure (4.18).

Zoning Regulations

4.54 Zoning regulations are applied by referring to the zoning ordinance map in the Master Plan, to check the permission request to see whether it conforms to the zoning regulation in that particular area in terms of use. This procedure is carried out by the Municipality.

4.55 As stated in the RAMP Report 9 II, the objectives of the zoning regulations for Riyadh are the following:

1 - To give effect to policies and proposals of the Master Plan.

2 - Privacy protection of private homes. Zoning regulations should give a legal structure to safeguard privacy.

3 - To preserve property values by applying zoning restrictions in terms of adjacent uses.

4 - To determine the scale of land-use activities and of residential density, which then can be used to estimate the utilities and public services the area needs.

5 - To keep and provide proper light and air, a health environment, privacy, access and acceptable aesthetics by eliminating over crowding and non-conforming land-uses

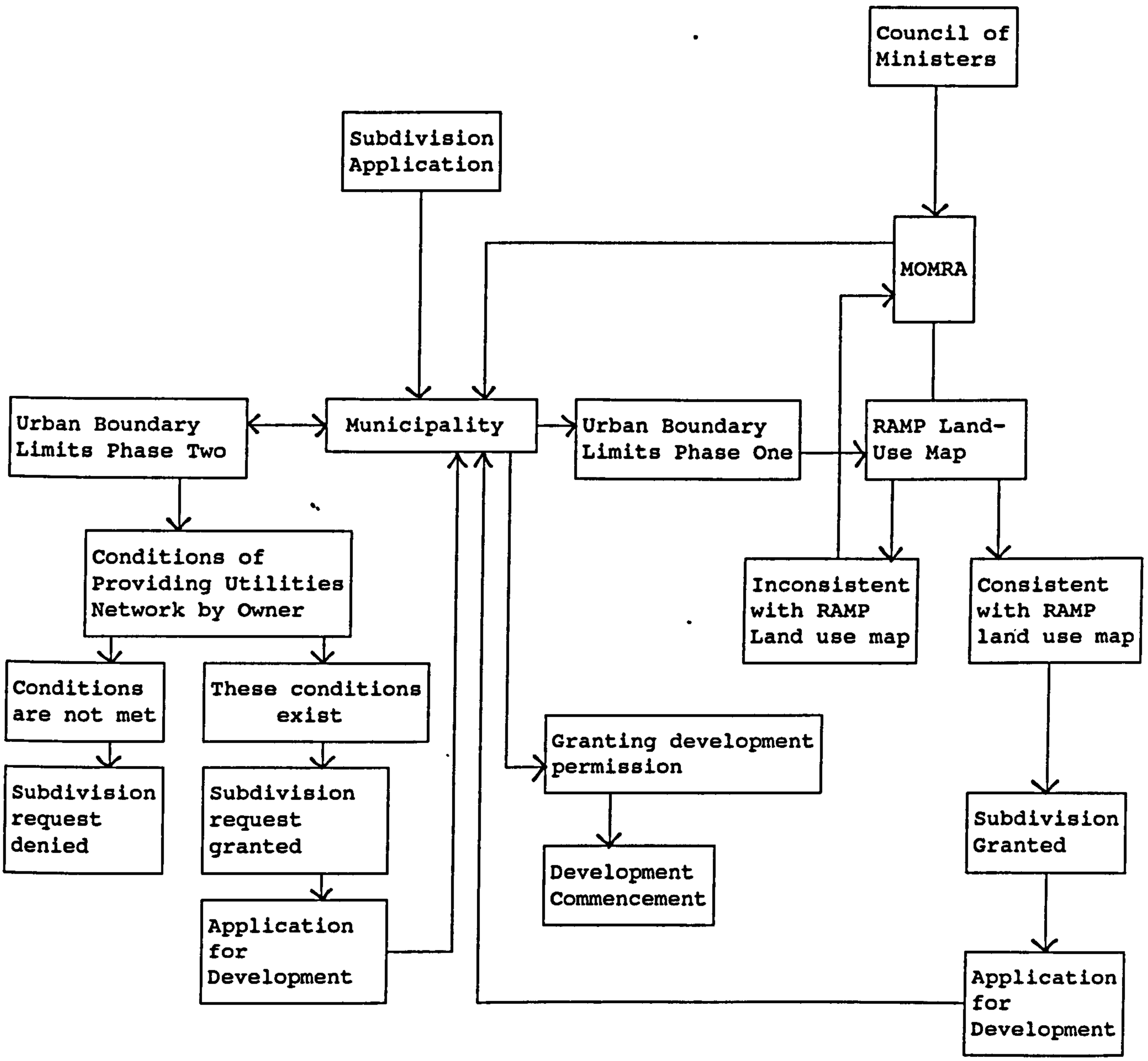


Figure 4.18: Planning Process in Riyadh

by strict enforcement of zoning standards.

6 - To assure co-ordination with the Execution Plan, which controls by supervising the implementation of public and private services. By regulating development in the private sector, zoning and subdivision regulations can assure broad control by the authorities over both the private and public sectors.

4.56 Whether the above objectives have been implemented in Riyadh will be tested by assessing the consistency or not of existing development, and by other observations. As we are going to see, these objectives of zoning which were part of RAMP did not correct the deficiency in that regard in the previous Doxiadis Plan.

Planning Codes

4.57 As mentioned earlier, these forms of control were the dominant and the main planning tool in all city development before the 1971 Doxiadis Plan. There were then no zoning controls; there were simply the "Roads and building regulations" which indicated land uses by large areas, and by minimum lot size and setbacks. These development regulations were loosely implemented and were not effective in controlling or directing development in the city. The Doxiadis Master Plan regulation scheme was comparatively comprehensive and complex in regard to what had gone before. But while many of the Doxiadis Master

Plan recommendations have been successfully implemented, most of its land-use control regulations were neglected. The main reasons were as stated by (SCET) Master Plan (Tech. Rep. 8, 1981):

- The intensified pressure for development in the central area and the increased land prices along main streets, which let the planning authorities permit higher densities than the Master Plan recommended. Then, the reverse of this decision added to the confusion and contradictions within the same area.

- There were no detailed zoning plans for areas outside the town planning area.

- Shortage of technical staff - especially building inspectors - prevented enforcement of compliance with zoning regulations.

- The density increases resulted in great pressure on the capacity of the various utility systems, since maximum capacity was assumed at all times.

- Broadly, the Doxiadis Regulations were based on Western standards, with little attention to local concerns for visual privacy; the Doxiadis proposals instead emphasized setbacks and heights.

4.58 In trying to solve some of these deficiencies, the RAMP proposed simplified regulations to facilitate their use by administrators and

applicants for building permits.

Building Regulations

4.59 These rules and specifications govern height, density, kind of building use, set backs, built up area plot ratio, parking space, etc. Development conformity with these rules is a strict condition for the issuance of a permit by the Municipality.

Urban Boundary Limits

4.60 As noted previously, the first condition for a land subdivision or development permission request is for the Municipality to check if the land is outside the Urban Boundary Limits, or in Phase two of the UBL. In these cases the permission subdivision request would be denied.

The Municipal Permit

4.61 This certificate is provided by the Municipality for a development proposal which confirms and satisfies all requirements of the building rules and regulations and of the zoning ordinance. The permit is the basic initial permission to start project implementation.

Planning Authority Directives

4.62 This type of tool to control development is usually not published

or released in a report form. It is more commonly in the form of resolutions either from the Council of Ministers or a lower level of Planning Administration, or of directives released within the Municipality to its hierarchical levels. Or it may be by the Municipal and Rural Affairs Ministry and is often scattered among the various planning departments in unarranged document files, as indicated by planning officials of the Riyadh Planning agencies; some of it cannot be released except by formal request of another government agency.

4.63 These forms of resolution and directive are introduced usually for an unexpected occurrence of a planning issue, never expected by the Master Plan or by the involved planning agencies. Such a form of control is commonly a quick response to a problem not thoroughly studied, and may be only a temporary solution to such a problem which may undermine elements of the organized planning process such as Master Plans.

Cases of Consistent And Inconsistent Development

4.64 The following are six selected development cases in Riyadh Figure 4.19. Three are inconsistent cases and the other three are consistent. These cases' state of development are fully developed, partially developed and undeveloped.

	Consistent	Not consistent
Developed	1 King Khalid International Airport	4 Al Mutanabi Shopping Centre
Partially completed	2 Warehouse and Light Industry	5 Service Centre (Eastern Ring Road and Naseem Road
Undeveloped	3 Al Hambra Area	6 Public schools in newly developed areas

Figure 4.19: Selected development cases

Consistent and Developed:

King Khalid International Airport

4.65 King Khalid International Airport was opened in the mid-1980's. It is located 35 kilometers to the north east of the city of Riyadh in an area designated as far back as the Doxiadis Master Plan (1971). The commencement of the construction of the airport took place in the second half of the 1970s, at the time of the initial preparation of the (SCET) International RAMP plans for the city of Riyadh and for other Saudi urban areas.

4.66 The area chosen for this airport was the most suitable topographically, by its size and its distance from the city centre. And it was the intention of the plan (Doxiadis 1971) to have the newly proposed airport to avoid the previous problems of the old airport, which was in relatively few years encircled by urban growth. It was intended to minimise such problems associated with having an airport close to the dense area of the city as noise, pollution, limitation to expansion, and so on.

4.67 This is an exemplary case of consistent development that has taken place in the city. It is very much an adequate location and its designation was by an adopted Doxiadis plan. The allocation of its land area early at the time of the plan (1971) before the 1975 oil boom and the consequential very high demand for land and for land speculation, all contributed to the implementation of this airport consistently as planned.

Consistent and Partially Developed:
Warehouse and Light Industry Area

4.68 This is the only area in the city designated by (SCET) plan for warehouses and light industry, other than the industrial area occupying the south east of the city. This area is located on the north west corner of the ring road, north of King Saud University. The area is surrounded by low density and high density residential use as designated by (SCET) plans. This area is currently partially developed to the extent of around 30% of its area, with predominently warehouse development and a few light industry uses.

4.69 This area was designated by the (SCET) plan but is the least adequate place to have such a use, for any industrial use should never have been located outside what is called the industrial city of Riyadh in its south east corner. Yet its seems that this area will be developed consistently as programmed by the plan, as it is currently in continuous development according to its desginated use.

4.70 This kind of use would not now be located in this particular area although at the time of its designation it was a remote location, very far from the built-up area of the city. Urban growth has been greater than realised to be likely at the time of designation and there can now be a presumption that this kind of use will discontinue some time in the future, and that the land will be transferred to other uses, most likely residential. Already,

municipality officials have indicated that they are currently permitting any land owner in this area to reverse their lots to residential use. The main reason for the initial consistency of warehouse and light industry use was the more urgent need for land for residential land by the planning authorities was not there. It was surprising for this area to be developed consistent with the (SCET) Master plan, when some areas designated by the plan for similar use were not implemented as is established in chapter Nine.

Consistent and Undeveloped:

Al Hambra Area:

4.71 This area was originally designated by (SCET) plan as an area for public housing projects to be executed by the Ministry of Public Construction and Housing. But as major projects were executed in the south east of the city and another smaller one was built north of the city centre, the building of more public housing became undesirable. In addition, there grew the desire by the majority of citizens to build their own house, partly financed by government loans, and to choose their desired home location.

4.72 This very large area is currently undeveloped. As shown in Figure (4.20), the largest part of it is located east of the ring road. To date, this area is consistent with the (SCET) plan designated use except the part of it west of ring road, which is currently undeveloped, and is designated for a girls' university. A very recent decision on the use of its eastern part has taken place as its

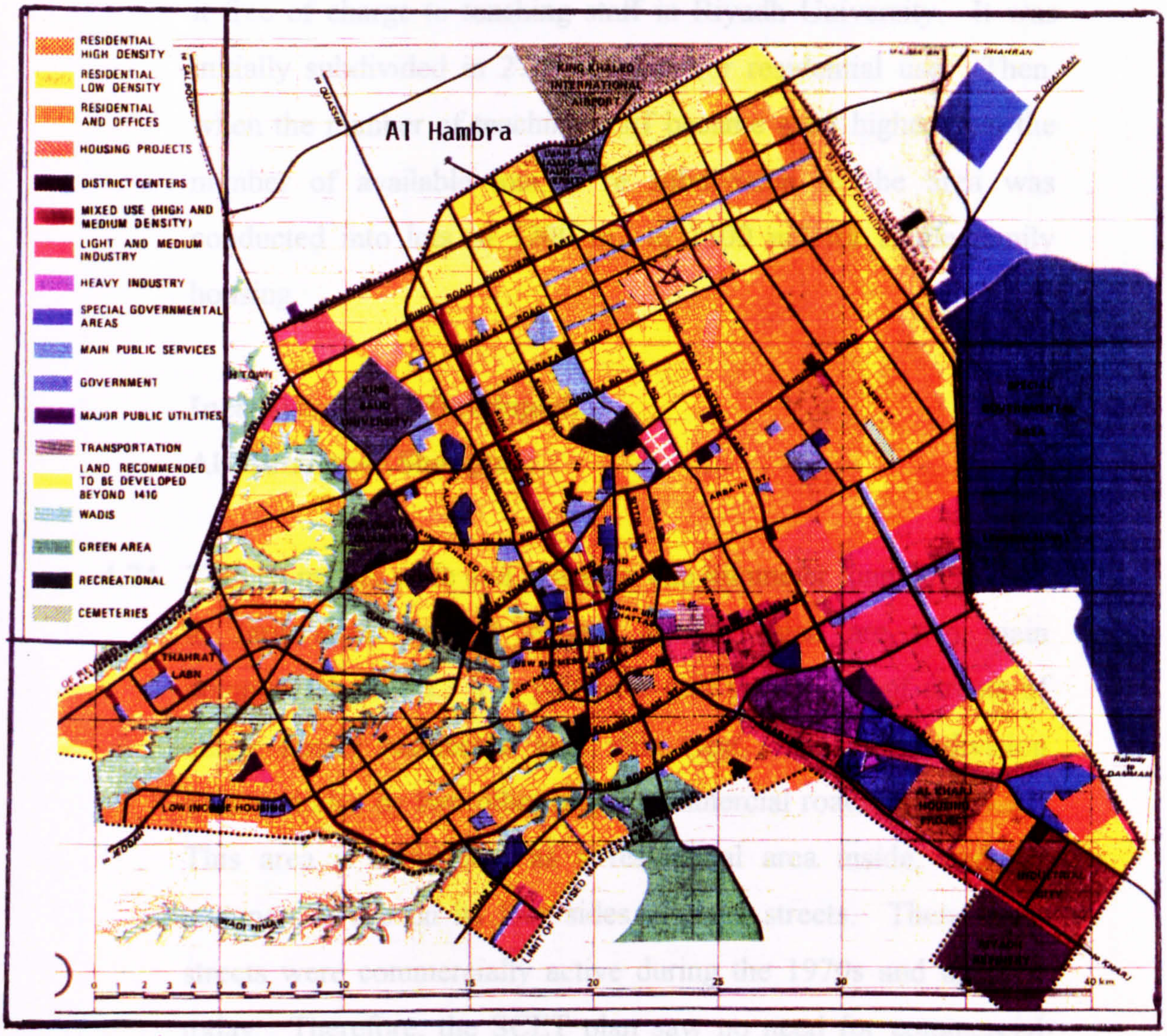


Figure 4.20 : Al Hambra District Location

Source: Tech. Report No.8, SCET, 1981

use for government public housing is no longer feasible.

4.73 The government has decided to subdivide the area and distribute it free of charge to teaching staff in Riyadh University. It was initially subdivided in 2700 m2 lots for residential use. Then, when the number of teaching staff became a lot higher than the number of available lots, a re subdivision of the area was conducted into lots of 1200 m2 to 1500 m2 for single family housing.

Inconsistent and Developed:

Al Mutanabee Shopping:

4.74 This 20 meters wide and less than one kilometer long street ends at Jarir street and at Arba'in street, which are two main commercial streets. It is part of a grid pattern net of streets of single family residential area villa type. It is a subdivision bordered also by two other major commercial roads Figure 4.21. This area is designated as a residential area inside, and for commercial use on its four sides of main streets. These main streets were commercially active during the 1970s and up until today. Therefore, the SCET plan saw no need for commercial shops in this particular area. There are sixteen streets in the subdivision with the same width and length as Mutanabee Street, which raises a question mark over what is special about it and why it was picked from all the streets in that area which have otherwise exactly the same features.

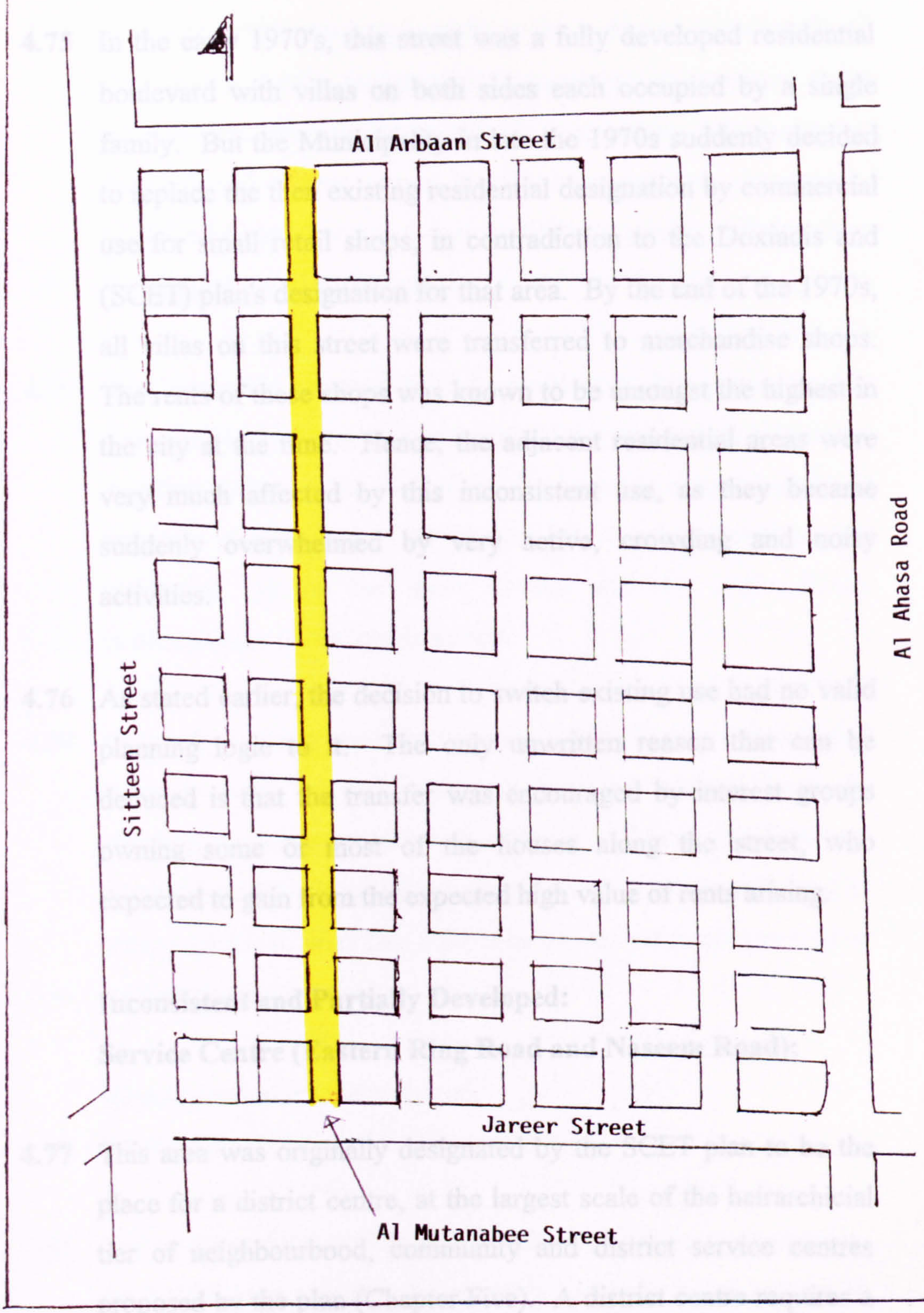


Figure 4.21 : Al Mutanabee Street

4.75 In the early 1970's, this street was a fully developed residential boulevard with villas on both sides each occupied by a single family. But the Municipality in late the 1970s suddenly decided to replace the then existing residential designation by commercial use for small retail shops, in contradiction to the Doxiadis and (SCET) plan's designation for that area. By the end of the 1970s, all villas on this street were transferred to merchandise shops. The rents of these shops was known to be amongst the highest in the city at the time. Hence, the adjacent residential areas were very much affected by this inconsistent use, as they became suddenly overwhelmed by very active, crowding and noisy activities.

4.76 As stated earlier, the decision to switch existing use had no valid planning logic to it. The only unwritten reason that can be deduced is that the transfer was encouraged by interest groups owning some or most of the houses along the street, who expected to gain from the expected high value of rents arising.

Inconsistent and Partially Developed:

Service Centre (Eastern Ring Road and Naseem Road):

4.77 This area was originally designated by the SCET plan to be the place for a district centre, at the largest scale of the heirarchicial tier of neighbourbood, community and district service centres proposed by the plan (Chapter Five). A district centre requires a very large amount of land to be dedicated for it, according to the plan. And this area is consisderable.

4.78 This area which was supposedly to be a district centre with all the various public facilities and amenities, is currently under development for uses not consistent to the plan. Many other of the proposed centres around the city have suddenly disappeared or shifted to another use that is partially or totally different from the originally designated use.

4.79 This location is currently partially developed. There are now two main uses in the area: a gas station and a wedding hall for private wedding parties. The rest of the land area is undeveloped and privately owned, and is designated for mixed commerical and residential use on the main streets, and for single family residential use on the inside streets.

4.80 As to why is this inconsistent use has taken place in this area and in other areas as well, clear cut planning reasons from the planning authority are hard to come by. These decisions are mostly done by a single letter or a decree to grant such land to some individual, who then sells it or use for other commercial or residential development.

Inconsistent and Undeveloped:

Public schools in newly developed areas:

4.81 One of the major components of each service centre proposed by the SCET land use plan were public schools to be located in every service centre. A large land area was dedicated for that purpose in every neighbourhood. But in the last two decades of

fast urbanization, very large parts of the city were fully developed with residential and commercial activities, while areas for schools stayed idle with no development on for the needed public schools.

4.82 Investigation reveals that the main obstacle to developing these areas as planned has been the unwillingness of the Ministry of Education for boys and the Ministry of girls Education to acquire these lands by means of compulsory purchase, hence transfering the ownership of these lands. In this case it seems the primary reason for inconsistency is a financial one.

4.83 The way this inconsistency take place is for the owner of a subdivision or in some cases the Municipality to literally 'free' the land from the relevent Ministry, by which the Ministry releases the land officially and declares that it does not need the land. The majority of the occurences of this kind of inconsistency have taken place this same way.

4.84 It is only recently that this method of 'freeing' service lands for private use has been adopted. Otherwise, there is a freeze on using these lands by owners, with a limit on their use of land until the relevant Ministries decide to take it. If an owner wants to develop this type of land he can develop only a maximum of 5% of its area with no more than 300 cubic meters to be built on it, whatever the land size. This is meant to keep land available for whenever the Education Ministry decides to use it, by limiting the developed part to very small size so as to minimize the future

compensation cost. But even this solution as I understood is a temporary one.

CONCLUSION

4.85 This chapter has outlined the number and the tasks of the planning actors directly involved in Riyadh's urban development process in particular, and in the Kingdom's urban areas in general. There are a large number of contributors to the city's urban growth and ways of controlling development.

4.86 In addition, many Master Plan projections and predictions for the city's future needs have been wildly inexact, as will be indicated later.

4.87 Also, at the end of the chapter, three cases of consistent and three of inconsistent developments have been described to show by case example how all the plans and processes of control of urban growth and development have been insufficient to stop inconsistencies of development. Chapter nine will include a summary of all the cases of inconsistency of development.

CHAPTER FIVE
PUBLIC SERVICES AND UTILITIES

INTRODUCTION

5.01 Public utilities and other facilities are discussed in this chapter as an integral part of the planning process and critically important in the case of Saudi Arabia, as the government is the only provider of these services making them a major tool for controlling development in the Kingdom that ought to be efficiently utilised. When a subdivision permit is issued by the concerned planning authority it is at the same time a guarantee of providing utility and public services. The subdivided land owner has no obligation of any kind for providing his land of such services.

5.02 These services have an important effect on the process of control of urban development, and these services are essentials in structuring the urban environment and in determining growth boundaries. Their efficiency and adequacy is an important factor in determining the quality of social and economic life of urban inhabitants, and utilities and public services have a great impact on land values.

5.03 This chapter examines utilities and public service networks in Riyadh in relation to other Kingdom urban areas, growth, objectives, efficiency and deficiency for the period between 1977-1991.

PUBLIC UTILITIES

5.04 The (SCET) Master Plan estimated that the rate of constructing private housing in the early 1980s would be around 10 sq. km. per year. When this size of residential growth is compared to the rate of growth of utilities shown in Table No. (5.1) which shows the then projected annual rates of needed and expected growth of these sectors by the year 1990, efforts were obviously especially required to accelerate storm drainage and sewerage and telephone services. The plan expected that with trend rates by 1990 only 11% of the build up, areas would have storm drainage and only 35% of the areas would be connected to the public sewerage. Figure (5.1) shows existing and planned developed areas to be covered by utilities networks and the size of implementation planned.

Table No. (5.1) Existing and Required Growth Rate for Public Utilities.

UTILITY	TREND EXISTING	NEEDED BY 1990	% INCREASE REQUIRED
Storm drainage	3.0 sq km/yr	14.5 sq km/yr	400%
Sewerage	5.5 sq km/yr	13.0 sq km/yr	100%
Water distribution	13.0 sq km/yr	21.0 sq km/yr	50%
Electricity	Full coverage	Full coverage	
Telephone	20,000 lines per yr	20,000 lines per yr	1000%

Source: Technical Report 8, 1982

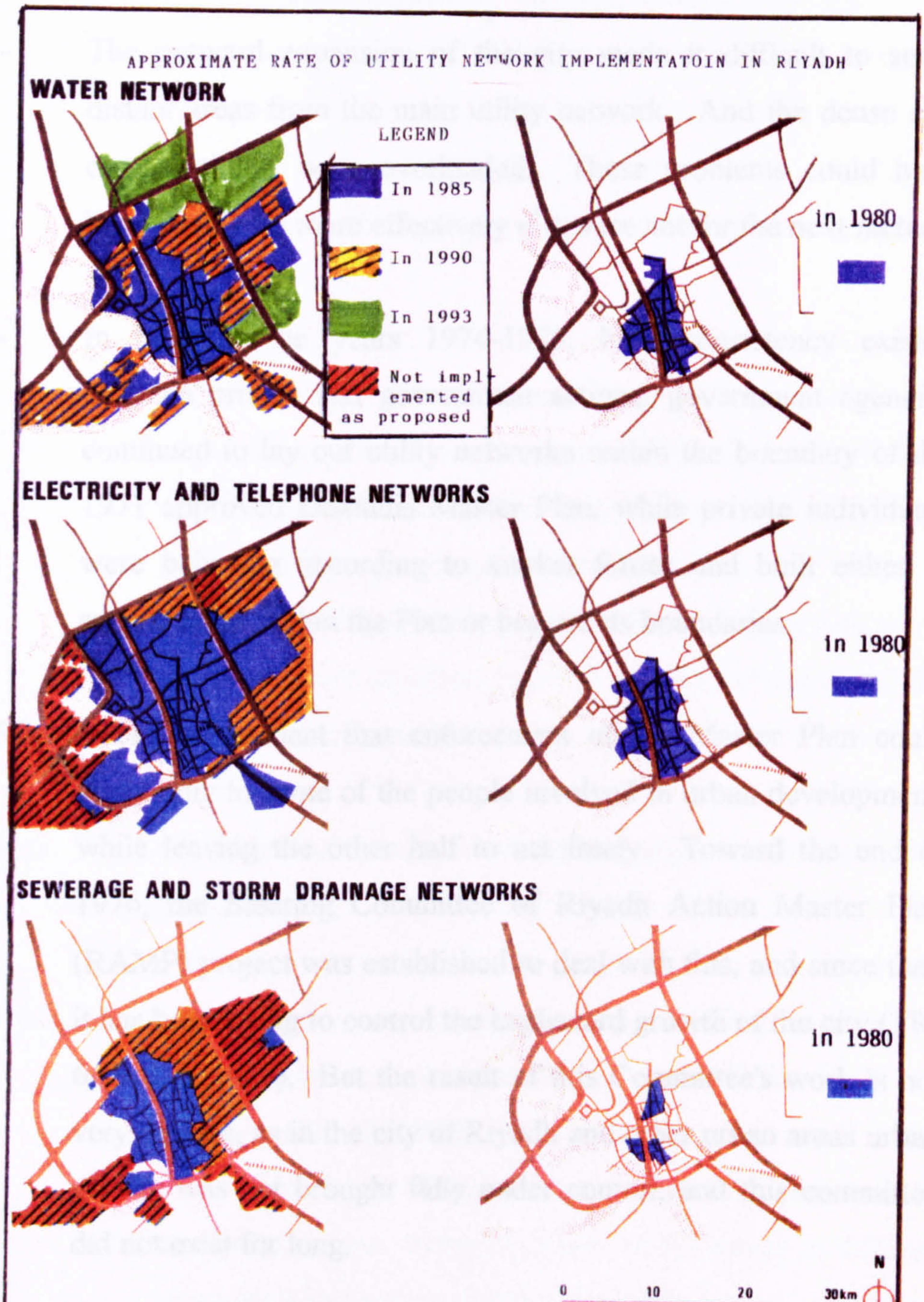


Figure 5.1 : Existing and planned utilities network .

Source : Adopted from tech. rep. no. 8 ,(SCET) ,1982 .

5.05 The inadequate distribution of public infrastructure in Riyadh has been allied to two main factors (TR 6 Vol. 1, 1979):

- The outward expansion of the city made it difficult to serve distant areas from the main utility network. And the dense city centre utilities were overloaded. These problems could have been dealt with more effectively if it were not for the next factor.

- In between the years 1974-1976, little consistency existed between private and government actions; government agencies continued to lay out utility networks within the boundary of the 1971 approved Doxiadis Master Plan, while private individuals were behaving according to market forces and built either in remote areas within the Plan or beyond its boundaries.

5.06 It became evident that enforcement of the Master Plan could apply only to some of the people involved in urban development, while leaving the other half to act freely. Toward the end of 1976, the Steering Committee of Riyadh Action Master Plan (RAMP) project was established to deal with this, and since then it has been trying to control the haphazard growth of the city (TR-6, Vol. I, 1979). But the result of this Committee's work is not very evident, as in the city of Riyadh and other urban areas urban growth was not brought fully under control, and this committee did not exist for long.

5.07 One of the selected (SCET) Plan strategies was to use the rate of

implementing utility networks as a means of haphazard development in the city (TR-8, 1981). Such strategy has never been successfully implemented or even convincingly attempted, as disorganised scattered development is evident all over the city's urban area.

5.08 The stated (SCET) Plan general objectives for utilities are (TR-8, 1981):

- To adequately provide service to a maximum number of residences within the built up area of Riyadh before 1990.
- Locate areas of the Master Plan where constructing of all utilities will be guaranteed before 1990.
- Speed up building of networks which are lagging behind.
- Secure smooth interface between the city networks and the regional utility corridors.

5.09 With probably the exception of the last objectives, none have been fully achieved.

5.10 To set up coordination among the various utility networks a coordination department was established at MOMRA with the following tasks (TR-12, 1982):

- Give a mandatory standard location for utility networks in streets of various width; however, enforcement is difficult since each Ministry operates independently.
- Various utility networks could be coordinated by awarding

construction contracts during the same time frame for a particular area, to avoid distribution and digging a street a number of times.

- Each utility network should have its own maintenance specialists. With the exception of that each utility network already has its own maintenance specialists implemented, none of the other tasks were implemented.

5.11 The single most critical problem facing Riyadh is the way of providing facilities and community services - especially public utilities - to the wide spread out metropolitan area of Riyadh. This task is particularly difficult not only when there is uneven distribution of these facilities, but also when each agency providing a utility has its own plans which are different from those of others. To tackle these problems the (SCET) Plan proposed to create a five years development limit with the following objectives:

- To layout public utilities and public services in an arranged manner on a five-years added basis.
- To bring about future development growth of the city into areas where it would be serviced during a current five-years period.
- Provisions of all public utilities to be arranged in an integrated manner to avoid frequent road cuts which would be uncomfortable for road users.
- Improve the environment of the entire metropolitan area by providing suitable services.

5.12 The Five-years Development Limit was to be connected to the National Five-years Development Plan as a recommended development policy for Riyadh. The limit would help control and coordinate the city's development of public utilities and facilities with its population growth. Such plan would be approved by the Council of Ministers to give a powerful tool for control. The plan in a given case would be shown with its border, representing a combination of the various public utilities' priorities for development (TR-10, 1981).

5.13 This proposal for Five-years Development Limits has never been approved by the Council of Ministers. But it was replaced by the less detailed Urban Development Limits (UBL) which was approved by the Council of Ministers in 1989.

5.14 The (SCET) Plan recommended the order of priority in constructing infrastructure and super-structure as (TR-10, 1981):

Infrastructure:

1 - Roads
2 - Electricity
3 - Water
4 - Sewerage
5 - Drainage
6 - Telephone

Super-structure:

1 - Mosques
2 - Schools
3 - Dispensaries
4 - Police Stations
5 - Fire Stations

5.15 But in reality these orders of priority were implemented in the following actual order:

Infrastructure:	**Super-structure:**
1 - Water	1 - Mosques
2 - Electricity	2 - Schools
3 - Roads	The rest were not
4 - Telephone	implemented or were
5 - Drainage	implemented at a very
6 - Sewerage	late stage of the urban
	process.

Electricity:

5.16 Riyadh's electricity consumption has increased tremendously since 1974 due to higher income and population growth. In the city there are in 1977 now three distribution stations, one south east near the industrial area with 100 mw of power, the other east of the city with 340 mw capacity, and the third one located north west of the city with capacity of 200 mw. These plants are being interconnected by a high tension 132 kv loop. The area served was 80 sq.km. in 1978, in 1980 100 sq.km. and by 1990 it covered 370 sq.km. (TR-8, 1981).

5.17 With city expansion the demand for electricity has increased, and this sector's growth has been parallel and in most cases ahead of the city's urban growth to date. Now there is eight electric

distribution stations.

5.18 The (SCET) Plan objectives for the electricity network were to:

1. Expand the permanent network to all areas within the five-years development limits area.

2. Make the distribution network more rational by switching to a modern 220-380 V system.

3. Cut down consumption by increasing basic rates and home insulation.

4. Encourage the use of central air conditioners instead of unit coolers.

5. Keep a land plot reserved in subdivisions for transformers within built up areas and buildings (TR-8, 1981).

5.19 With the exception of 2 and 4, these goals were implemented. The last objective of placing transformers within buildings is disturbing to commercial buildings' functions especially in small commercial buildings located on one street only. These transformers usually take a large portion of show room facade area, 25% in some cases, while the building is only consuming around 20% of the power generation capacity of which the rest is kept in reserve. Besides, these transformers carry a potential

danger as they are located in the middle of residential and commercial areas.

Water:

5.20 The increase of water consumption for the city of Riyadh and for other Saudi cities made it essential to exploit deeper sources, but with its mineral contents it must undergo treatment before distribution. Eventually it became necessary to bring desalinated water from the Arabian Gulf in the east, and from the Red Sea for the Kingdom's western urban areas.

5.21 But since water is not supplied to homes continuously, there is still the need to have two tanks for each house, one on the ground level and one on the top of the house where water is pumped upward, to then flow down by gravity (TR-6, Vol.I, 1979).

5.22 Riyadh has enough water supply to meet its present population demand. The city gets around one million cubic meters of water per day from deep wells and desalinated water from Jubail. Given that in the late 1970s daily consumption was 220 litres that was projected to increase to 300 litres per capita per day, which (SCET) assumed to be enough for over 2.5 million of city population (TR-8, 1981), water supplies are currently adequate with no serious shortage. The water network layout is consistent with the current rate of urban development for the city.

5.23 The objectives spelled out by the SCET Plan for the water network were:

1 - Upgrade water quality to meet World Health Organisation standard.

2 - Create a 24 hour water distribution so as to eliminate need for roof tanks. And make a continuous flow of water for fire hydrants.

3 - Install water meters for each dwelling unit.

4 - Decrease use of water from deep aquifers nearby Riyadh, by maximising the use of desalination water.

5 - Encourage new industries that need little water consumption.

6 - Treat waste water and use it for industry and agriculture purposes.

5.24 Objectives 1,3 and 4 have been reached by the responsible agencies, but the rest of the objectives have not been reached yet.

Sewerage:

5.25 The sewage network for Riyadh's very densely populated city

centre and the area around it has been completed, but the remaining large parts of the city are not yet served by the network which gets more densely populated each day. In the early 1980s 30 square Km of built up area of the city were covered by the sewage service, and by 1990 the (SCET) Plan expected an area of 175 km^2 to be covered by the network. A density of 45 person/hectare was recommended to essentially have the sanitary sewage service (TR-8, 1981). But since the early eighties there has been very little increase in the sewerage network layout area. Table No. (5.2) shows the areas size previously projected to be served by sewerage.

Table No. (5.2): Areas to be served by sewerage (in hectares).

ITEM	1980	1980-85	1985-90
Total area serviced at the end of the period (ha)	3,000		
Plan Programme		7,500	7,000
Treatment capacity at the end of the period (m3)	80,000	200,000	300,000
Treatment plant capacity added during the period (m3)		120,000	100,000

Source: Technical Report 8, 1982

5.26 The objectives set by the (SCET) Plan for the sewerage network were (TR-8, 1981):

- Increase the implementation of the network to include areas within the Five-Year Development Limits.

- Construct a new sewage treatment plant with capacity of 100,000 m^3/day.

- Increase the existing treatment plant to a capacity of 300,000 m^3/day.

- Make house connection to sewerage network mandatory in areas that are services with free connection of the house to the system.

5.27 None of these objectives were reached except for the increase of plant capacity, and arrangements for connecting a dwelling unit to the system were changed.

Storm Water Drainage

5.28 The SCET Plan objectives for the storm water system were (TR-8, 1981):

- Step up implementation of the network to serve all areas within the Five-Year Development Limit.

- Keep all low lying areas and valleys as preserved natural drainage areas, demolishing existing construction and

compensating the owners.

- Build temporary reserve pools around all residential areas.

5.29 None of these objectives have been implemented.

Telephone

5.30 The rapid urban growth, population increase and rise of income have greatly increased demand for phone lines for residential, commercial, industrial and government use. The city currently requires a large extension of the phone network and an increase of the capacity of the existing exchanges together with building a new one.

5.31 The SCET Master Plan set an objective to provide 33 lines per 100 inhabitants, which was more than the originally intended 24 lines per 100 inhabitants; the area to be covered by telephone services was to be 370 sq km in 1990. But in 1992, the built-up area of the city had reached 350 sq km with no telephone services in some areas and a deficiency of telephone lines all over the city. Table No. (5.3) shows areas projected to be served during the study period.

Table No. (5.3) Area to served by telephone (in hectares).

ITEM	1980	1980-85	1985-90	TOTAL AREA
Area serviced at the end of the period	7,000	14,000	16,000	37,000

Public Utilities Costs

5.32 In determining the cost of supplying, water, electricity, telephone, sewerage, roads, and rain drainage for areas of the city of Riyadh which will become urbanised, the SCET Plan established a typical district model. In it, it was estimated that the cost of providing such secondary infrastructure would be around SR1.8 ($500,000) per hectare (TR-6, I). This estimate was based on 1971 prices, and did not include the maintenance cost.

5.33 The expected life span of each network was 30 years for water, 15 years for electricity and 10 years for street lighting (TR-8). Maintaining these services is very costly especially when pipes buried under the ground deteriorate faster under these conditions. It would be less costly and more easy to maintain these services if networks were laid out through corridor service tunnels. That also would increase service network life span tremendously.

Future Utility Costs

5.34 In studies conducted in 1986 to prepare for setting up a strategy for Riyadh's development, the cost of providing infrastructure in the first phase of the UBL area was estimated to total around SR30 billion ($8 billion). SR7 billion was to be spent on providing these services between 1985-1990, and a proposed SR10 billion to be spent on these services between 1990-1995. With proposed spending on the programme by public service

agencies it was expected to be possible to provide all services to around 80% of city population in 1995 and to 92% by the year 2010 (HCFDR 1992).

5.35 With the subsequent financial shortage in the Kingdom it is now unlikely that these targets could be met, and the planning authorities have been left to look for other alternative policy measures such as discouraging population increase and urban growth.

Current Utility Services

5.36 Phase one of the UBL is around 630 km^2, of which about 320 km^2 were developed in 1990 with the following level of utility services network (as illustrated in Figure 5.2):

-	Areas with complete services	24.10%
-	Areas with all services except storm drainage	4.9 %
-	Areas with electricity, water and telephone services	29.4 %
-	Areas with water and electricity	20.40%
-	Areas with water only	4.6 %
-	Areas with roads only	2.6 %
-	Areas not covered by any services	14.2 %
		100.0 %

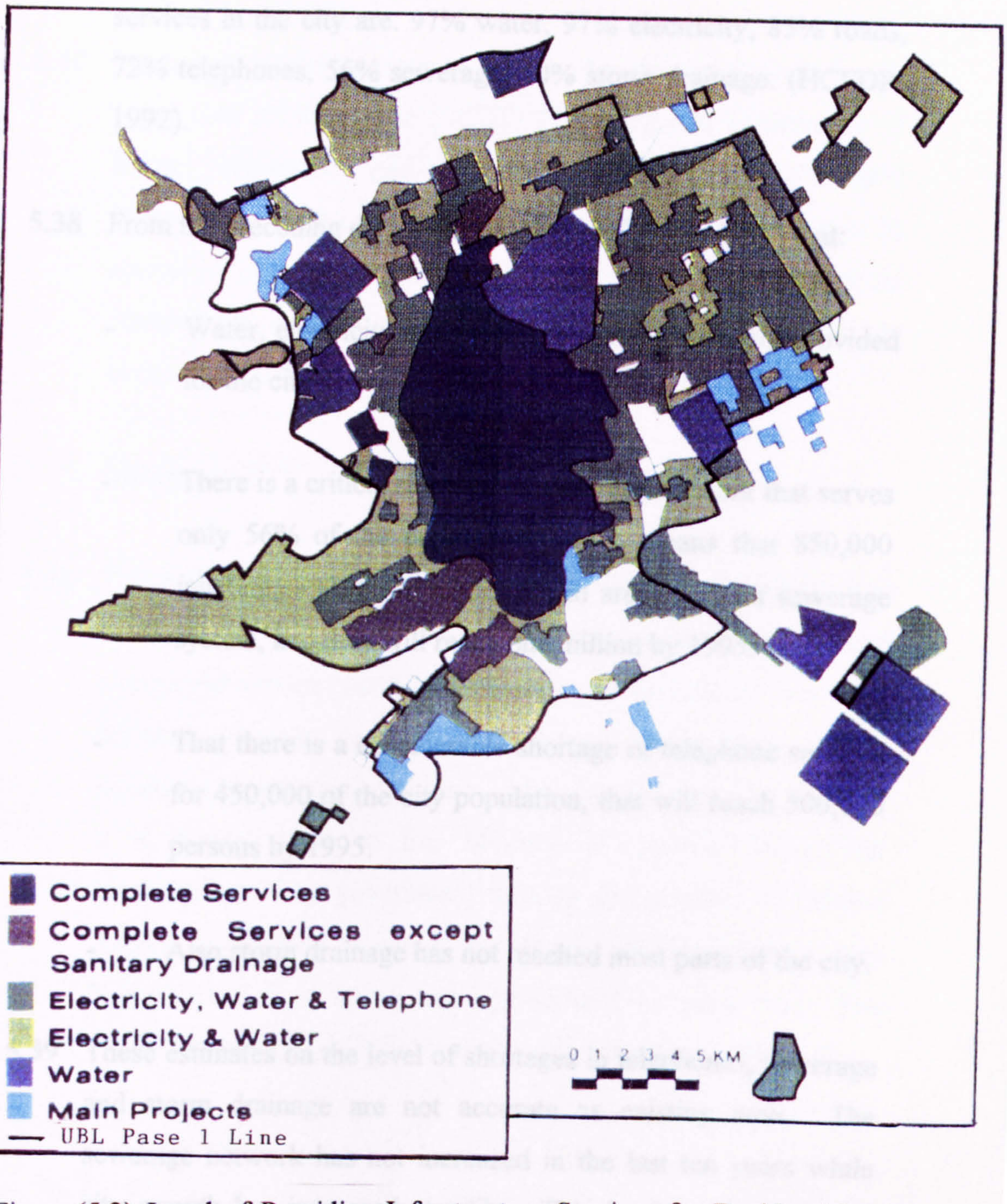


Figure (5.2): Level of Providing Infrastructure Services for Residential Areas in Riyadh in 1990.

Source : Providing Public Infrastructure in Riyadh until 1995. HCFDR, 1992.

5.37 The percentage of city dwellers currently benefiting from utility services in the city are: 97% water, 97% electricity, 85% roads, 72% telephones, 56% sewerage, 60% storm drainage. (HCFDR, 1992).

5.38 From the preceding data it appears from HCFDR (1992) that:

- Water, electricity and roads are quite adequately provided for the city.

- There is a critical shortage of sewerage network that serves only 56% of the population, which means that 850,000 inhabitants (1986 estimate) are in areas without sewerage system, and they will reach one million by 1995.

- That there is a considerable shortage of telephone services for 450,000 of the city population, that will reach 500,000 persons by 1995.

- Also storm drainage has not reached most parts of the city.

5.39 These estimates on the level of shortages in telephones, sewerage and storm drainage are not accurate as existing now. The sewerage network has not increased in the last ten years while city growth has increased steadily. This is also the case with telephone and storm drainage services.

PUBLIC SERVICES

5.40 To deliver public services to the city dwellers of Riyadh evenly throughout its areas, the (SCET) Plan proposed a hierarchy of district, community and neighbourhood centres to be located evenly all over the city. But the fact of the matter is that in almost all of the proposed service centres only one or two of its components, essentially a mosque or school, is implemented. In some cases nothing of the proposed centre was built.

Mosques

5.41 These places of five times a day worship are the only service that is keeping up with urban growth, in most cases built in the area of a proposed service centre. Mosques can be built faster than other services, because building costs mostly come from charity donations by private individuals. After construction of a mosque, it is handed over to the Ministry of Islamic Affairs for management. The government through the Ministry of Islamic Affairs also builds mosques, but usually the construction lags behind schedule as bureaucratic procedures consume time. The (SCET) projected need for mosques is indicated in Table (5.4).

Table (5.4): Mosques needed

Type	Existing in 1980	Proposed for 1990
Eid	2	6
Juma's	120	145
Local	350	460

Source: TR, 91, SCET, Internat. 1981.

Schools

5.42 Schools are mostly developed in its designated service centres near a mosque. Public boys and girls schools are constructed many years later after a community is fully developed, as they are built by Government, and in some instances designated school land will not be built on but will be used for residential purposes. In newly developed areas of the city the Government education agencies may rent residential houses to be used for schools instead of building their own.

The projected educational facilities needs by (SCET) Plan indicated in Table (5.5).

Post Offices

5.43 The Plan projections for post offices seemed to contradict the fact that only around five post offices currently existed throughout the city. A projection for the Third Plan programme (1980 - 1985) proposed only 33 post offices for that period, was considerably below the predicted requirement in Table (5.6).

Table (5.5): Schools Requirements

SCHOOLS	EXISTING		INCREMENT 1980-85		INCREMENT 1985-90	
	FLOOR AREA (1000m2)	LAND AREA (ha)	FLOOR AREA (1000m2)	LAND AREA (ha)	FLOOR AREA (1000m2)	LAND AREA (ha)
Kindergarten	15.0	3.0	110.0	22.0	75.0	15.0
Elementary Boys	125.0	37.5	275.0	83.0	125.0	13.5
Intermediate Boys	18.0	54.0	66.0	20.0	66.0	20.0
Secondary Boys	75.0	15.0	165.0	33.0	135.0	27.0
Elementary Girls	150.0	45.0	250.0	75.0	225.0	67.5
Intermediate Girls	42.0	13.0	132.0	40.0	108.0	32.0
Secondary Girls	45.0	9.0	135.0	27.0	120.0	24.0
Technical Boys	88.4	14.7	76.8	12.8	42.0	7.0
Teaching Boys	42.3	3.6	72.0	12.0	24.0	4.0
Teaching Girls	8.0	1.5	144.0	18.0	48.0	6.0

Source: Technical Report 8, SCET/International, 1982

Table (5.6): Post Offices - future requirements in 1990.

TYPE	NUMBER OF OFFICES	FLOOR AREA (m2)	LAND AREA (m2)
Neighbourhood	170	25,500	34,000
Local	43	30,000	34,400
Main	10	20,000	10,000
Total	223	75,500	78,400

Source: Technical Report 8, 1981

Cemeteries

5.44 For cemeteries, the Plan called for their designation outside residential areas. A standard was proposed of about 3 m2 per person and that the total area for each cemetery should not be less than 50 hectares (500,000 m2) and that they should be located 20 km maximum distance from the city with natural boundaries. Existing cemeteries were 100 in number in 1980 and 240 cemeteries were proposed in the Plan for they year 1990 for the city.

Health Services Needs

5.45 The projected health services for 1990 are indicated in Table (5.7).

Table (5.7): Health Services - projected requirements for 1990

KINDS OF HEALTH SERVICES NEEDED	NUMBER	FLOOR AREA(m2)	LAND AREA(M2)
Maternity & child welfare and consultation centre	135	162,000	175,500
Polyclinics & dispensaries	25	33,000	62,500
Hospitals	10	400,000	200,000
TOTAL	-	595,000	438,000

Source: TR 8 (SCET) 1981

Police and Fire stations

5.46 Almost all of the existing police stations are located in rented placed originally intended to be residential, away from a proposed service centre.

5.47 Fire stations are located in their own buildings originally developed for that same purpose of use. But their locations are away from proposed service centres and their number is below that proposed.

Table (5.8): Police Stations - projected requirement for 1990.

TYPE	NUMBER OF STATIONS	FLOOR AREA (m2)	LAND AREA (m2)
Local	67	13,400	33,500
Main	13	10,400	13,000
Central	3	9,000	54,000
Total	83	32,800	100,500

Source: TR 8 (SCET) 1981

Community Services

5.48 The goals proposed by the Plan to improve public service levels were as follows:

1. To extend to the maximum the services provided to the projected population.

2. In the urbanised area, to decrease conflict between the existing level of service and the maximum standards proposed.

3. To upgrade the distribution of service facilities in the outer areas of the city, by basing their location according to gross population densities predicted by the Revised Master Plan.

4. Amenities should be gathered into service centres with a traditional Islamic structure, to encourage the growth of community identity.

5. To group amenities based on service standards which should reflect the categories of communities in Riyadh in terms of population density.

6. Structure the components of service centres based on the hierarchy of neighbourhood, community district areas proposed in the Plan.

7. Make administrative procedures for public services implementation more efficient. That is by:

a. In the core urban areas in the centre where land is scarce and prices high and land parcels are difficult to obtain, grouping public services located on one site which then can be divided among service agencies.

b. In the outer edges of the city, combining scattered land reservations into larger lots.

c. Coordination of effort of Planning, Programming, Financing and Executing should be encouraged among various government ministries and other involved agencies.

d. Decrease of maintenance costs by concerntrating resources in one assimilated service centre.

Planning Standards

5.49 As the main theme of this research is control of development and the consistency or otherwise of existing developments with the Master Plan and with the city residents' needs, it is necessary to introduce Planning Standards here, which were recommended by the Master Plan (Report 9 II, 1980) to be adopted for the city of Riyadh as guidelines for the city needs in Pubic Services. When

preparing these standards, the following factors were considered:

1. Policies and recommendations of government agencies.

2. Projects and plans of these government institutions.

3. Forecasts of population.

4. Anticipated change in density and urban pattern.

5. Anticipated socio-economic behaviour changes.

6. Change in need in terms of quantity and quality.

7. Trained human resources availability.

8. Land appropriation cost.

9. Reservation of the existing lands.

10. Easy access by users, recognising that Riyadh has typically three population density areas:

a. High Density: Located in the city centre, where plots are small and scarce and residential density is more than 300 residents per hectare.

b. Medium density: Located in new areas that are not totally urbanised and where there is more land available and where density is between 100 and 300 persons per hectare.

c. Low density: Located in recent subdivision areas where a very little percentage of the land has been developed, where land has been reserved for public services and density is less than 100 residents per hectare. These public service standards are linked to the populations they serve, which are varied. This has led to constructing a categorisation of urban population units as follows:

- Neighbourhood: 4,000 to 6,000 residents.
- Community area: 20,000 to 30,000 residents.
- District area: 80,000 to 120,000 residents.
- City metropolitan: over 400,000 residents.
- Region: larger than the city.

5.50 These standards were proposed by the Master Plan as a planning tool and the Plan recognised that to assure the effectiveness of these standards and their adoption by government agencies, implementation mechanisms needed to be provided (TR-91, 1981).

5.51 Service were proposed to serve all areas of the city according to a hierarchy of neighbourhood, community and district centres and the components of these centres are summarised in Figure (5.3).

Item	Neighbourhood Centre	Community Centre	District Centre
Schools	Kindergarten & Elementary School	Intermediate School	Secondary, Vocational Schools
Mosques	Local Mosque	Local Mosque	Jumma Mosque
Open Spaces	Park, square playground	Athletic facilities and parks	Athletic facilities, Parks & Gymnasium
Health	Doctor's Office (optional)	Consultation Centre Maternity Centre	Polyclinic or Dispensary (Hospital)
Public Offices	Administrative liaison Office (optional)	Administrative liaison Office	Submunicipality offices, Government offices
Police and Civil Defence	Local Police Station (optional)	Local Police Station	Subdivisional Police Station Fire Station
Post Offices	Mail Boxes	Local Post Office	Subdivisional Post Office
Cultural Facilities	Public Library	Public Library Community Hall	Community Hall Public Library, Cultural Centre
Shops (optional)	Daily Shops	Weekly Shops	Monthly Shops, Public Market

Figure (5.3): Proposed Service Centre Components.

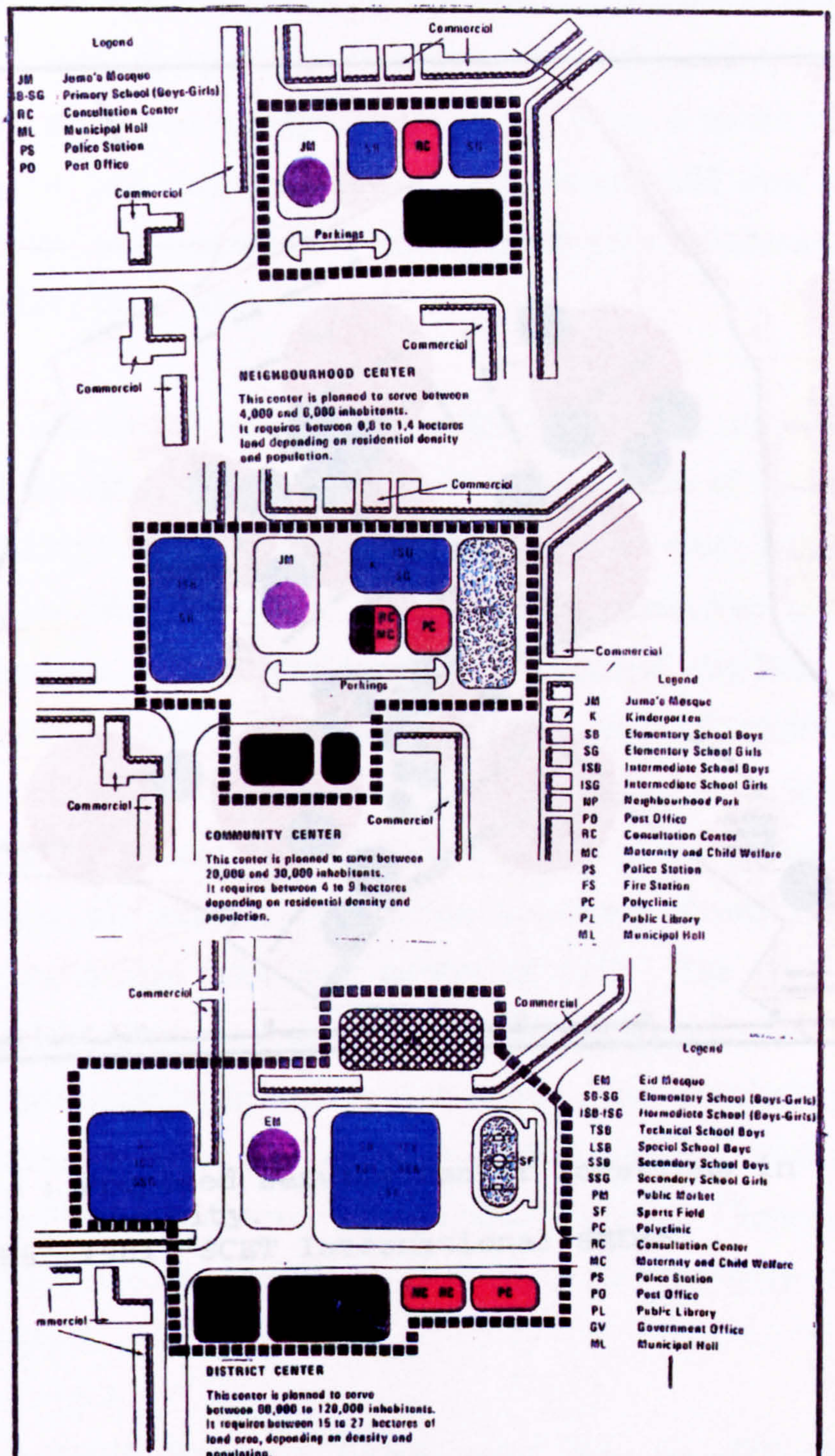
Source: Technical Report No.8, SCET International/SEDES, 1981.

Figure (5.4) shows a layout of typical neighbourhood, community and district centres as proposed by the Master Plan. Also, Figure (5.5) shows their proposed distribution throughout the city by the Master Plan. But these planning standards were recognised by the Master Plan (SCET) itself to be rigid so that if inflexibly applied to public facilities, they would result in facilities that would be unrelated to local urban conditions.

5.52 Neighbourhood centres were to serve an area of between 4000 to 6000 residents with land area of 0.8 to 1.4 ha. depending on the area's population density. This centre's proposed components are: mosque, primary school, consultation centre, municipal hall, police station and post office. No area for recreation or garden is designated in this centre.

5.53 The next in size is a community centre to serve an area of between 20,000 to 30,000 residents. It requires an areas between 4 to 6 hectares depending on are population density. It comprises a Friday mosque, one boys and one girls elementary and one boys and one girls intermediate schools, neighbourhood park, post office, consultation centre, child care, clinic library, municipal hall, police and fire station.

Figure 5.4 : Detail of Service Centers proposed by SCET Intern./SEDES



Source: TR 8, 1981

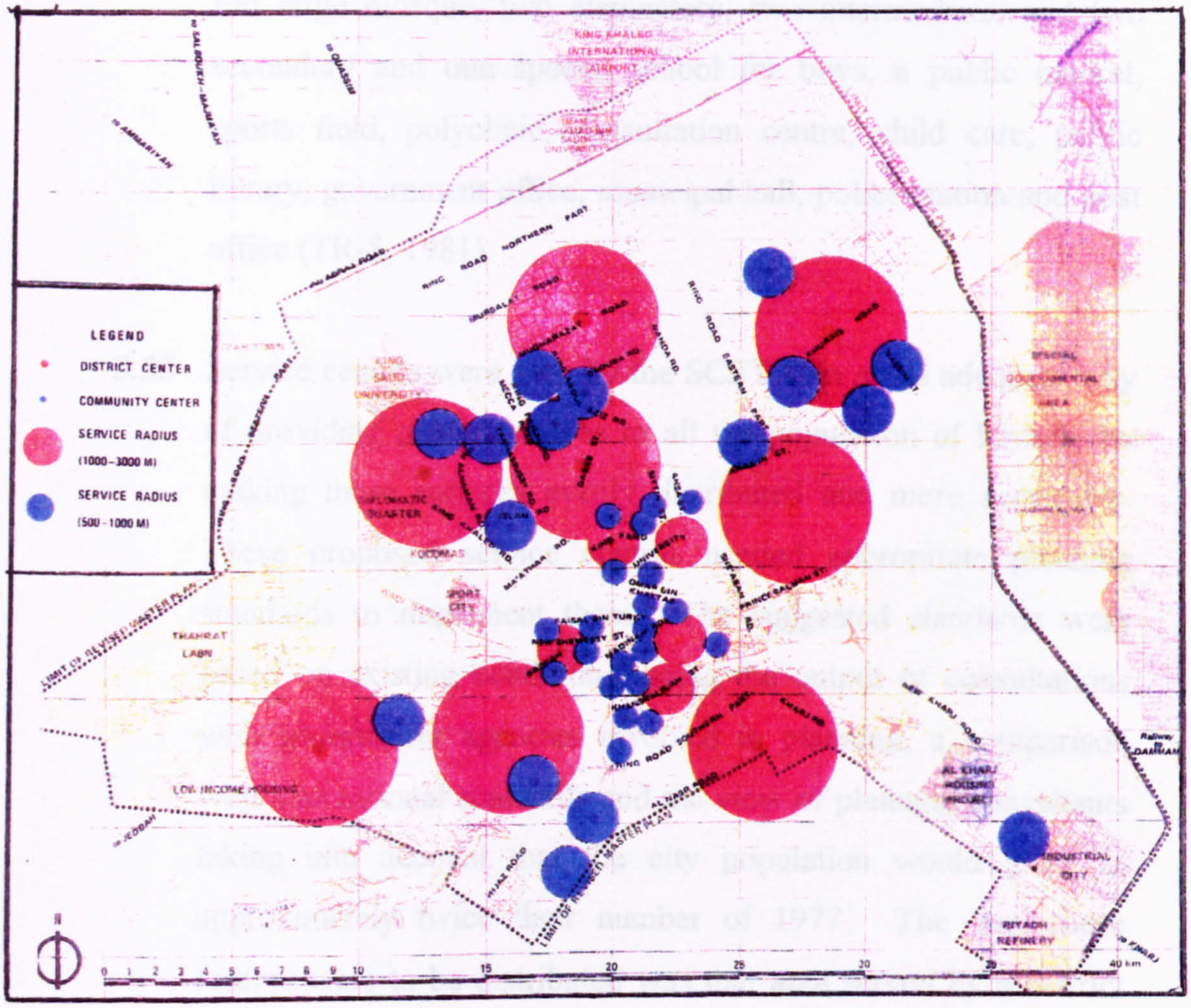


Figure 5.5 : Proposed service center locations in the city.
Source: TR8, 1981. SCET International SEDES.

5.54 The third level of centre is supposed to cover a wider area of the city and to serve between 80,000 to 120,000 residents. It requires land area of 15 to 17 hectares. It comprises a Friday and Eid large mosque, two elementary, two intermediate, and two secondary and one special school for boys, a public market, sports field, polyclinic, consultation centre, child care, public library, government office, municipal hall, police station and post office (TR-8, 1981).

5.55 Service centres were seen by the SCET Plan as an adequate way of providing public services to all the population of Riyadh, by making these services evenly distributed and more accessible. These proposed service centres needed appropriate planning standards to implement them. The suggested standards were based on existing conditions, being the output of consultations with government agencies involved in planning, a comparison with international standards and the view of planning consultants taking into account that the city population would grow to approximately twice their number of 1977. The way these centres were to be distributed was that area served by a district centre would be divided into 4 or 5 zones, each zone having one community centre, this community centre zone being divided into 4 or 5 sub-zones served by neighbourhood centres. These service centres were supposed to be the focus of the community (TR-8, 1981).

5.56 The SCET Plans for Riyadh noted that the difficulty in

implementing service centres lay in the problem of land acquisition and take-up by the responsible public service agencies in order to implement the services required of them, and that this had been one of the main causes for the poor distribution of services around the city (TR-6, I, 1979).

5.57 The dimensional sizes of service centres are shown on Table (5.9).

Table (5.9)

ITEM	NEIGHBOURHOOD CENTRE	COMMUNITY CENTRE	DISTRICT CENTRE
Population served	4,000 to 6,000 (inhab)	20,000 to 30,000 (inhab)	80,000 to 120,000
Radius of Area Served	Less than 500m	500m to 1,000m	1 to 3km
Land Area	8,000 to 14,000 m2	40,000 to 90,000 m2	150,000 to 270,000 m2

Source: Technical Report 9 I, 1981

Projected Needs of Services Derived From the Planning Standards:

5.58 The total number of service centres needed for the Plan's erroneous population forecast of 1,600,000 in 1990 is indicated in Table (5.10).

Table (5.10)

Service Centres required in 1990

Centre Category	Number	Land Area (Hectares)
Neighbourhood	78	287
Community	37	248
Total	128	749

Source: Technical Report 8, 1981

5.59 The total need in 1990 of new services such as mosques, schools, health, post offices, police and fire protection was projected by the Master Plan by evaluating the then existing conditions and identity deficiencies according to the "Planning Standards" proposed in Technical Report 9I.

5.60 Although this problem of land ownership was realised earlyin the SCET Master Plan, attempts to overcome the obstacle have never been pursued by the planning agencies, allowing the situation of shortages and uneven distribution of services to continue to date.

5.61 This problem is also currently faced in the fully built and older parts of the city, exacerbated by a number of factors:

- The scarcity of open space areas, as it is necessary to demolish buildings to create a space.

- The very high cost of acquiring land being not acceptable

to the Ministry of Finance.

- Not applying expropriation procedures for facilities other than what is indicated in the municipality programme. For the newly developed areas of the city, the vacant lands designated for services are still available, of course, but public service agencies are lagging behind in implementing the required services.

5.62 The current subdivision regulations require that a maximum 33% of total subdivided land area must be reserved for public services, including streets. Under the current procedures the municipality identifies all public facilities required for each subdivision and locates them on the subdivision plan. Then the municipality assigns the reserved land to the concerned Ministry or agency to implement the designated facility.

5.63 There are a majority of cases in Riyadh where the percentage of land reserved for public services is in fact higher than the 33% maximum, as the following examples show (TR-9, II, 1981):

Lot No. 1	Area (in m2)	Percentage
Total Land area	3,080,000	100.00%
Residential Lots	1,433,000	46.50%
Public-Right-of-Way	1,160,000	37.70%
Pedestrian alleys	39,000	1.30%
Public facilities	448,000	14.50%
Total Right-of-Way (R-O-W) and facilities		53.50%

Lot No. 2	Area (in m2)	Percentage
Total Land area (includes half of it of peripheral roads)	158,000	100.00%
Residential Lots	92,770	58.70%
Public R-O-W	56,100	35.50%
Public facilities	9,150	5.80%
Total Right-of-Way (R-O-W) and facilities		41.30%

Lot No. 3	Area (in m2)	Percentage
Total Land area	388,500	100.00%
Residential Lots	247,500	63.70%
Public Right-of-Way	99,000	25.50%
Pedestrian access	7,000	1.80%
Public facilities	35,000	6.00%
Total Right-of-Way (R-O-W) and facilites		33.30%

Source: TR-9, II, 1981.

In the investigation of reasons for the existence of this inconsistent situation in the Municipality, the response was that the rules for the percentage of land for public services were loosely applied, and that the previous departmental personnel dealing with subdivisions were corrupt.

5.64 These high percentages still exist in large areas of the city. But the problem here is that a high percentage of subdivisions are taken by the Public Right of Way uses, at the expense of other essential services such as schools, green areas and so on. As the current subdivisions in the Kingdom follow a grid system pattern known as the "current design", this system consumes large areas of land for streets. The other alternative system is the "curvilinear" design type of subdivision, which requires 17.6% fewer streets and 10% less intersections than the "current" grid system design.

FREEWAYS AND ROADS

5.65 Motorisation has increased extremely and become a dominant factor in the Kingdom, where the rate of car ownership per person is one of the highest in the world today at approximately one car per three persons. The Saudi Traffic Department stated that there were 5 million cars in the Kingdom in 1992 when the official population was 16 millions. As the population of cities and towns has increased, traffice problems such as congestion, a high rate of road accidents and accessibility became serious, and will worsen in the near future if current and expected future problems are not remedied.

5.66 A 1977 traffic survey for Riyadh compared with previous years showed the number of cars and daily trips to have increased by factors of 5 and 4 respectively, these increases caused by the following mobility rate factors (TR-8, 1981):

- The main city functions are scattered throughout the city.

- The time intervals of working hours, shops closing at prayer times, and two work shifts of morning to noon and late afternoon to evening.

- The structure of family and affinity groups in the city which requires visits most likely by automobile.

Also by the following motorisation rate factors:

- The government policy of not discouraging wide car ownership.

- The importance of the private car as a status symbol for Saudi individuals.

- Lack of entertainment which makes car driving around the city a substitute for some people.

- The society's negative look toward using a mass transit network.

5.67 Also, there was a traffic survey conducted in 1977 to get a clear picture of traffic movement in Riyadh and of the problems associated with it in the ten years prior to that date. The following problems were observed:

1. Congested city centre.
2. Parking space shortage in the city centre.
3. Movement from one area of the city to another was difficult.
4. Absence of adequate public transportation system.
5. Trucks with loads exceeding the maximum permitted which damaged asphalt on main streets.
6. Persistent digging of streets for laying down of

underground utility services.

Solutions proposed by the plan are:

1. Initiation of a broad traffic management programme.
2. Prior planning of roads before an area is developed.
3. Formulate a public transportation policy.
4. To enforce trucking loads regulations.
5. Build parking facilities in the city centre.

While currently all these suggested remedies were carried out, a comprehensive traffic management programme is not yet formalised. Beside, some other more problems have risen since then. Now the main traffic problems is the traffic congestions in some city areas that make movement difficult from one part of the city to another. And the heavily jammed freeways that has reached currently its maximum capacity.

5.68 In projecting traffic flow in the city until the year 1990, assumptions of population and jobs and of mobility and trips per day per person were made by the (SCET) Master Plan, as Tables (5.11) (5.12) and (5.13) show.

Table (5.11): Assumptions on increase in population and jobs.

ITEM	1977	1990	% INCREASE
Population	620,000	1,600,000	+158%
Jobs	182,000	467,000	+156%

Table (5.12): Hypothesis of Mobility: number of trips per adult.

TRIPS PER PERSON	1977	1990
Home - Work	0.72	0.80
Other Purposes	1.00	1.40

Table (5.13): Trips per day.

PURPOSE OF TRIP	1977	1990	% INCREASE
Home - Work	447,840	1,280,000	186%
Other Purposes	622,000	2,240,000	260%
Total	1,069,840	3,520,000	229%

5.69 The following are the freeway and roads problems:

1. The main east-west city freeway (Al Kaleej Road) since its opening more than ten years ago has been used above its intended maximum capacity of cars. It is the only access east-west of the city that has free car movement, especially between the densely populated east section of the city and the main government and commercial concentrations north of the city centre, where almost all government ministries and main finance and business headddquarters are located. There is full auto movement most of the 24 hours day, and the freeway becomes extremely jammed during peak hours or of occurrences of minor accidents on it, when traffic almost stops.

2. The north-south city freeway (King Fahad Road) was opened in 1991, but it reached its maximum car capacity per day in its second year of opening. It cuts the city in its

middle, and carried traffic movement between the south, centre and north sections of the city, collecting traffic from the east-west freeway and from the Ring Road southward and northward. This freeway is heavily used by city commuters and by people going and coming from northern regions of the Kingdom. Also it is a main artery road connecting the main city functions located at and around the centre to the heavily populated areas north of the city.

3. The Ring Road freeway encircles the city through the city's outer edges. The number of autos using this freeway is less than for the previous two freeways, but with the city's future growth a higher number of users for this freeway are expected. The Ring Road idea was introduced after the SCET Plan. Most areas where the Ring Road passes through were already develped, which caused the road to take a costly rerouting, disturbing existing land use and creating a sharp division of existing large residential communities, especially in its eastern section. There is heavy traffic congestion on roads intersecting the freeway east-west, where there are traffic signals at every intersection.

4. The other major traffic problem is movement through artery and collector roads within the city. Trafic through these roads is usually heavy, especially around traffic signals as almost all are not programmed to allow

continuous smooth auto circulation.

5. Another problem is the high number of auto accidents nation wide, and the high mortality rate resulting from these accidents which can be considered as one of the highest in the world. The only remedy for this problem is the strict enforcement of traffic laws.

OPEN SPACE AND RECREATION AREAS

5.70 Open space and recreation areas includes public gardens and children's playground. The SCET Plan recognised early (1979) that designated open space lands play an important role in creating a better, healthier city environment, and that it is particularly essential to have clean city air. This is particularly critical for Riyadh, where the ratio of gren space to built up area is very low. Urban population growth has resulted in an increase of cars, traffic flow and fume emissions that have seriously damaging consequences for the ecological equilibrium of the city (TR-6, Vol. III, 1979). But no serious attempt has been made to fulfil open space needs by the city planning authority.

5.71 Although the SCET Plan proposed the following open space recreation projects for Riyadh and its vicinity, none have been implemented as of now:

- Dirab Park: 30 km south west of the city.

- Camel Race Park: East of the new airport. To add to its existing camel track, a horse and automobile tract and other similar activities. None of these additions have been made yet.
- Jabal Tawaiq Recreation Park.
- The Amaniyah and Jubailah: Valleys north west of Riyadh.
- Green Belt: A green belt around the city is proposed by transforming Wadi Hanifa Valley (west) to metropolitan park system, with a green belt that will continue to Wadi Ass Sulyy east through the agicultural lands south of the city.
- Also the plan proposed creating a city park system of 400 hectares, to be designed, built and operated by the city municipality. These proposed parks are: Saih Park (80 hects), Palace Garden of King Saud (20 hects), Al Aqiq region (20 hects), Old Airport Area (140 hects) of green area, other parks in the city existing or to be established (140 hects) (TR-8, 1981).

5.72 The Revised Master Plan stated policy objectives relating to open space as follows:

- To provide suitable facilities in accessible areas to be used for Riyadh residents during their free time.
- Create a hierarchy of recreation services from neighbourhood open space to metropolitan park.
- Connect sports to metropolitan facilities.
- To develop a green belt along the Wadi Honifa, Wadi

Mokhan and As-Sulayay as a recreation/agriculture area.

- For a regional park structure, lands should be reserved in the outskirts of the city.
- Encourage new planning projects and a nursery that would be less water consuming.

5.73 Table (5.14) shows the standards and projected needs for open space by the Revised Master Plan. Figure (5.6) shows existing and proposed green areas by the Plan.

Standards proposed by the Master Plan for city needs per person:

Green Belt	: 7.5 m2/inhab.
City Park	: 2.5 m2/inhab.
Picnic Areas	: 2.0 m2/inhab.
District Park	: 1.25 m2/inhab.
Community Squares	: 1.0 m2/inhab.
Neighbourhood Playgrounds	: 0.4 m2/inhab.

Table (5.14): Existing and proposed open space needs.

FACILITY	EXISTING 1980	INCREMENT 1980-85	INCREMENT 1985-90	TOTAL 1990
Green Belt	-	300	900	1,200
City Parks	2	238	160	400
Picnic Areas	-	200	120	320
District Parks	4	46	150	200
Community Squares	2	78	80	160
Playgrounds	1	29	50	80
Total	9	891	1,460	2,360

Source: TR 8 (SCET)

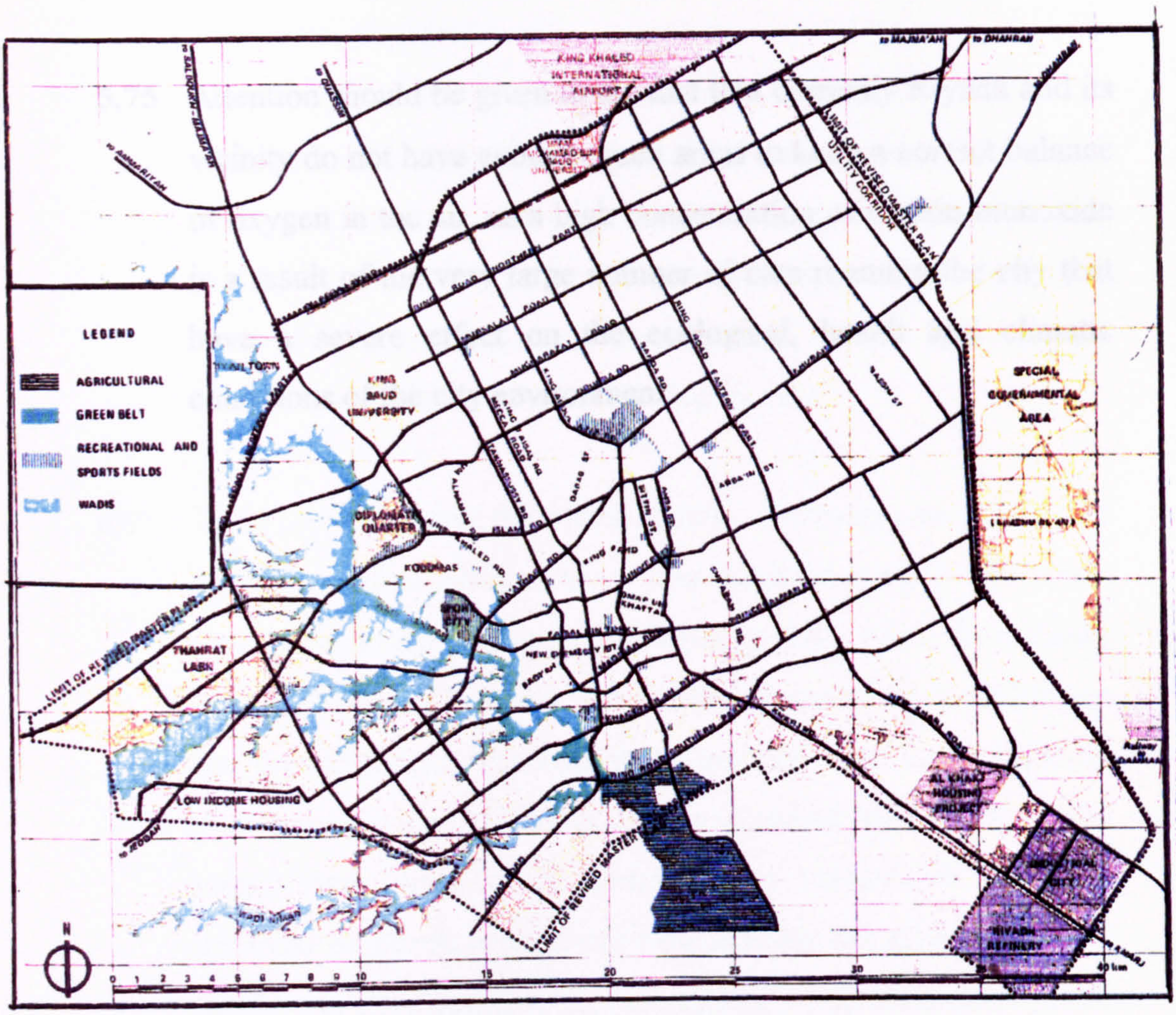


Figure 5.6 : Existing and proposed Sport and Recreation areas.

Source: Tech Rep. No.8, 1981

5.74 Also, the re-use of the existing old airport land for a proposed central park, trade fair and sports facilities was projected as a future open space area (TR8, SCET, 1982).

5.75 Attention should be given to the fact that currently Riyadh and its vicinity do not have enough green areas to keep a correct balance of oxygen in the air, as a high concentration of carbon monoxide is a result of the very large number of cars roaming the city that have a severe effect on the ecological, health and climatic conditions of the city environment.

CHAPTER SIX
URBAN LAND DEVELOPMENT

INTRODUCTION

6.01 As land is the essential raw material for the urban development process, it is necessarily important to introduce land in its urban role in the Saudi context. This chapter approaches land as a component in the planning process and not as an economic commodity, which is covered in Chapter One.

6.02 This chapter discuss the forms of land ownership, the limits and rights that Saudi citizens have over lands in general and urban ones in particular, and over its development. Also, the existing laws and rules of land use and ownership extracted from Islamic law are described, although these are not very much different from known rules of urban land use world wide. Then the chapter will look at the existence of undesirable common practices of development, and will explain the effect of Saudi planning in development. In conclusion, it will look at what are the perceived weaknesses of development control in the Kingdom.

CITIZEN RIGHTS OF LAND OWNERSHIP

6.03 Seizing land and laying claim to it outside the main cities was freely practised by a few hundred shrewd Saudis in the late 1960s

and early 1970s. But this was halted after the oil and the economic boom of the mid 1970s, as land prices skyrocketed due to high demand and speculation.

6.04 Before the most rapid era of oil production and urban growth, land ownership was distinguished by three types:

1 - Privately owned: A widespread form of private ownership (Molk) in the original city, village and agricultural areas around. A number of these properties were endowments (Wagf) operated by religious institutions, being properties decided by the owner to be used for charities.

2 - Areas beyond the privately owned areas: these were collectively owned, and mainly used for non-permanent agriculture purposes.

3 - All lands beyond these privately owned areas were considered "dead land" according to Islamic Law, and no ownership was attached to it. These areas were shared by numerous bedouin tribes in their neighbourhood. In 1924, King Abdul Aziz revoked all tribal rights of land, and land that was not privately owned came under the King's jurisdiction; therefore the Government still today is the sole owner of any land not claimed by private ownership.

Existing Land Ownership:

6.05 Currently, land ownership in Saudi Arabia is acquired in two ways: direct or indirect (TR 10, 1981).

6.06 The majority of the presently urbanised land in indirect ownership was acquired through the following steps:

- A royal grant of very large land within the urban boundary would be given to an individual.

- If the grantee decides to sell the land in whole or part, he in most cases will contact a real estate agent. The real estate broker if he can afford the price will buy the land; if he cannot, he will invite individuals who are interested in a joint-stock (Musahamah) company to take shares in it. Share selling will stop when the total required price for the land is reached; the real estate agent will collect 2.5 to 5% over share price as a commission. When the land is acquired the agent will submit a subdivision request to the city Municipality or to MOMRA, depending on city size. After getting the land subdivided, the agent will start auctioning the subdivision plots to be sold in one or more locations. These auction prices will usually be higher than the market value, so as to give the share holders the sense that they have won a high profit.

6.07 After the total of parcels are sold each shareholder gets his return and share. The real estate agent again gets 2.5% to 5% of profit on each sale. The purchaser of any parcel of this land will get an ownership deed from the Justice Office (Kateb Al Adel) and he becomes the sole owner; he can develop the land, keep it undeveloped, or sell it.

6.08 To give an example of how this long procedure of transferring land ownership has contributed to land speculation, in some instances land sold by grantee of between SR0.5 to SR2.00 per sq.m., has been sold for SR200/m^2 a few years later. Such sharp price differences occurred during the late 1970s, but in the 1990s the increase will be just about twice the original price, or less.

6.09 Land indirect ownership may be granted directly to a citizen or agency for private home construction, commercial or industrial uses.

6.10 The procedure to get land grant for private homes is simple. The applicant will submit to the Royal Cabinet a grant request letter, and if he meets the conditions of not owning a home, living in the same city where he requires land and that he has never got a grant before, he will be granted 30m x 30m or a 900 m^2 land parcel. The letter of grant will be sent to the Municipality via MOMRA. The Municipality, after locating land, will send the grantee to the Justice Office (Kateb Al Adel) who will issue an ownership title to the grantee (TR10, 1981).

6.11 For a land grant for commercial or industrial use, a request is submitted to the Royal Cabinet explaining the type of project proposed. The land will be granted for a specific type of plant or commercial complex. This grant is commonly made with the condition that the proposed development must commence within two years. The commercial area north of the city centre was developed by this way, but this type of grant process is not offered now. The investors specially for commercial building must purchase the land on the market, but some Royal grants might be located in a commercial area. For industrial projects, investors can lease government land at a very cheap yearly rate.

6.12 Most public agencies currently own vacant or developed lands which were acquired by Royal grants (TR10). But some agencies currently possess lands which were expropriated from private owners. The ability of a public agency to expropriate privately owned land is critical to public service project implementation.

6.13 Based on the Royal decree No.65 of 1972 "land shall be expropriated for public use and decree of the concerned Minister or Chief of the independent department, provided that the said order is enclosed with a plan of the project for which expropriation is proposed and a statement about the total amount of land to be expropriated, their boundaries and location". Compensation for the expropriated land is based on the date of the published Decree in the paper.

6.14 The land expropriation procedure follows the subsequent steps as regulated by Royal Decree No.65 (TR10, 1981):

- The land to be expropriated must be for public use, and to be declared in the official newspaper, indicating the project, the size, boundaries and the location of the property to be acquired. The date of the newspaper declaration is the date for the estimated value of the land. The owner should submit his claims within thirty days after the notice.

- A compensation committee will be formed of two juries, the owner or his representative, Ministry of Finance, the Municipality, Authority acquiring the land, aided by two experts. The committee will prepare two reports; one will comprise a physical description of the land to be acquired including property rights, and all objections, and the second report will indicate the compensation value. In determining compensation value, the committee shall take into account not only the value of the land on the date of posted notification, but also rent and sale documents of adjacent properties for the two years prior to this date. The committee also shall take into consideration the appreciation and depreciation of the remaining, the value of any building or any part of it demolished, and the cost of repairing the remainder of the expropriated land. If the remaining part of the land or building cannot be used

properly the area should be acquired with due compensation to the owner.

- The next step of the committee will be to issue a decree explaining in detail the properties to be expropriated, the amount of compensation to be paid for each property, and the name of one or more of the owners. A copy is sent to the land acquiring authority and to the owner, who should surrender his ownership within 20 days.

- If the owner objects to the committee's compensation he must file his objection within thirty days of the notification date. The committee's decision is final, and an objection does not stop the expropriation procedure or delay handing over the acquired property to the acquiring authority. His objection is reviewed by the committee which has the right to change the amount of compensation.

TRADITIONAL RIGHTS OF DEVELOPMENT

6.15 There are no tribal or feudal exclusive rights to develop or not to develop a plot of land. In other words, there is no group of people in the society that has special development privileges per se; every owner can develop his or her own land according to development regulations.

6.16 Currently in Saudi Arabia a plot owner in a subdivided urban area

has the right to develop his land according to its designated use. A development request usually will be granted. He has to bear the consequences if he develops in a subdivided area away from built communities, such as the lack of utility services. Among measures of preventing development rights that could be applied by planning authorities is for the government to acquire land from the seller by buying it for its own, to prevent land transactions on it, and therefore to stop possible development on that area. But this measure has been used by the government on very rare occasions. Also, the authority can refuse a subdivision to prevent a development right in an area. The control of development is usually conducted through the issuance of building permits. A proposed development ought to conform to designated land use and zoning regulations, such as setbacks, height, density, type of building use, and so on. The Municipality controls development by enforcing conditions of providing the building permit. This system of building permits is used to particularly ensure conformity of construction with zoning regulations, rather than to prevent construction in areas where development is not wanted. The Municipality could refuse to provide a permit for any specific area which it deemed unfit for development, as for example when an Action Area Plan is under preparation for some part of the city (MOMRA, TR10, 1981).

THE SHARIA'A AND DEVELOPMENT

6.17 Islamic law recognises the following form of real estate ownership (Schacht, 1986):

1 - Things in which there is no ownership; that are not under an individual's control, or which are public property such as roads, big rivers, water and so on. This is not different from laws world wide that treat public property ownership in a similar way.

2 - Wagf: Pious foundation, mortmain, which is a property put for Wagf by its founder or owner. This type of property is not saleable and not transferable, except for its revenue which is distributed for charities and other goodwill intentions defined by its original owner; its ownership does not change, and the inheritants will only inherit its return as specified by the inheritor. Some call Wagf the ownership of Allah (God). Most Wagfs are usually buildings, farms, or arable land with potential revenue. The essential feature of it is the performance of its purpose, which may be anything not contradictory with the tenets of Islam. Provisions laid down by its founder have the force of law. This type of ownership is a very small percentage of the developed area and probably none at all in the undeveloped area. Most Wagf are supposed to have a continuous return to be spent which undeveloped urban land does not

provide. Besides, most Wagf property is now concentrated in the old central areas of cities. In outer and new areas of cities, the common practice of Wagf (which is very little) is through building mosques or buying existings buildings to use their returns for charities. So this exercise of ownership has very little influence on the urban growth process.

3 - The pledge, pawn (Rahn): In this form, possession is taken but ownership is not transformed; transfer of ownership takes place only under certain conditions as an effect of the contract. This is much practiced by banks or individuals to hold a pledge, be it land, a car or any property as a guarantee of paying a debt later on. The government's Real Estate Development Fund has a pledge on all properties that receive loans from the Fund. Similar laws are common in the western and some other parts of the world.

4 - Ownership and possession: is ownership with the right to full and exclusive disposal of a thing, being called Molk. This gives absolute ownership, but not for the owner to do absolutely what he wishes to. An urban land owner has to go through urban laws and regulations.

5 - Grabbing or acquisitive prescription: this is not recognised as such, but its effects are achieved by the procedural rule

that no claim of ownership in land against the possessor can be entertained until after a number of years has passed since this claim has been made (30, 33 or 36 years are some times stated). This process of ownership is a very rare occurrence in Saudi Arabia nowadays. This approach of ownership is considered illegal now in Saudi Arabia, and is named by planning agencies as E'ateda, which literally means 'aggressive taking'.

6 - (Ihiya): A form of ownership for unowned land takes place if a person develops (Ahiya) "dead" or "undeveloped" land. This mostly applies with farming land. Possession will represent full ownership of such land as long as a farmer continues to farm it (Ihiya) for a continuous three years. This form of ownership is not directly permitted nowadays, but has to go through the Ministry of Agriculture who distribute agricultural lands and provide full ownership for a grantee if continuously farmed for five years. The land ownership is only applied to rural agricultural lands, not to urban lands.

6.18 Small water courses and canals are the joint property of the owners of the adjoining land, but everyone has the right to use the waters, although they must not trespass on the land without the owner's permission.

6.19 Islamic law of real estate shows minor differences from the

general law of property. The theory of Islamic law has developed only a few elements of the special law of real estate.

DEVELOPMENT CONTROL AND ITS PROCEDURES

Development Control

6.20 The procedure that will be taken if a land owner decides to develop his land will be as follows:

* Land owner will submit a written statement, requesting building permit to head of Municipality or sub-Municipality if in Riyadh or Jeddah, where there are sub-Municipalities. A copy of the land ownership deed should be attached with the original to confirm the copy.

* A sub-Municipality surveyor will be despatched to the proposed location. He will survey the area to make sure that it matches the ownership title with regard to its dimensions and relation to adjacent properties and streets.

* After the surveyor finishes the above site inspection, he records all required information and turns it to the responsible section at the Municipality or sub-Municipality. The permit request will be checked according to the rules and regulations. If it meets the preliminary requirements, the applicant will be asked to

submit a minimum of four plan sheets or more depending on project size, each sheet illustrating the following:

- A site plan for the proposed development drawn to scale, showing its relation to adjacent areas.

- Detailed plans to scale of the proposed buildings showing ground, other floors and parking area.

- Typical cross-section plan to the same previous scale, showing the height of each floor level and dimensions.

- Main and other streets side elevation.

* After these drawings are checked by a Municipality official who will look into the conformity of the drawings to zoning regulations and building codes. If these preliminary drawings are accepted, the applicant will be asked to provide fully detailed plans of the project, which will be checked by a Municipality architect and an engineer.

* If there are no modifications to the drawings, the plan will be forwarded to the chief engineer for approval, then to the Deputy Mayor or head of the sub-Municipality for final approval, where the applicant will be issued with a building permit called locally (Fash Bina) valid for a

renewable three years, stating on it the general regulations to be followed. The current building regulations apply to lot coverage, set backs (front, sides and back), height (number of floors, with 3m maximum for each floor), and inside parking areas.

Municipality Role in Land Development

6.21 The Municipality has no control over building quality or specifications, and sewerage connection to the main system. The Municipality has the authority to demolish illegal constructions. However, conformity to the plan is never checked, and occupancy certificates are never issued upon building completion. There are no rules governing the following: side and back space related to height and use of building, building height relative to street width, materials and colour of the building, orientations, courtyard space relative to building height, extensions and alignments. The absence of these rules has produced often monotonous blocks of repetitive building and low quality outlook (TR14, 1981).

6.22 The Riyadh Municipal administration is divided into 21 sub-Municipalities under the authority of the main Municipality (Al Amanah). Currently 17 are functioning,the other 4 are for remote undeveloped administrative parts of the city. These sub-Municipalities were established mainly to assist the main Municipality in day to day municipal affairs, as municipal

responsibilities are various, not just issuing building permits but covering licensing all kinds of commercial industrial activity and services. Also, municipal duties include constant watch over all kinds of food processing and sales.

6.23 The authority delegated to these sub-Municipalities by the main Municipality is varied. There are currently two sub-Municipalities who are authorised independently to grant permits for flats, shops or buildings with less than two floors; these are the Al Oraiga and Al Roudah sub-Municipalities. A building with more than two storeys, gas stations and other large scale projects are only permitted through the main Municipality with the sub-Municipality only conducting the preliminary survey. Al Olaya and Umm Al Hamam are authorised to issue independently a villa permit. The rest of the sub-Municipalities have limited authority on permit approvals, but they have the authority to watch that the conformity to rules and regulations is continuous. However, the shortage of staff makes this authority inefficiently performed.

ROLE OF PRIVATE DEVELOPER

6.24 Around 99% of development in Riyadh as well as in other of the Kingdom's urban areas is developed by the private sector, individuals and a very few development companies. In the Saudi urban development arena there is no dominant large real estate developing company. In Riyadh there is the Akaria Real Estate

development company that has built two shopping centres and one residential complex, which was one of its last projects that was built more than fifteen years ago. Therefore, as this was the largest or the only real estate development company, its share in the city's residential and commercial development has been little, as it has not done any major development project for a long time.

6.25 The dominant and effectively the sole private developer of residential and commercial development in Riyadh and other urban areas, is the individual citizen. It will be explained later how development contracts are conducted, which will reveal how it is very easy technically for any citizen to execute development without having an established real estate development entity of his own.

6.26 The great majority of house and commercial buildings are built by individual prospective owners. For houses, most are built by the individuals who intend to occupy them. Very few build homes for the purpose of selling them. Individual citizens also built flat and shops buildings for the main purpose of renting them. The growth of this type of commercial building is constrained by market demand for flats and shops. The same thing can be said for industrial development, which is totally developed by the private sector. Currently, it can be concluded that most urban developments are carried out by the private sector.

COMMON PRACTICE OF DEVELOPMENT

6.27 We define common here as the practice that is overlooked by or ignores existing rules, or the exercise of an act for which there is no governing rule.

6.28 It is common to find a permitted sub-division to have less than the minimum 33% of its area required for public services and rights of way. Usually the subdivision owners will try all means to maximise land plots for sale at the expense of streets and public services of that subdivided area. Sometimes 50% or more of a subdivision area might be designated for public services and rights of way. The subdivision owner would not have the ability or the influence to do otherwise, so he will agree to yield a large portion of his subdivision, in order that his permission request may proceed. However, many of these lands designated for public services such as a school or a garden end up being granted by the municipality to individuals, who will use them for private houses in the most cases.

6.29 There is no way that a Municipality official will deny a development permit if it is totally in conformity to rules and regulations. But it is common that a building permit is violated and sometimes ignored by Municipal officials or a field inspector, as an interest might exist.

6.30 Planning development regulations are sometimes strictly enforced

in one development, but not in another. Disregard by municipality officials will occur, as some building codes allow, such as where a development will satisfy all setback rules but the building will end up covering more than the maximum 50% or 60% of built lot area.

6.31 In previous years, especially during the late 1970s, a number of two storey apartment buildings were permitted to be erected in the middle of mainly single family house designated areas, in Riyadh and in other urban areas. Also during the same period, a large number of buildings of more than two floors were permitted within areas designated for two floor single family houses. These two types of development were supposed not to take place, according to the rules and regulations.

6.32 After a land owner gets his permit for development on his land, either for his private house or for investment, flats, a shop complex, and so on, he can immediately commence construction. Usually, constructing development is simple. It is supervised and managed by the owner from beginning to end. Its simplicity arises from the abundance of skilled and semi skilled labour in the market, and the absence of building codes or of their enforcement. The owner in most cases is the contractor.

Types of Development Contract

6.33 In Saudi Arabia, there are three types of development

construction:

1 - A contract for total construction of developments, called locally "Tasleem Muftah" which means a "Turn Key" form of contract. In this type, a developer will award the contractor a full building contract.

2 - Partial contracts are where a developer will give a contract for all labour work of the project, while the owner delivers all building materials on a contract agreement based on building phases and payments. This is known locally as "Massna'aya".. This way of development usually is less costly than the first one to the owner.

3 - The third development approach is a piece-by-piece contract, which is the most widely used form of contract. A land owner will follow these steps to construct his development:

- First, the owner will start with laying down the concrete structure of a building by awarding that work to one contractor, with separate electrical and plumber contractors.
- After the building structure is complete, a contractor will take plastering, another will take painting, and a separate one will be awarded for each of aluminium and wood work, tiles, and so on. This method of development is very popular in the Kingdom as it is less costly than the previous two forms. And there is less burden of payment

on the owner as he can start building stages depending on his budget.

6.34 This general easiness in carrying out development has contributed tremendously to the increased rate of growth of Saudi urban areas.

EFFECT OF PLANNING IN DEVELOPMENT

6.35 Development planning is mostly defined as a method for allocating resources among competing demands, within an acceptable framework. This means that planners must work within continuous narrow channels, since resources are limited and constantly less than demands. A widespread mistake in planning development in wealthy countries such as Saudi Arabia has been to think that apparent continuous resources made trade-offs unwarranted. But previous and current urban development in the country's urban areas reflected otherwise. Obstacles such as scarcity of human and natural resources can be fulfilled. Trade-offs cannot be measured in financial terms only but must be done in social and human costs as well (MOMRA, TR8, 1981).

6.36 The universal character of urban land problems is that they get worse as city populations grow, unless correct steps are taken by introducing effective land policies.

6.37 The (SCET) Plan defined urban land development policy as "the

set of guiding principles and statements through which public authority in charge of development organises, controls and regulates land development activities, including acquisition, sub-division, improvement and construction". Land planning policies of most countries have aimed to reach one or more of five goals (TR 10, 1981):

1 - Direct the (use) of land for the best advantage of the community via a Master Plan.

2 - Stop the (misuse) of land so that it will not harm the community by taking measures against unwanted development.

3 - Cease the (abuse) of land such as preventing useless sub-division.

4 - Regulate the (non-use) or (dis-use) of land by such means as levying taxes over undeveloped land.

5 - Guide the (re-use) of land through means such as urban regeneration.

6.38 Saudi Arabia has achieved partially the first one and the last objectives, not fully, but to limited degree.

6.39 Planning in Saudi Arabia has effected land development via two

types of tools which are traditionally applied by authorities to control land development. These are restrictive and incentive methods.

Restrictive Methods

6.40 The restrictive method is supposed to put limitations on development which is not coherent nor with clear objectives. This is done through land use, sub-division, zoning, construction and acquisitions.

6.41 Land sub-division: All land sub-division requests are reviewed and approved by the Municipality. But, since the Master Plan does not contain the boundary of the metropolitan area where those subdivisions took place, the Municipality does not have a legal basis for preventing subdivision in those areas. Eventually, the Municipality approves all subdivisions, provided the property ownership is well established and the subdivision plan conforms to requirements. Because the amount of subdivided land surpasses the need, it seems too late to put restrictions on this process (TR10, 1981) even after the introduction of Urban Boundary Limit in 1987.

6.42 Zoning: The existing zoning regulation is based on a zoning plan that is divided into zoning districts, whose location, size and shape reflect the main land use put in the Master Plan. For each district there are definite regulations to be observed with respect

to a building's maximum height, its front, side and rear set backs, floor ratio and so on. In (SCET) Technical Report 9, 21 districts were categorised and for each district the above zoning regulations were put down.

6.43 Control of building construction: This is usually performed through the issuance of building permits. The proposed development is required to conform to land use, zoning and building regulations. The Riyadh Municipality controls construction by means of building permits which are used mainly to ensure conformity of construction with zoning regulations, rather than with preventing building on an area where development is not desired (MOMRA, TR10, 1981).

Incentive Methods

6.44 Incentives can influence market trends to make them compatible with policy objectives. Such tools include subsidies, real estate government loans and direct government land acquisition. In Riyadh, as in other of the Kingdom's urban areas, the Government has not laid down a method to implement a defined land development policy. On the contrary, the government has held no control of the land it has granted and no conditions have been put upon the use of granted land (MOMRA, TR10, 1981).

6.45 The national Real Estate Fund Loan has indirectly enhanced urban growth. But there is no evidence that there has been an

attempt to coordinate these loan offerings with national land planning policies.

6.46 Roberts (1979) indicated that one of the problems which rapid urban development in Saudi Arabia is having to tackle is the inadequacy of urban planning laws, so as to stop the worst excess of speculation. Land ownership and investment in land are held in the traditional Sharia'a laws, which have been in practice a very long time. In the rapid urban change visible in cities, land development often takes place a lot faster than the law can be implemented to control it. Therefore there is a need to develop more direct and timely planning laws in the future which are better suited to rapid urban growth (Roberts, 1979).

6.47 The fact of the matter is that it is not the Sharia'a laws that have prevented the formulation and implementation of a sound land development policy, as has been stated earlier, but the lack of will on the part of planning authorities to introduce such policy, be it a land policy or be it a national urban planning policy. Any planning measure for the good of Saudi society will have no conflict with the Sharia'a laws.

6.48 Saudi Arabia is the only country in the Middle East to state the need for policies to be established to create focal points in cities with an architecture of cultural and Islamic qualities. These community centres have been meant to act as an example of urban and architectural values, to be reflected in due course of

time in private buildings (Roberts, 1979). These centres are the proposed service centres of the (SCET) plans which have not been implemented properly, as mentioned in the previous chapter and as will be explained again in Chapter Eight.

THE PERCEIVED CONTRADICTIONS OF CONTROL

6.49 Summarising the main contradictions of control that have faced land development (TR 8, 1981):

- There are no sufficiently developed legal mechanisms to enable government to correct and control land development by the private sectors. So government has been unable to make land available in areas where development should occur.

- Condemnation, preemption, and bans on local transactions are either highly restricted or non-existent. Land can be acquired only for public rights of way.

- The very slow rate of providing utilities gives a scarcity value to serviced land. This in turn subsidises the owners of land within fully services areas.

- Land banking by owners who abstain from development waiting for a rise in land value, which results in speculation.

- During the study period (1977-1992), there was an enormous issue of sub-division permits in remote areas without MOMRA or the Municipality being able to legally refuse such permits.

- The Municipality Permit Department uses an awkward street-by-street zoning system, instead of having detailed zoning regulations for the entire city.

- Zoning regulation compliance cannot be confirmed due to lack of qualified personnel.

- The Doxiadis and (SCET) proposed regulations do not provide visual privacy, especially in residential areas. Interfaces of different types of land use are ignored.

- Riyadh and other of the Kingdom's urban areas have no adequate building code; standards from different countries are applied depending on the consultant.

- The absence of a well organised structure to decide how the planning task can be broken down, and who will handle what part.

- Lack of planning procedure to set priorities to determine the allocation of resources.

- The absence of feedback information as to the progress of planning proposals so that rigorous planning decisions can be made.

- There is no single agency to coordinate all development activities in the city. Each agency tends to follow its own objective, without full consideration of the programme as a whole.

CHAPTER SEVEN
RESEARCH METHODOLOGY FOR THE CASE STUDY

INTRODUCTION

7.01 This chapter covers the methodological approach taken to carry out this research study, whose hypothesis has been that the methods of controlling urban developments in Saudi Arabia - and in Riyadh specifically - have not been effective in producing development which was consistent with development plans.

CRITERIA

7.02 The criteria by which the hypothesis can be disproved are:

(i) That development has been consistent with the Master Plan.

(ii) That existing development and public services are efficient and desirable.

7.03 The inconsistency of development can be measured by the way, for instance, in which an area designated as a public garden by the Master Plan were found to be used for a private residential house; alternatively, premature development of an area intended to be reserved for building at a later date would also be regarded as inconsistent development.

7.04 According to these principles, the case study sought to examine existing development in the city of Riyadh to seek data on the extent to which development had been inconsistent with Master Plan objectives. The seven main categories of inconsistency investigated were where:

*I Development inconsistent with the Master Plan's main objectives.

*II There were cases of never implementing Master Plan development proposals.

*III Density had been more than what is allowed by zoning regulations of the Master Plan.

*IV There were cases of no development in areas where the Master Plan intention was that it should occur.

*V Development has occurred on land where no development should have taken place.

*VI The kinds of development activities which existed on a site were different to what the Master Plan had intended.

*VII There were cases of existing city development, utilities and public services which were inconsistent with the Master Plan proposals, objectives, predictions and projections for

the city's needs.

7.05 Deriving from the data obtained, the main questions for the thesis to proceed to answer were:

(i) Where, what and how much of development in the city of Riyadh in the past 20 years or so has been inconsistent with development plans:

(ii) How much has been consistent?

(iii) How are the consistencies and inconsistencies to be explained?

(iv) Did the inconsistencies matter and in what way?

(v) Could planning and allied procedures of controlling development significantly improve the procedures of implementing plans, thereby improving the efficiency and environment of Riyadh?

(vi) Do the deficiencies stem from the development plan itself, the implementing agencies, other variable elements, or from all three factors together?

(vii) Were the development and public utilities and services put by the (SCET) Master Plan desirable?

PROCEDURE FOR DATA COLLECTION

7.06 Data needed for conducting the research were obtained in the following ways:

- The information for the period prior to 1986 was collected from reports prepared by SCET International/SEDES and published by the Ministry of Municipal and Rural Affairs (MOMRA). These reports represented a sequence of 15 reports called the Riyadh Action Master Plan (RAMP), comprising three plans for the city: Master Plan, Execution Plan and Action Area Plan. The Master Plan reports dealt with policies, took a normative approach and provided a long term projection. The Execution Plan was a limited 5 years city plan parallel to the National Economic Plan, which was never implemented. The Action Area Plan was linked to a geographical area of the city going through development, mainly in the city centre and its adjacent localities.

- For the study period post 1986, information was collected from the Higher Committee for the Development of Riyadh (HCFDR) and the Municipality of Riyadh, and from their publications, reports, papers, maps and so on. Also other government agencies' publications were reviewed.

- Directly and indirectly related theoretical literature was

reviewed and studied.

- Informal discussions and interviews were held with government officials involved in the city of Riyadh planning, and in control of its development.

- Site and field study and observation of the City of Riyadh by the researcher.

7.07 The literature reviewed did not reveal any study that had been previously done on selected cases or areas where development was inconsistent with the development plan, at least for Saudi Arabia.

7.08 The survey of inconsistencies of development was a difficult task to perform with precise accuracy. And there were unavoidable difficulties and obstacles in doing such a survey which meant that it had its constraints. The thesis concentrated on criterion (i) in paragraph 7.02, and criterion (ii) can be regarded as being of secondary importance because of the excessive survey that would have been required. The thesis concentrates on surveying the cases of inconsistency rather than those which were consistent, because of the large task of examining the cases of inconsistency in itself. In addition, it was necessary to rely upon government reports and on planning governmental officials in discussing the survey, because in the Kingdom there are no alternative views available as in other countries where universities and public

interest groups are active in analysing government policies.

DATA ANALYSIS

7.09 To analyse the data and information needed to support the hypothesis, the following procedure of identifying inconsistent developments in the city of Riyadh was conducted:

* The future land use map for Riyadh proposed by the SCET Plan was used to identify areas of inconsistent development in the city. This was the only authoritative map that made future proposals for the kinds and location of the various land use activities in Riyadh; development has been guided to date and implemented according to the SCET Plan.

* Each type of proposed use category was identified one by one and plotted on a land use map, and checked by a trip to the particular site where necessary. If the existing use was according to the SCET Plan then it was considered a consistent use, and no record of it was taken. If the development was not according to the SCET Plan, it was considered to be inconsistent, and was recorded and plotted on the map. Although updated land use maps for the city were readily available from the Project Centre of the HCFDR, a number of these had some grave mistakes and misrepresentation of the city's real existing uses.

Although these errors were easy to identify they were collectively extensive, and it was decided that the maps were too unreliable to completely depend on. Besides, the method of producing these maps by computers was inaccurate as it treated single blocks with only two or three developed plots as a fully developed one. In such cases, a reference to the city aerial map of 1989 and site observation gave a more precise indication of existing build up areas.

* A reverse of the above procedure of data analysis was used to located the sites of what seemed to be inconsistent developments. For instance, a light industrial area in the middle of a residential area, or a shanty town within a highly organised residential area. After locating a possibly inconsistent development, its location on the proposed land use map was traced and compared with the proposed use; if it was not consistent, its location was plotted and recorded as an inconsistent development.

* For public utilities, consistency with development plan proposals and with city growth was measured by comparing the city's current utilities distribution network map with the proposed SCET future network layout, in addition to direct site observations. For updated and more accurate identification of the boundary of service networks within the city, it was helpful that water, electricity and

telephone agencies usually have posts in the streets marking where their services are laid out.

* For public services such as post offices, fire stations, open space and so on, inconsistency was measured by comparison of the (SCET) Master Plan proposals and standards with what was existing on the ground, as most of these services were proposed by the (SCET) development plan to be distributed evenly in the city.

* Another method of analysing data was to identify inconsistency through following each of the (SCET) Master Plan proposed goals and objectives, and tracing its degree of achievement and implementation. First all the plan policies and objectives were listed, then policies were identified that were not implemented exclusively, were implemented partially or were contradictory to these policies, all being identified and listed as inconsistent occurrences. Also the same approach was applied to test the consistency of the SCET plan's rules and regulations.

SCOPE OF WORK

7.10 In summary, the research works were conducted within the following approach:

- To compare, analyse and explain the city of Riyadh's urban

growth in terms of the various land use activities during the study period between 1977-1991.

- To identify the quantity, the location and the categorical activity of inconsistent development that has taken place during that period.

- Determine the causes of inconsistencies of development.

- Provide solutions to solve the inconsistency problem.

CHAPTER EIGHT
LAND-USE IN THE CITY OF RIYADH

INTRODUCTION

8.01 The city of Riyadh is the place where the idea of the current Saudi Arabia originated. It is where the late King Abdulaziz initiated the historical mission of uniting all parts of today's Kingdom of Saudi Arabia. This historical reason and others such as the city's strategic geographic location in relation to the rest of the Kingdom, contributed to the city becoming the capital of the country. This capital status has been the major factor that has shaped the city's urban growth to its current development stage. Figure (8.1)

8.02 In fact, all the country's urban centres and towns have had a tremendous urban growth in the last two decades, beginning with the oil-based economic boom of the mid-seventies. Riyadh was chosen as our case study for the reason that it is one of the three major urban concentrations in the Kingdom. The other two major urban areas are firstly Makka-Jeddah on the west coast, where the Muslim holy places are and Jeddah city is the biggest commercial port on the Red Sea, and secondly the complex including Dhahran and Dammam along the east coast of the Arabian Gulf around the oil installations.

8.03 The period of study of Riyadh's growth and planning was selected to be between the years 1977-1991, due to the fact that this period was when development and urban expansion took place

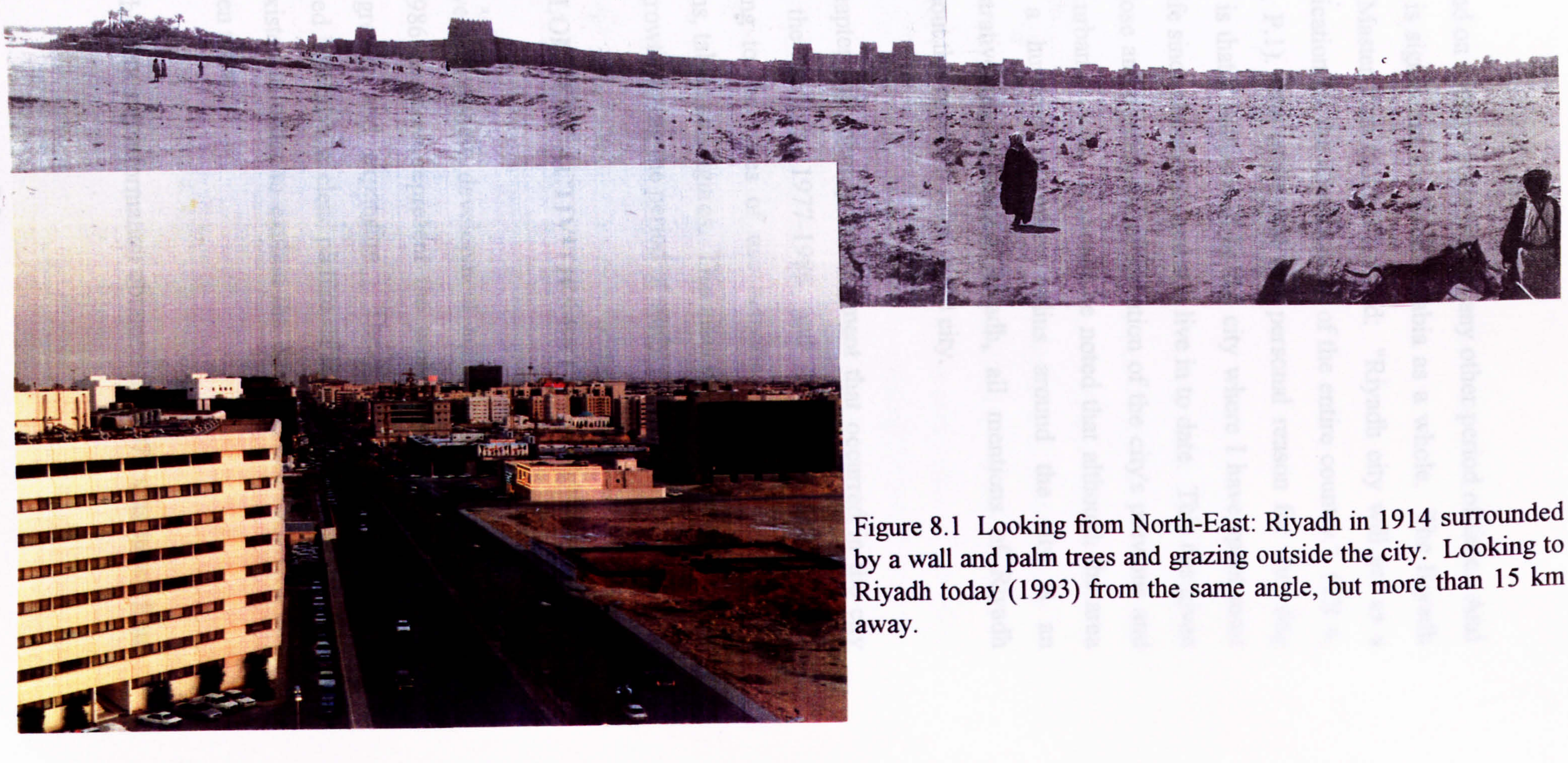


Figure 8.1 Looking from North-East: Riyadh in 1914 surrounded by a wall and palm trees and grazing outside the city. Looking to Riyadh today (1993) from the same angle, but more than 15 km away.

faster and on a larger scale than at any other period of time. And Riyadh is significant for Saudi Arabia as a whole. The Riyadh Action Master Plan (RAMP) stated: "Riyadh city will act as a real indication for the development of the entire country." (TR 6, Vol. II, P.1). An additional and personal reason for choosing Riyadh is that it happens to be the city where I have spent most of my life since childhood, and still live in to date. This has given me a close and continuous observation of the city's previous and current urban growth. It should be noted that although the area within a hundred of miles radius around the city is an administrative region named Riyadh, all mentions of Riyadh throughout this research refer to the city.

8.04 This chapter will identify development that occurred in the city within the periods 1977-1986 and 1986-1991, categorized according to the types of use activities and plotted in maps, diagrams, tables and figures. This aims to give a clear picture of urban growth during the period of study.

DEVELOPMENT ACTIVITIES BETWEEN 1977-1986

8.05 Here we will review development activities between the years 1977-1986 as these represent the preliminary phases of rapid urban growth and expansion. These development activities described here give a clear picture of the kinds of land-use that have existed in order to explain the development sequence that has taken place.

8.06 All of the data and information obtained for 1977 was taken from

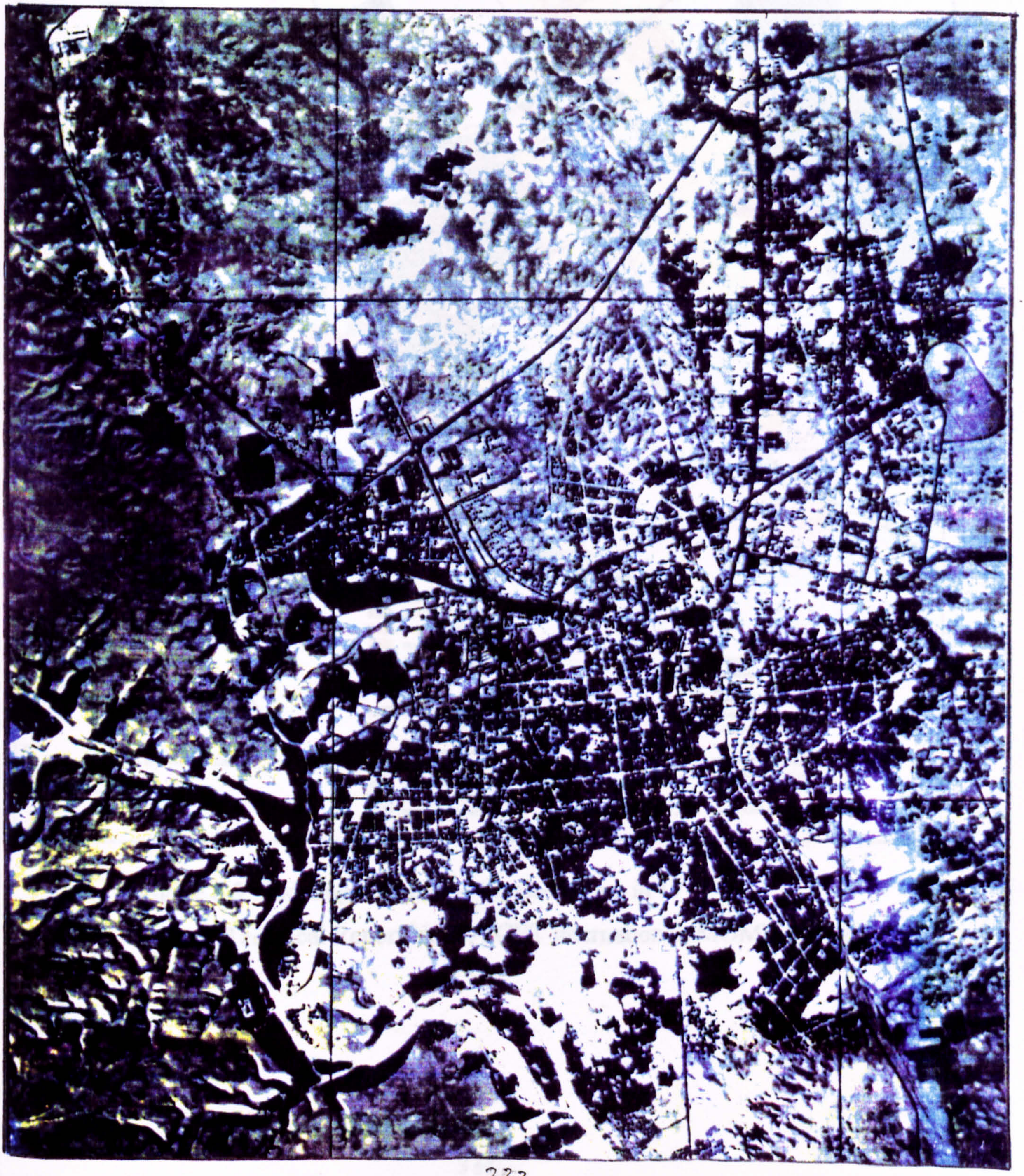
the Master Plan survey of 1977, which was made by random selection of sample unit.

Riyadh City Area Boundary

8.07 The main document used by RAMP for the 1977 survey was an aerial photographic survey conducted in 1976. See aerial map Figure 8.2, land-use map 1977, Figure 8.3, and map of built up area in 1977, Figure 8.4. The total built-up area in 1977 was 73 square kilometres, which increased to 293 km^2 in 1986, which is more than a 300% increase. The highest percentage of land-use is residential, with highly dense centre housing but less density on the northern edge of the city. The second highest use is that of governmental activities as the city is the country's capital. The commercial uses in 1977 were located mostly in the city centre, where more than 50% of commercial space is located, with some newly developed district shops particularly in the north-east parts of the city. The industrial zones were generally to the south-east, with light and heavy industries. Transport facilities uses include the road network, the airport and railroad. Recreation is only located in the Hanifa valley to the west and some few neighbourhood parks. More than 250 km^2 of subdivision plans had been approved by 1977, most of it in lands located outside the approved Master Plan boundry of 1977 (TR#6, Vol. II, P. VI, 1979).

Figure 8.2 : Aerial View of Riyadh City in 1977

Source : Technical Report SCET International, MOMRA, 1981



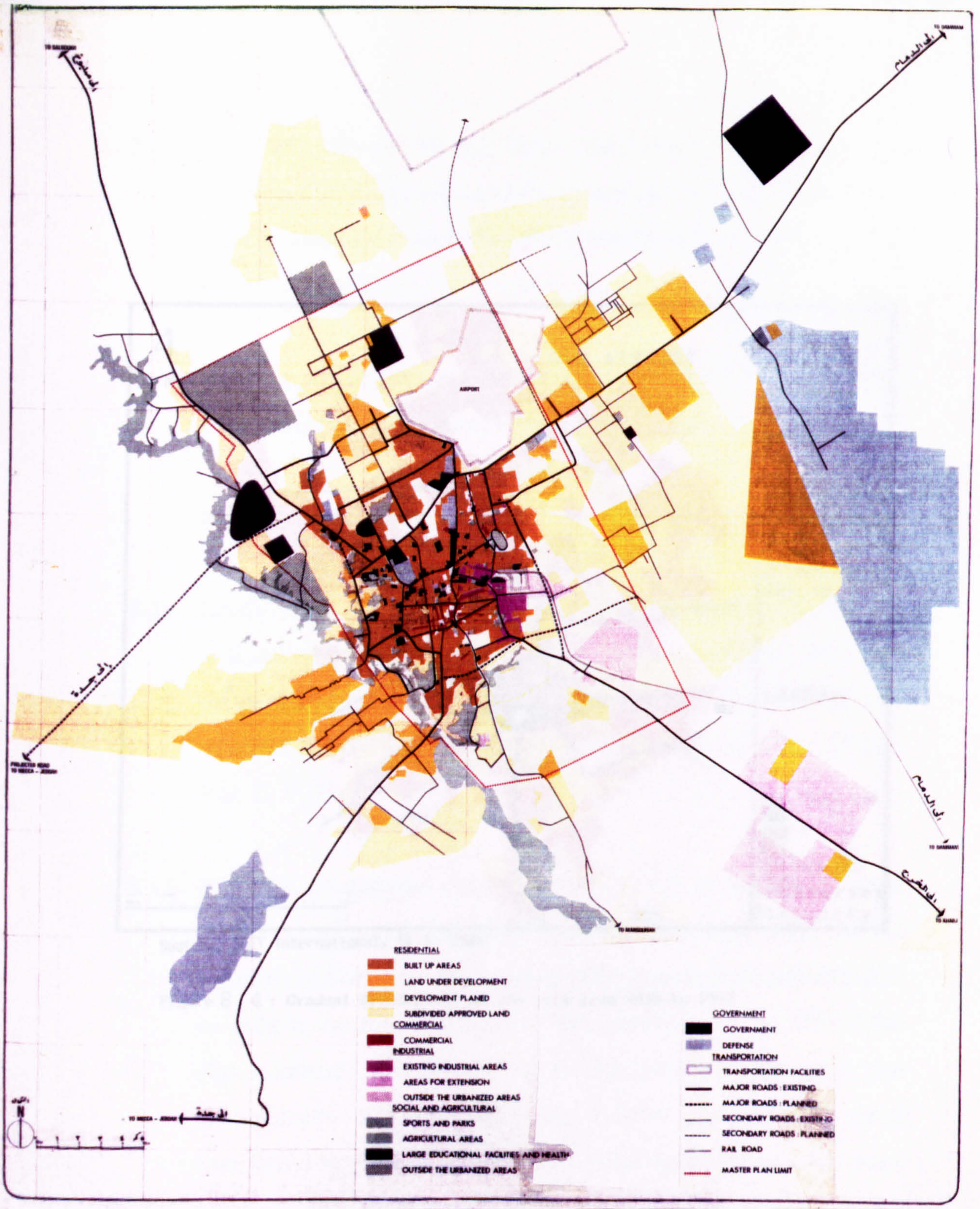
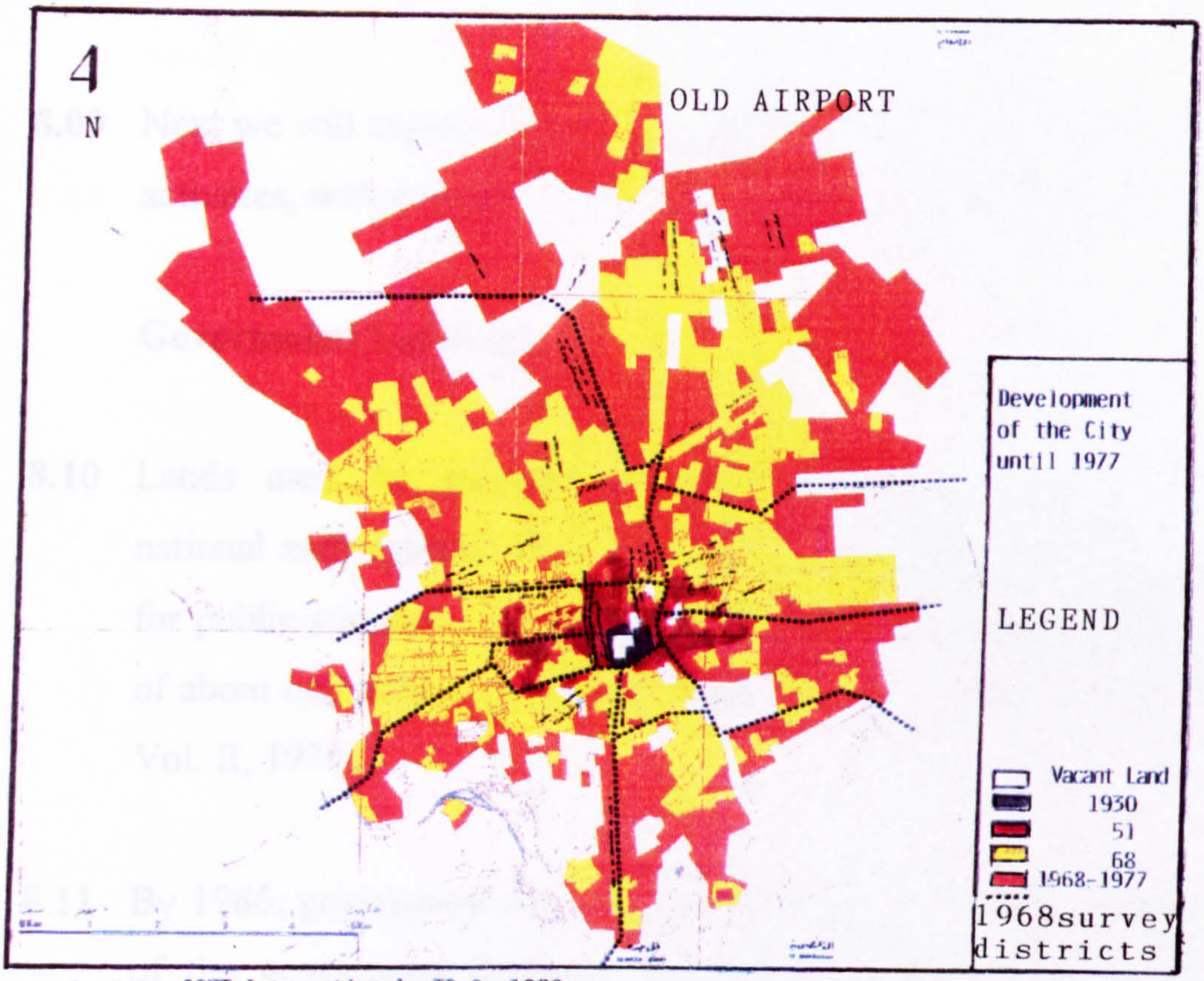


Figure 8.3 : Existing land-use and built-up area in 1977

Source: Technical Report No. 8, SCET International, MOMRA, 1981



Source : SCET International, TR 8, 1982

Figure 8.4 : Gradual Development of the city from 1930 to 1977

8.08 By 1986 almost all of these subdivision areas had been developed. Government activities concentrated east and west of the city and along King Abdulaziz and Ma'ather road around the centre of the city.

8.09 Next we will explain in some detail the various kinds of land-use activities, with comparison between the two periods of study.

Government Land-use

8.10 Lands used for government activities include buildings for national and regional administration, but not including land used for public services such as schools and open space, had an area of about one million (1,000,000) square meters in 1977. (TR#6, Vol. II, 1979).

8.11 By 1986, government use had increased due to transfer of some of the government functions to the capital city, such as the Ministry of Foreign Affairs along with all embassies located then in Jeddah, on the west coast. The period between 1977-1986 also witnessed the transfer of the Ministry of Pilgrimage and Endowments and the Monetary Central Fund, which later transferred along with almost all the Bank Headquarters that were located on the west coast. Also, there was the opening of the newly constructed international airport north of the city, which occupied a large portion of land along with support facilities that dominate the whole northern section of the city. This new airport created new development trends toward its location to the north

of the city, as was the case in the past with the old airport. This period (1977-1986) also witnessed the transfer of the two universities of King Saud University and Imam Mohamed Bin Saud University to new complexes on the outskirts of the city. A number of Ministries and government institutions also moved to newly constructed buildings.

8.12 There was a noticeable increase in the size of government and other public uses. The area used for government and other public activities reached more than 53 km^2 of land in the city, which was a little over 18% of the developed area in 1986. (Tech. Report # 6, Vol.II, 1979) (Land-use Survey Report, 1987). The increase in government and government related uses during that period created additional pressure for city growth and contributed considerably to the expansion of the city.

Residential Use

8.13 At the year 1977 there were 95,292 residential units for an estimated population of 600,000 inhabitants. Table 8.1 and Figure 8.5 show the break down of residential types.

Table 8.1 Building Types 1977

No.	BUILDING TYPES	# OF DWELLING UNITS	% OF TOTAL RESIDENCES
1	Shanties, tents, barracks	6,427	7%
2	Traditional Mud-brick	21,098	22%
3	Traditional Cement-block houses	19,994	21%
4	Old or new house of more modern style	10,381	11%
5	Modern villa with garden - Main house	14,829	15%
6	Modern villa with garden - Out building	16,069	17%
7	Modern Apartment buildings multiple dwellings	3,794	4%
8	Housing for employees of public or private buildings	2,700	3%
TOTAL		95,292	100%

Source: Technical Report # 6,Vol V. 1979.

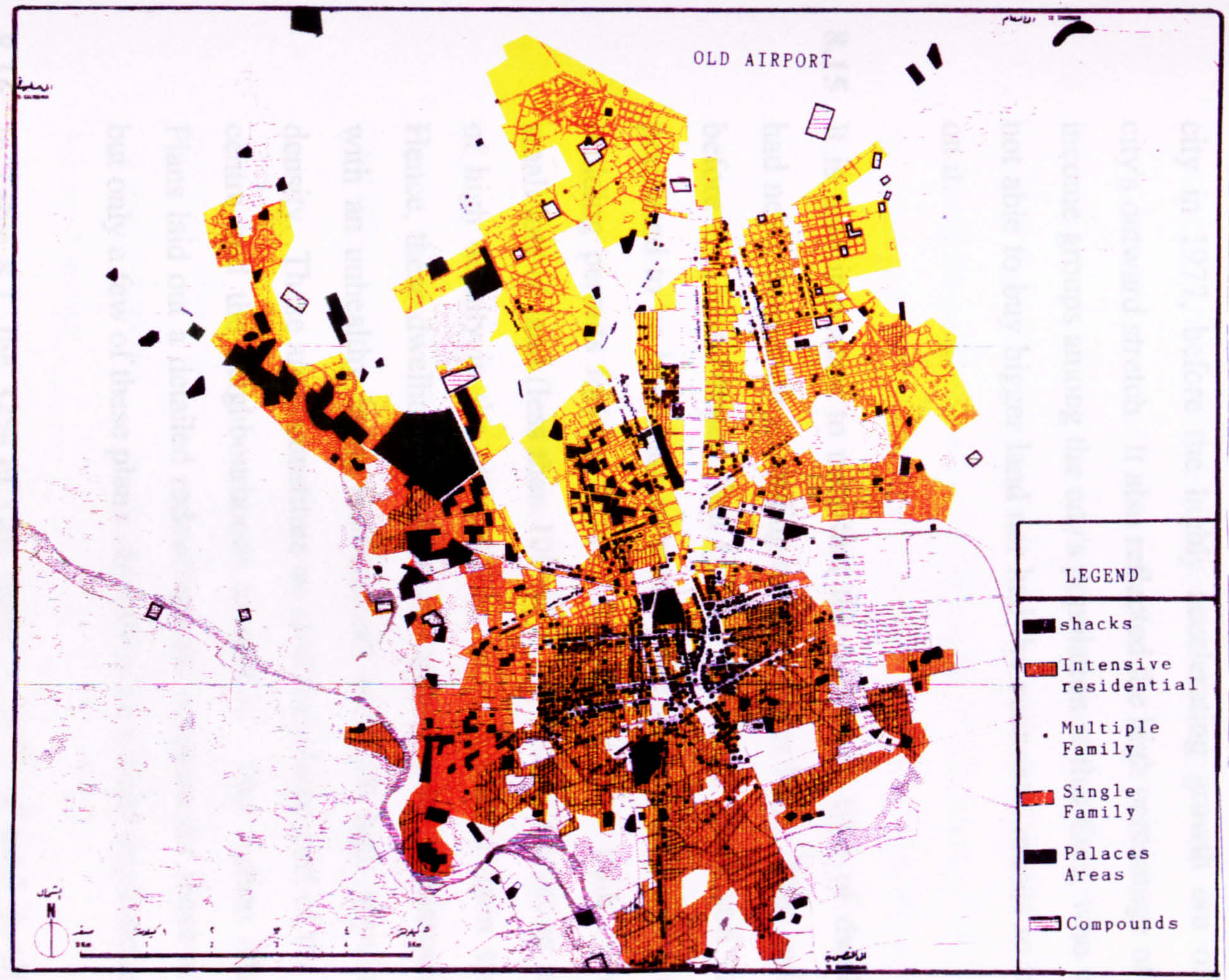


Figure 8.5 : Riyadh Residential Uses in 1977

Source : SCET International, TR 6, Vol.2

8.14 As we notice in Table 8.1, the type of dwellings that occupied small lots of land, with 100% coverage on the lots and a maximum of 100 m^2 were traditional and old area dwellings, which comprised 54% of total residential dwellings and reflected the compacted high density land-use pattern that existed in the city in 1977, before the highly accelerating growth era of the city's outward stretch. It also reflected the high percentage of low income groups among the city's population at that time, who were not able to buy bigger land nor had the economic means to build on it.

8.15 It is also important to note that the traditional type of dwelling had never been built according to any Master Plan. They existed before the first Master Plan (1971) and were continued to be permitted to be built long afterward; the municipality still issues building permits for this type of dwelling as it is built on very small lots of land (less than 100 m^2), with 100% lot use in areas of high density in the city with no or very limited open space. Hence, these dwellings and their community areas are associated with an unhealthy living environment and with high population density. These areas constitute an extremely large part of the city centre and the neighbourhoods around it. The Action Master Plans laid out a detailed redevelopment program for these areas, but only a few of these plan's objectives have been implemented.

8.16 In Table 8.1, the 32% of villa types in 1977 of total dwellings reflects the beginning of new trends toward the widespread adoption of this style of housing, which requires a large lot area and hence more demand for land.

8.17 By comparison, we notice in Table 8.2 an increase of the villa type from 30,898 units in 1977 to 82,007 units in 1986. That is an increase of about 165%, which represents the now dominant use of the villa type of dwelling with wide front, side and back setbacks, which reflects the economic prosperity of the Saudi population provided by direct and indirect government means.

8.18 On the other side, we notice the decrease of traditional type of housing from 51,473 units in 1977 to 48,359 units in 1986, which confirms the preference for the villa type of habitat even though it has some deficiency with regard to privacy. Also, the decrease in traditional housing is because much has been transferred to other types of use such as warehouse storage. We also notice the increase of about 500% in apartment buildings, due to the influx of non Saudi clerks and middle and lower managers, mainly from the Arab would, who prefer living in flats because they have smaller families and flats are usually cheaper to rent than villas.

Table 8.2 Number and type of existing residential, commercial, and mixed use building in 1986.

BUILDING TYPE	NUMBER OF BUILDINGS	% OF TOTAL RESIDENTIAL USES
Villas	82,007	46%
Concrete Traditional houses	26,727	15%
Old Traditional houses	21,632	12%
Apartment building	19,695	11%
Shacks	3,164	2%
Commercial building	10,264	6%
Other buildings	15,218	8%
TOTAL	178,707	100%

Source : Riyadh Urban Growth Report by Riyadh Municipality 1987.

8.19 The high demand for flat building along with government loans for Saudi developers at 50% of total construction cost contributed to the high increase of this type of use. Also, the high increase of land prices was a major result of that effect. There was a decrease in the number of shacks used as shelters by very low income groups within that period, from 7% of total residential use to 1% in 1986. This decrease in shack use for residence was slight, however, as residential use increased with the tremendous five and half times increase of the built-up area from the year 1977. These shacks that existed before and those that still exist are built without a permit, and usually on parcels of land which the occupants do not own; in other words these are illegal developments, and are inconsistent with the Master Plans and all building rules and regulations.

8.20 A total of 6,020 hectares were in residential use which was 82.5% of the total built-up area of the city in 1977. (TR 6, Vol. II, P.33, 1979). The total residential use in 1986 comprised 31.3% of total built-up area as shown in Figure 8.6, but this is not an indication of a decrease in residential use but was due to the fact that the area of the city in 1986 that was surveyed was 1,012 square kilometres, in which development comprised only 293 km^2 or 29% of the total area (Figure 8.7) (Land-use Report 1986) as compared to 73 Km^2 in 1977. (TR 6, Vol. II, 1979). So, in general the predominant use throughout this period was residential.

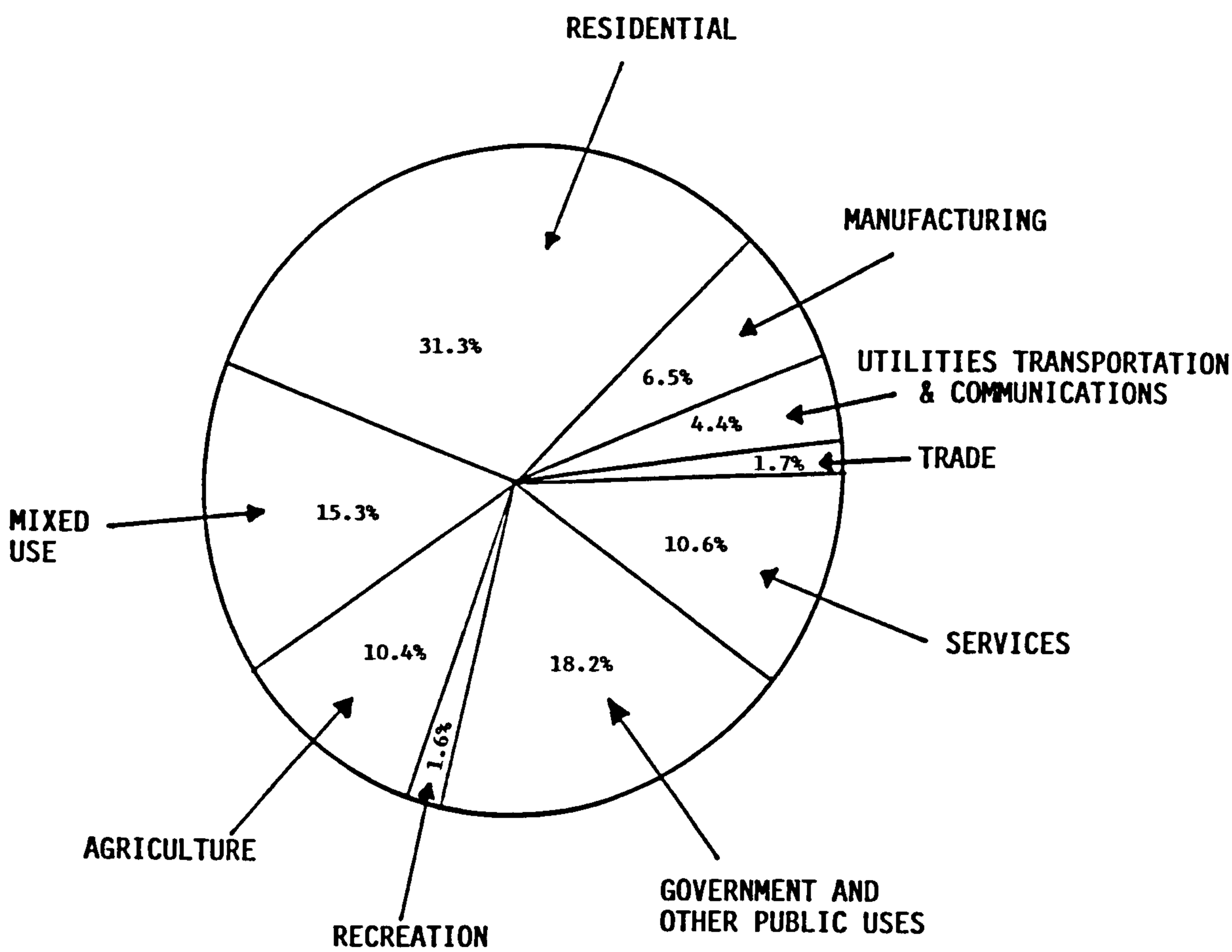


Figure 8.6 : Categorisation of built up area in 1986.

Source: Land-use Survey Report.
Riyadh Development Authority, 1986.

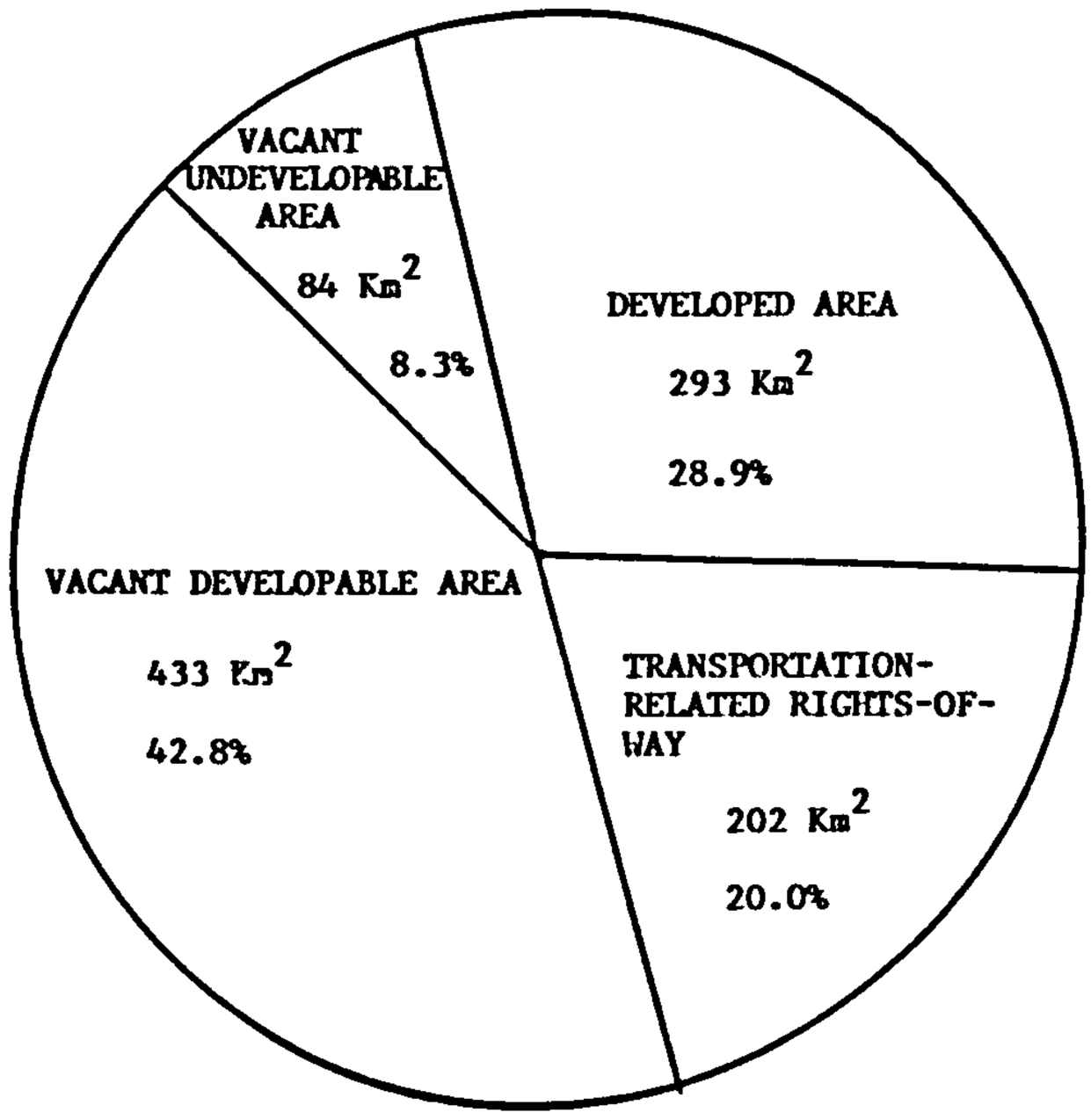


Figure 8.7 : Land status of development in 1986 within Riyadh Metropolitan area.

Source: Land-use Survey Report.
Riyadh Development Authority, 1986.

Commercial and Services Uses

8.21 In 1977, the total floor area used for trade and commercial services was 433,500 m^2 divided among 10,780 shops. This distribution categorization are indicated in Tables 8.3 and 8.4 (TR 6, Vol. II, 1979). And their plotted location in 1977 is illustrated in Figure 8.8.

8.22 In 1986, 36 square kilometres of land were used for trade services, which comprised around 12% of the developed surveyed area. It should be noted here that there is a clear contradiction between the data in Table 8.5, provided by the Land-use Report Survey of 1986, and the information provided by the same report in the case of commercial uses. But clearly the data which shows higher commercial use seems to support the opinion that there was tremendous growth of this kind of use along with other uses.

8.23 We notice that there was a 900% increase of commercial use during the period from 1977 to 1986, which is a very huge increase for a short period of time. This is another sign of fast urban growth experienced by the city since 1977, which demanded greater commercial services to support a wider urban area than previously existed.

Table 8.3 : Commercial Area's Floor Area Distribution per Category in Riyadh in 1977

Type of Commercial Area	Commercial Floor Area (m^2)	% of Total Floor Area	Number of Shops	Percentage of the Floor Area								Average Size of Shops (m^2)
				Retail Food-stuffs, Snacks	Household Appliances and Equipment	Personal Goods	Personal Services	Other Services	Auto-motive Goods	Vacant	Storage (*)	
Central Area	160,630	37.1	5,396	20.37	21.27	30.40	4.24	5.27	7.28	6.76	4.41	29.8
Central Area Extensions	52,650	12.1	1,432	11.81	26.08	5.72	7.33	5.52	23.81	10.34	9.39	36.8
Main Commercial Centers	17,460	4.0	775	41.64	5.61	13.20	6.12	12.17	1.39	14.37	5.50	22.5
Small Commercial Centers	17,090	3.9	371	33.37	23.82	9.62	5.78	11.24	9.34	4.69	1.78	46.1
Major Commercial Arteries	105,930	24.4	1,364	6.98	20.28	3.51	1.90	28.20	25.77	6.96	6.30	77.7
Others	79,700	18.4	1,439	27.54	6.91	2.70	0.59	12.60	44.45	5.21	-	55.4
Total	433,460	100	10,777	18,76	18.47	14.23	3.51	12.76	20.49	7.18	4.6	40.2
Number of Shops			10,777	2,656	1,269	2,818	665	598	834	1,211	726	
Average Size of shops (m^2)				30.62	63.09	21.89	22.88	92.50	106.49	25.70	27.46	

Source: RAMP Project Census Survey

(*) The large storage facilities appear in the industrial survey. This category includes areas detached from the shop itself, but located in its vicinity, usually small shops used for storage.

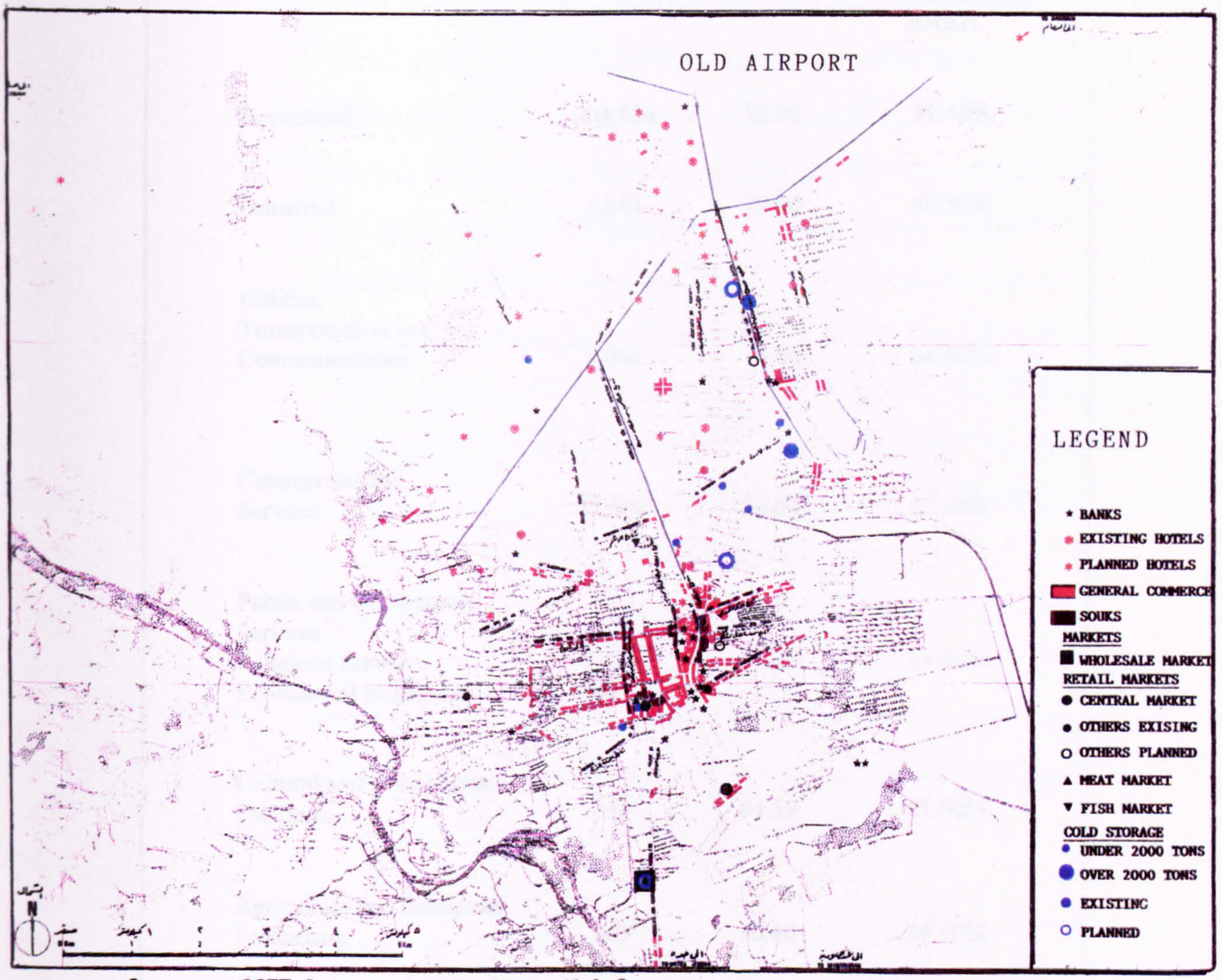
Source: MOMRA, Technical Report No.6, Vol.II

Table 8.4: The Main Commercial concentrations Outside the Central Area of Riyadh in 1977

Location														
Intersection of Jareer and Dhahran Streets	1,290	42	209	37	35.30	8.44	19.17	4.61	19.76	0.14	9.62	2.96	Intersection	Recent
Manfouhah	2,970	17	216	33	43.23	8.11	14.52	12.22	1.65	2.15	11.52	6.60	Mosque	Old
Al Ma'ather Road West of Dira'yah Road	1,220	7	73	8	71.92	2.81	5.04	7.93	1.32	2.64	8.34	-	Main Avenue and Mosque	Old
Al Wazarat	5,980	34	277	80	42.44	1.47	6.93	4.57	10.33	2.28	22.91	9.17	Intersection	Recent
Total	17,460	100	775	158	41.64	5.61	13.20	6.12	12.17	1.39	14.37	5.50		

(*) The large storage areas appear in the industrial survey. This category includes areas detached from the shop but located in close distance, usually small shops used for storage.

Source: MOMRA, Technical Report No.6, Vol.II



Source : SCET International, TR 6, Vol.2

Figure 8.8 : Riyadh Commercial Use in 1977

Table 8.5: Land-use of total developed lands, 1986.

TYPE OF USE	# OF UNITS	AREA (in Km^2)	% OF USES IN THE BUILT-UP AREA
Residential	304,706	92.00	31.40%
Industrial	1,842	19.00	06.50%
Utilities, Transportation and Communications	2,062	13.00	04.40%
Commercial and Services	42,800	36.00	12.30%
Public and Government Services.	474		
Religious Services.	1,676	53.00	18.00%
Educational Institution	887		
Cultural and Recreational Facilities	556	04.59	01.60%
Agriculture and Resources Production	303	30.40	10.50%
Mixed Uses	Unknown	45.00	15.40%
TOTAL		293.00	100.00%

Source : Riyadh Urban Growth Report, Riyadh Municipality, 1987.

Note : Land used for street network totalled 202 km^2 but is excluded here.

8.24 In 1977 there were six kinds of commercial area (TR 6, Vol. II, 1979):

1 - Central Area: The big Mosque in the central area was the nucleus for the initiation and later the development of the Dirah souk (Figures 8.9a and 8.9b), the Mugebrah market inside the old city walls, and the Kuwaiti Bazaar developed outside the old city where imported goods were traded in the past brought from Kuwait as the name suggested. Business activities later emerged around these two points forming one larger area of commercial activities. This area was in the late 1970s and to a lesser extent is nowadays, the central attraction for people from the entire city. The area has a great chance of regaining its old business attraction after the implementation of the Action Area Plans programs for this area is finalized.

2 - The extended area growing outward from the central area, following main streets like tree branches; these shops still exist to date.

3 - There was and still exist four major commercial centres:

a - Jarir and Dhahran Streets intersection.

b - Wazarat area main commercial street.

c - West Ma'athar Road.

d - Manfouha commercial streets.

4 - Major commercial roads with main business functions such as Kazzan and Siteen Streets.

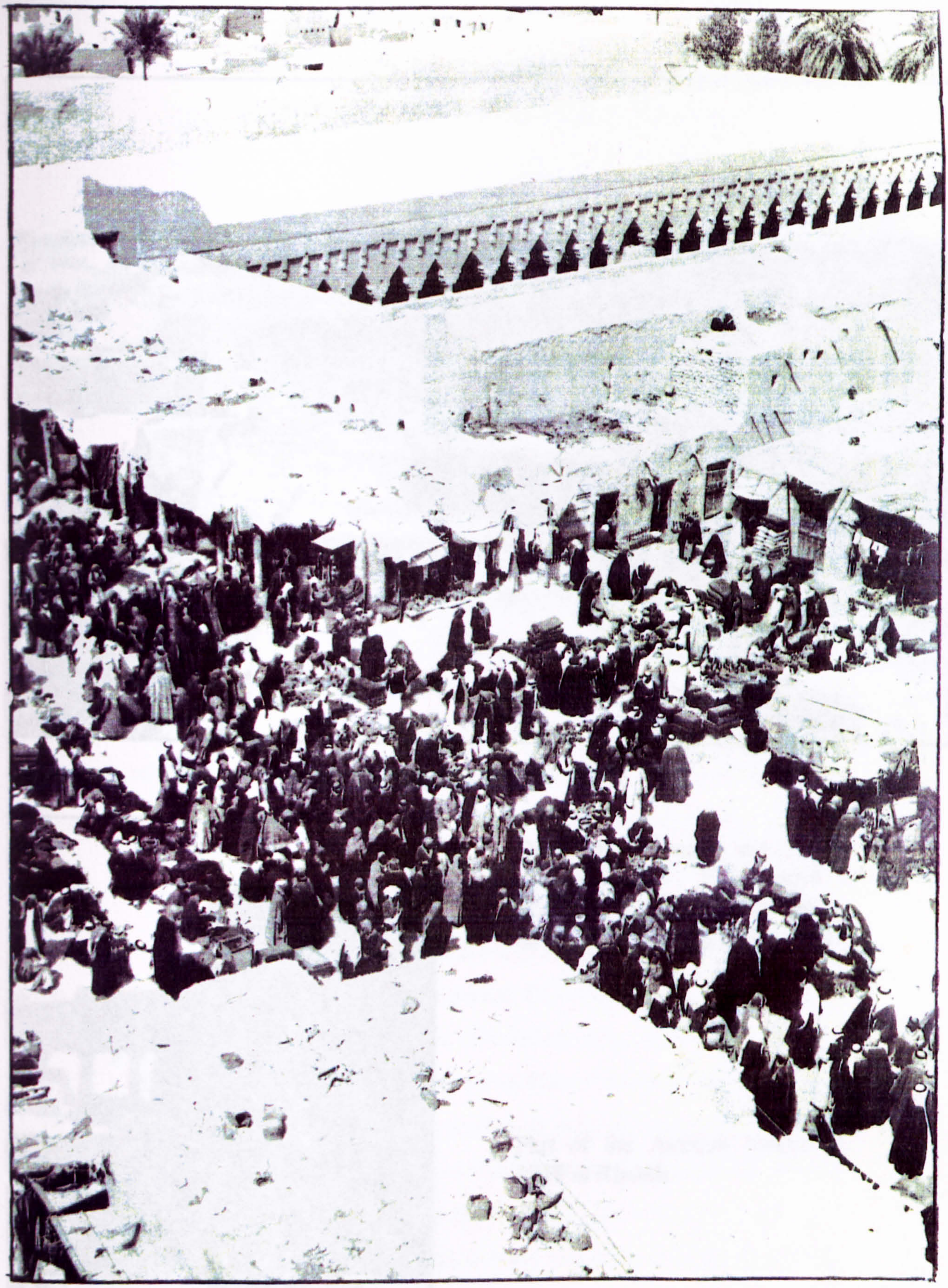
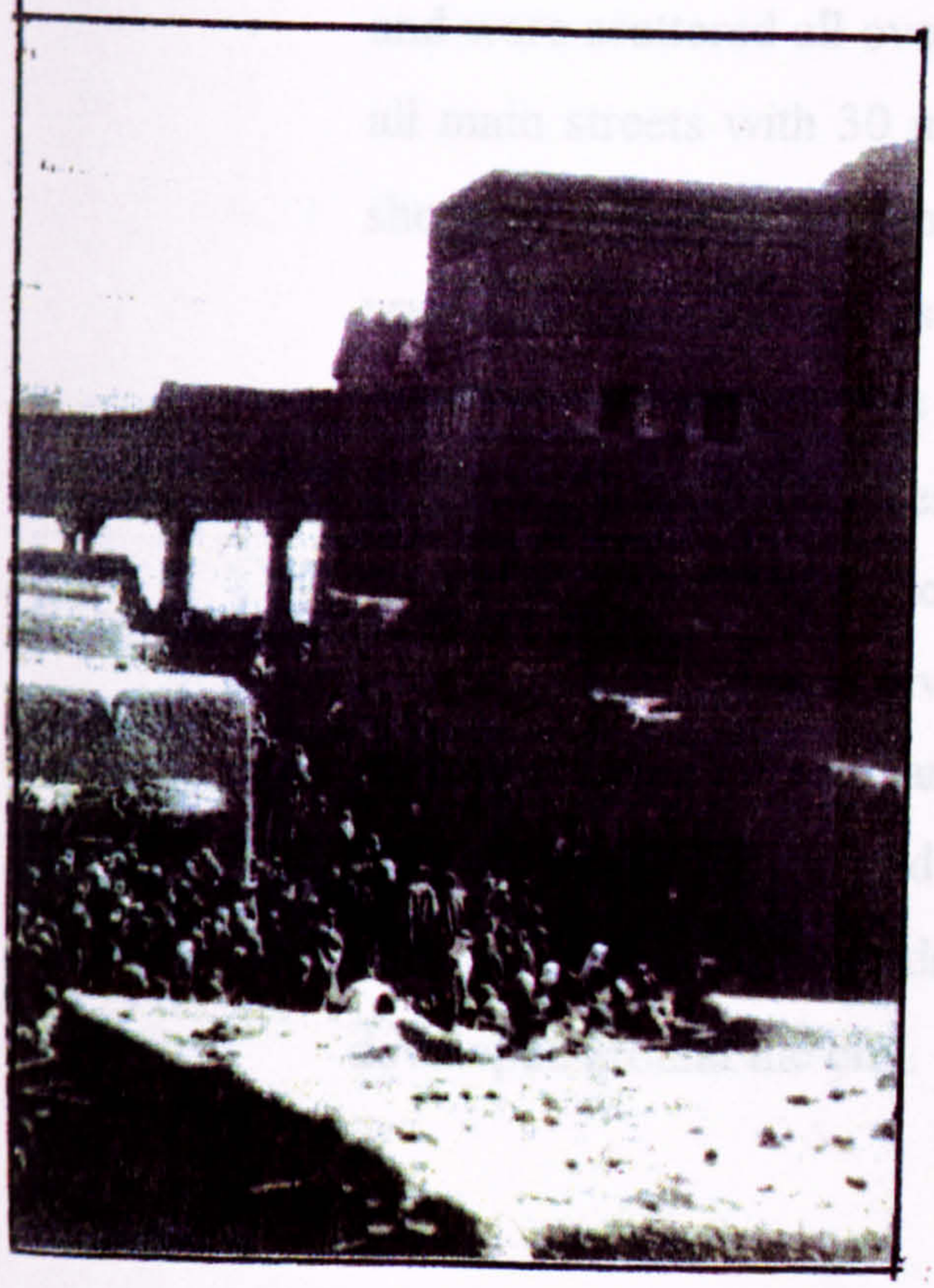


Figure 8.9a
The Main Dirah Mosque and Market in Riyadh in 1949 after renewal.
Source: Riyadh Yesterday, Riyadh Development Authority, 1992.

Figure 8.9b



Dirah Main Mosque and Market (Souq) in 1914. The mosque is to the right and women's market on the far left of the above photo.

Part of the Auction Market in 1918 in Riyadh

Source : Riyadh Yesterday, RDA, 1992

5 - Small Commercial Centres such as in south Jarir Street and Badi'ah Street, which attract neighbourhood customers.

6 - Small and large isolated shops for shoppers from the immediate and wider areas.

8.25 Almost all the above commercial activity locations still exist, with the exception of the Dirah market which went under the redevelopment program carried out by the High Committee for the Development of Riyadh in accordance with the Action Area Plan set out by the Riyadh Action Master Plans (RAMP). This area now has a newly built shopping area that has great emphasis on preserving the traditional architecture and social value of the community in its design, an action that should be followed in the other deteriorating parts of the city centre.

8.26 In 1986, commercial activities reached a peak compared to 1977 and were scattered all over the newly developed urban area along all main streets with 30 m minimum width, in the form of small shops or a number of shops made to one large shop, depending upon the type of business activity; in fact, the city became over supplied with shops. This period also witnessed the introduction of the big shopping centres of western style, with multiple storey shops and upper floor space for offices. This was initiated by the Akaria company, semi-private but 50% government owned, a real estate development company building two large shopping centres; the first was in Malaz, and then a bigger one and very popular to date in Olaya. Afterwards, similar shopping centres have been developed around the city.

8.27 Also, the end of this period witnessed the development of private bazaars which are an open spaced single line of shops with pedestrian pathways in between which are usually one storey in height. The character of these bazaars is that they are the first of their type to be developed away from the city centre. The first one was Al-Nassem bazaar at the far east edge of the city, and the second one was Al-Owais bazaar at the far north of the city.

8.28 The initiation of shopping areas such as these was the result of need due to the wide expansion of the urban areas of the city, which had increased the travel distance toward the city centre. Also during this period the Municipality Market of Rabwah was built on the east edge of the city, which served the eastern city populations's need of fresh food, especially fruits, vegetables and meat. That was the second large Municipal Market after Otegah Market, which is located south of the city.

Industrial Uses

8.29 The industrial uses here are comprised of heavy industry, automotive activities, warehouses, cold storage, rail yard storage, workshop and light industry. All these uses in 1977 were located in the south eastern part of the city with the exception of warehouse and automotive related uses, which were scattered within and in the northern and southern edges of town. The total area of industrial use in 1977 was about 1,950 square meters, including lands designated for industrial use but not fully utilized (TR 6, Vol. II, 1979). That is approximately 2.2% of the total built-up area of the city.

8.30 The area in 1986 had increased tremendously to more than 19,000,000 square meters (m^2), which was just over a 900% increase in ten years. The industrial uses comprised 6.5% of total built-up area in 1986 (Land-Use Report, 1986). The industrial sector uses had been influenced since 1977 by changes that included:

* A high increase in semi-industrial activities such as manufacturing of construction related materials.

* The starting of a number of heavy industries targeting the Riyadh and the Central Region markets.

8.31 The industrial area in the south eastern section of the city, which is the major industrial area, had started expansion in 1977 along the Karj highway around three points:

1 - The old industrial area south of the Railway Station.
2 - 5 km from the old industrial area where the cement & gypsum factories were located.
3 - The location of an oil refinery 20 km away from the old industrial area.

8.32 A new industrial area had started 16 km from the railroad station along the Karj road. It's area was 1,800 hectares, of which 200 hectares were to be used for residences for workers and their families, a total of 50,000 persons. This area had been designated for industries to replace dependence on imports and industries that consume little water. In 1977, around 20% of this

area was already occupied by completed factories or ones under construction (TR 6, Vol. II, 1979).

Open Green Space

8.33 In 1977, the developed public green open space comprised an area of 81.4 hectares, which was approximately 10% of the total built-up area. This area at the time amounted to 0.07 hectare per 1,000 population, while the Master Plan projected 1.0 hectare per 1,000 population as a future need (TR 6, Vol. II, 1978).

8.34 The land use survey of 1986 revealed that 99.0 hectares of park green land existed at that time (Land-use Report, 1986), so it is clear that there was very little increase in public green areas compared to the previous uses mentioned. And it is obvious that it did not match the standard needed for the high increase witnessed in total urban growth. It seems the situation of deficiency in public green space is still existing to date. This situation of deficiency will be discussed later when we look into the cases of inconsistency with the Master Plan of existing development.

8.35 These statistics do not include house private gardens which are hidden from contributing to the public green aesthetic by high walls. These private gardens have been estimated to consume 4,000,000 m^3/year, that is around 20% of the total water consumed in Riyadh in 1977. In the same year, a number of planned municipal and amusement parks and other related projects were stalled or postponed for lack of funds. (TR 6, Vol.

II, 1979).

8.36 As admitted by the Master Plan, the existing (1977) and planned public green spaces seemed insufficient for peoples' need to have a green area for the weekend. To provide the city with the green space needed, it was proposed that steps must be taken to conserve the existing palm groves and establish new recreation areas prepared for family activities. These intentions were part of the Action Area Plans and Revised Master Plan (TR 6, Vol. II, 1979).

8.37 But, as has been observed, little has been subsequently done on the establishment of the required green space for the city life. Only towards the end of this period was there an increase in public green space, with the establishment of a few neighbourhood gardens, the adopting of the Dioxidas Plan of planting along the major streets, and the completion of the Diplomatic Quarter with its wide gardens and outdoor space, which can be considered as a desert type of landscape with little water consumption and an efficient utilization of local surroundings in landscape design.

Utilities, Transport and Communication Uses

8.38 The old airport location occupied an area of 31 km^2 north of the city, and the old railroad dry port spread over an area of 10 km^2. (TR 6, Vol. II, 1979).

8.39 In 1986, just about 13 km^2 of land were devoted to uses related

to utilities, transportation and communications, which was 4.4% of the built-up area. These uses included car parking, uses for power, gas, water and sewage, and uses for cargo and travel agencies. The above data does not include roads and streets which were not recorded in 1986 survey. Also not included was the King Khaled International Airport, that was opened toward the end of this period with an area of 250 km^2. In addition, the area of the old airport and the railroad station were not included.

Agriculture and Resource Production

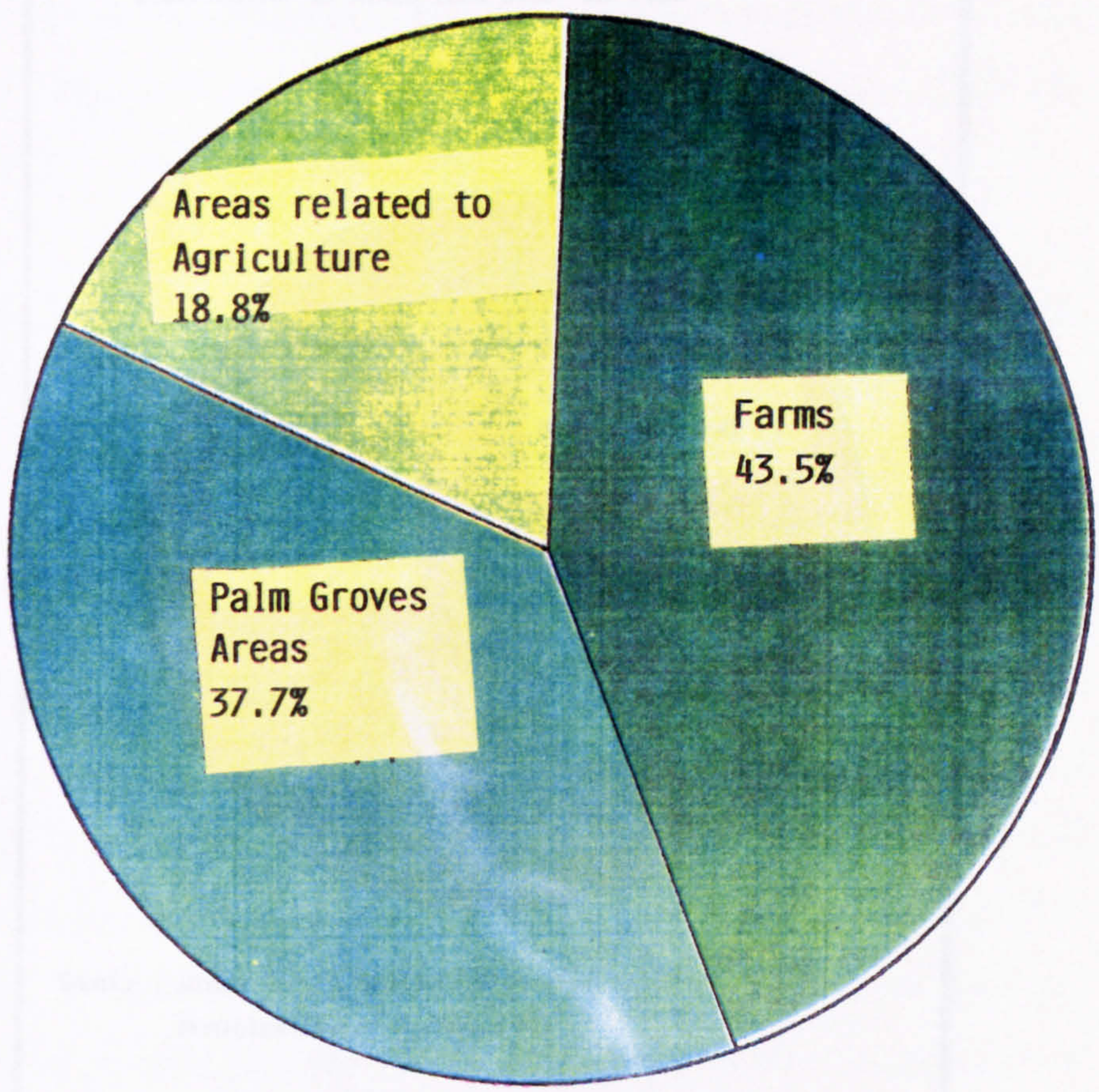
8.40 The only available data for 1977 in this category is that there were 20 km^2 of palm grove areas (TR 6, Vol. II, 1979). In 1986, there were 30.4 km^2 devoted for agriculture land in the city. Palm grove areas comprised 37.7% of agriculture land (Figure 8.10) within the city inner boundary. All these areas were located in the south west of the city along the Hanifa valley.

Mixed uses

8.41 The type of mixed uses found in the city are mainly three, residential/commercial in one building, residential and other uses, and a mix of non residential uses. Information as to the size of mixed use areas for 1977 were not found among data from that years's survey. In 1986, over 15% of the city developed area or 45 km^2, was mixed uses (Figure 8.6). The largest mixed use land areas in 1986 were residential/commercial that comprised 52.3% (Figure 8.11) found in the CBD area and along most main streets away from the city core areas. Residential and non-commercial

Figure 8.10

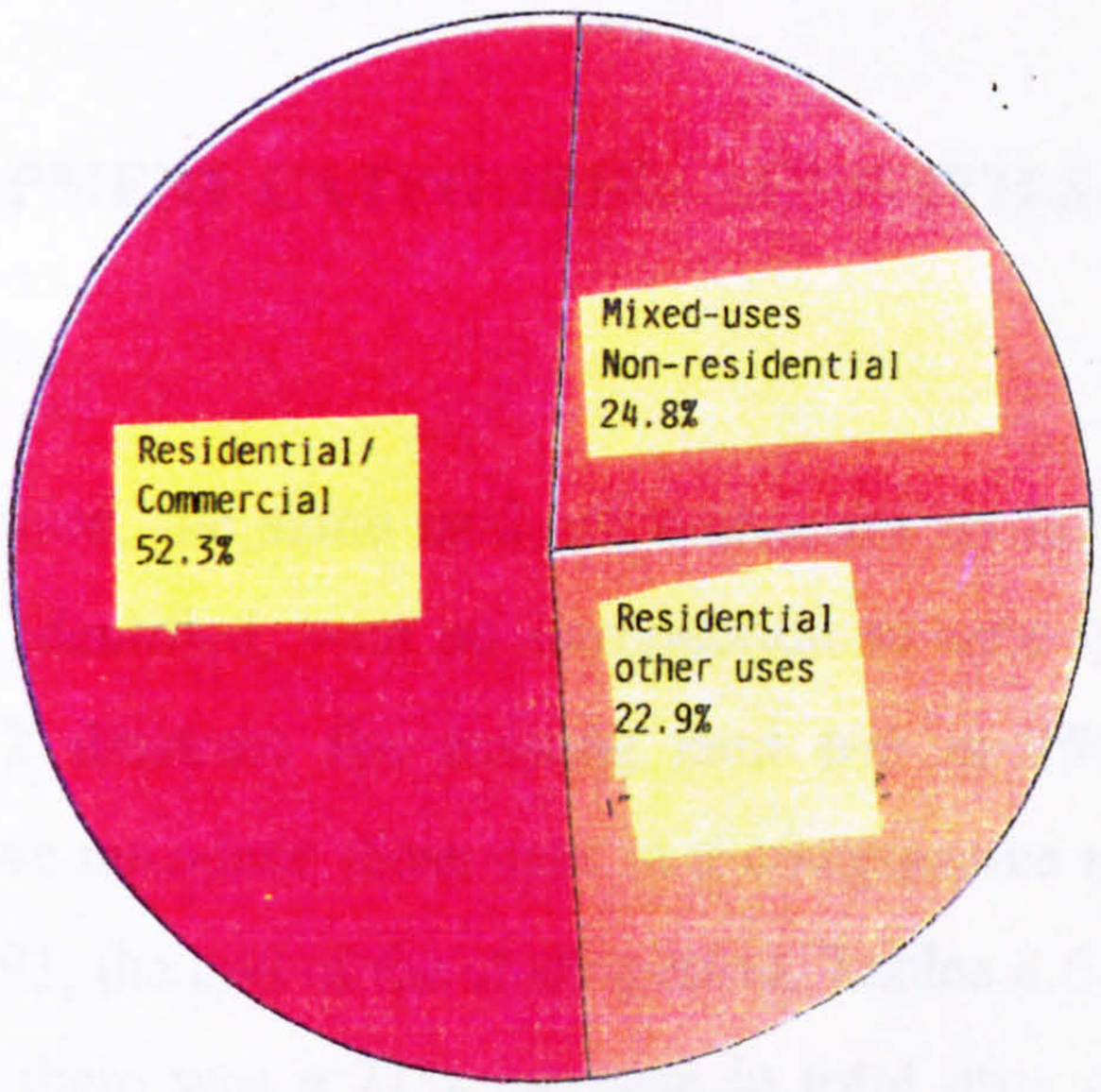
Distribution of Agriculture Land-uses within the city limits



Source : Urban Growth boundary report for Riyadh,
Municipality of Riyadh, 1987

Figure 8.11

Distribution of Mixed Land-uses in 1986



Source : Urban Growth Boundary Report for Riyadh
Municipality of Riyadh 1987

mixed uses was most dominant along Wadi Hanifa area south-west and west of the city, where residential and agricultural mixing was evident. The mixed non-residential uses areas were found in Shemesi area around the city centre where a mixture of government and commercial uses was enormous.

Also in Batha north of the city centre, trade and services uses are mixed with government ones. At the industrial area, warehousing and industrial activities mix with trade agencies. (HCFDR, 1987).

DEVELOPMENT CATEGORIES ACTIVITIES FOR 1986-1991

8.42 For this period, the same land-use categories as in the previous period are identified, with no introduction of new types of use. Figure 8.12 illustrate the existing land use in 1986. In the following we introduce these uses in a comparative manner from 1986 to 1991, the end of the study period, Tables 8.6 and 8.7. In this period there was a 21% increase in total uses compared to 1986. Excluding the streets and highway network, the built-up area of Riyadh reached 355 km^2 in 1992, with a population of 2.292,000 inhabitants. As compared to 1,389,500 inhabitants in 1986, a 65% increase in total population occurred in six years, that is 11% increase per year (Ta'tweer periodical No. 2, 1992, issue 8).

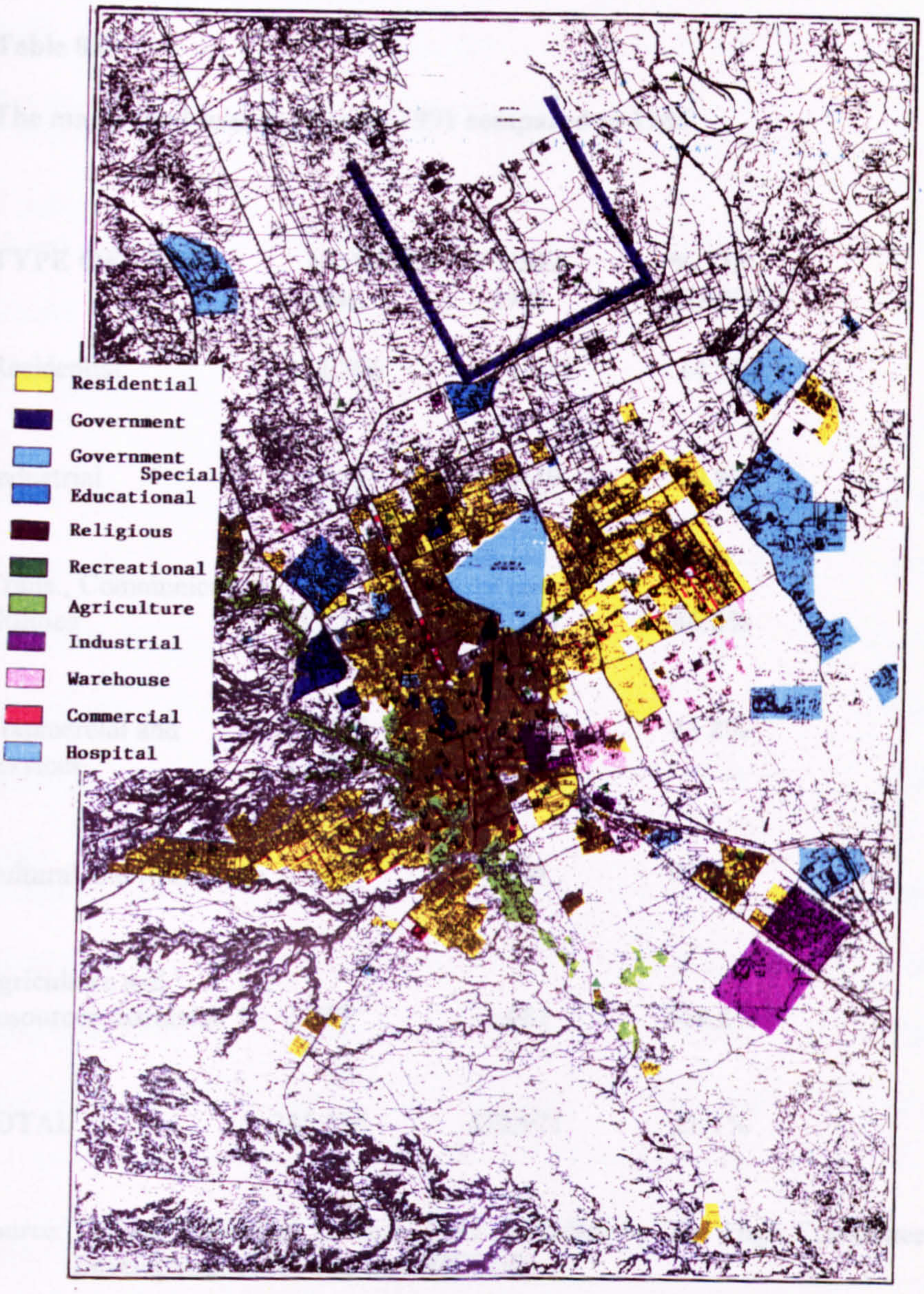


Figure 8.12 : Existing Land use in 1986 .

Urban Boundry Limits , HCFDR , 1987 .

8.43 A new population and house census for the whole Kingdom was conducted accurately for the first time in late 1992. All details are not released yet, but first information is that the total population of the Kingdom (Saudi and non-Saudi) was over 16.000,000 inhabitants.

Table 8.6

The major land-uses in Riyadh, 1991 compared to 1986.

TYPE OF USES	NUMBER OF USES 1986	1991	% OF CHANGE
Residential	304,706	348,971	14.5%
Industrial	1,029	1,449	40.8%
Trans., Communication, Utilities	3,354	5,306	46.8%
Commercial and Services	28,532 17,216	41,043 31,617	43.8%
Cultural and Recreation	469	904	92.8%
Agriculture and Resources extraction *	290	1,681	469.8%
TOTAL	355,596	430,971	21.1%

Source: Tatweer periodical 1, No.5, 1992 published by The High Committee for Development of Riyadh City (HCFDR).

* The large increase in this use was due to the widening of the area surveyed by the HCFDR in 1991.

Table 8.7

The number of buildings (1) categorized according to their designated use in 1986-1991.

BUILDING TYPE	1986	% OF TOTAL BUILDINGS	1991	% OF TOTAL BUILDINGS
Villa	(81,520)		(105,774)	
Residential Flat Build.	(22,856)		(23,603)	
Traditional House	(46,968)		(45,173)	
Shacks	(619)		(750)	
Residential (Total)	151,963	86.90%	175,30	82.20%
Office	845	.50%	1,223	0.60%
Commercial	10,609	6.05%	13,520	6.35%
Suq (Bazaar)	56	.03%	290	0.15%
Warehouse	3,375	1.90%	4,329	2.00%
Industrial	787	0.50%	837	0.40%
Public Utilities	3,229	1.85%	5,173	2.40%
Mixed Uses (2)	-	-	5,614	2.60%
Other Uses	3,962	2.25%	7,002	3.30%
TOTAL	174,826	100.00%	213,288	100.00%

Source : Tadweer Periodical No. 5, 1991.

Notes : (1) As one building may accommodate several uses, the total of uses exceeds the number of buildings.

(2) No survey as to the number of mixed use buildings was conducted in 1986.

Government Land-Uses

8.44 There was an increase of government land-use to around 24% of total uses in the city in 1991, compared to 18% of total uses in 1986. At the end of this period government land-use was around 85 km^2. During this period (1986-1991) a number of government ministries occupied new buildings while their old locations continued to be used for other government uses. Also a wide area of medical facilities at the King Fahad medical city was just completed ready for operation, which occupied a large area of land north of Ma'ather Road. Also, the number of educational institutions increased tremendously. (HCFDR, 1991).

Residential Uses

8.45 In 1986, almost 92 km^2 of land or approximately 31% of the total developed area (293 km^2) of the city was used for residential purposes (Land-use Report, 1986), while in 1991 the total land area developed for residential use was reported to be 250 km^2 (Jazerah News Paper, 1992). This is probably an exaggerated figure, because the High Committee for Riyadh Development official (HCFDR) said that any block with 30% or more built-up area was treated in the survey as a totally developed block for technical reasons. So the more accurate picture of 1991 residential activities may be the number of residential units, which in 1991 comprised 80% of the total city development uses.

8.46 The total residential units reached 348,971 in 1991 (HCFDR, 1991), a 14.5% increase from the total residential units of 1986.

Of these, 41% of the total were of modern villa type, 43% was of flat type accommodation (Tadweer 1, No. 5, 1992). So 84% of residential units seemed to be of a modern suitable habitat, while 16% seemed to be of the old tradition of small houses and shacks, usually of low quality and substandard with a congested and unhealthy living environment. Looking to the previous and preceding two Tables it should be noted that a building in some cases will have multiple residential units.

8.47 As Table 8.8 indicates, the highest increase was that of the villa type of residence which increased to 30% more than in 1986. It should be noted that this kind of living unit demands a large area of land, because each lot usually occupies 600 m^2 or more. This contributed considerably to the outreach and wide expansion of the urban developed area of the city. Also, this high degree of villa development in just about five years reflected the accelerating urban growth that the city has witnessed and will most likely continue to witness in the future. In addition, it represents the Saudi desire to favour villas as a form of living accommodation more than other types of housing, such as traditional houses.

8.48 About 60% of all new land-uses occurred since 1986 were residential. In 1990, an approximately additional 10,000 buildings were being constructed, 72% of them were intended for residential use, and in fact all these were villas, with flats and other forms of structure accounting for less than 1%. (HCFDR, 1991).

Table 8.8: Degree of residential change 1986-1991

	Number of Residential Buildings		
BUILDING	**1986**	**1991**	**% OF CHANGE**
Villa	81,520	105,774	29.8%
Flat Building	22,856	23,603	3.3%
Traditional Houses	46,968	45,173	−3.8%
Shacks	619	750	21.2%
TOTAL	151,963	175,300	15.4%

Note : Flat Buildings contain more than one unit, in many cases large number of units.

Source: Tadweer 1, No. 5, 1992.

8.49 The highest number of residential unit use was observed in the Adderah section of the city followed by the Manfoha area, both areas being in the city centre; Anasseem in the eastern section of the city was the third largest concentration of residential activity since 1986. The largest land consumption for residential use since the beginning of this period (1986-1991) was in the Orega area south-west of the city, with 29% of the total increase of city land-use since 1986, followed by the Anasseem and Al Rodah localities in the east and north-eastern sections of the city. Residential use was more dispersed in 1991 than in 1986. In 1990, the top three areas of residential concentrations comprised 37% of residential use instead of 45% in the year 1986. (Executive Summary Report, 1991). That indicates the

continuous increase of the leap-frogging urban sprawl pattern of urban growth in the city, and its wide prevalence. The sprawl pattern of growth in the city reflects the ineffectiveness of control of development mechanisms and of Plan implementation.

Industrial Uses

8.50 In 1991 there was a 40.8% increase in industrial uses over 1986, when only a small number of manufacturing uses were recorded. The total uses in this category recorded at the end of this period was around 1,450 manufacturing agencies. These industries were dominated by fabricated metal products, furniture, concrete, batching, building construction related products and food products, which together made up 3/4 of total industrial land-uses at the end of this period (Executive Summary Report, 1991). These manufacturing uses existed in industrial areas designated by the Master Plan, in which the dominant industrial area is located in large part to the south-west of the city.

8.51 Also, some parts of an industrial area designated by the Master Plan in the north-west of the city had been developed by establishing light industries and warehouses. Additionally, another auto shops area has been developed during the period within a highly regarded residential area designated by the Master plan as a residential area. As it is going to be discussed later, these fit in the inconsistent categories of development.

Commercial and Services Uses

8.52 In 1991, 41,043 commercial uses were accommodated, compared to 28,532 in 1986 which was a 44% increase. These uses included retail trade, apparel, food, automobiles, furniture, and other. The services sector had the second highest increase after residential, with an 84% increase from 1986 when there were 17,216 uses, 14,400 uses having been added. Auto repairs, warehousing and real estate agencies were the top three categories that had considerable growth since 1986. Warehousing alone increased by 4000 uses between 1986-1991 (Executive Summary, 1991).

8.53 In addition, this period witnessed the development of new shopping centres with one floor of shops and the upper floor used for offices. They were of western shopping centre style, closed-in with centralized air-conditioning. This type of development occurred in the north central area of the city around Olaya. Four big shopping centres have been built during this period in that vicinity.

8.54 Another form of shopping development was of one storey with a number of pedestrian corridors lined along side adjacent shops, open to the air. This kind of shop development known as bazaars or suqs use a large land area as they are a horizontal form of development. There were six major markets of this type, one still under construction, that were developed during this period of five years.

Transportation, Communication and Utilities

8.55 The total number of 5,306 uses related to utilities, communication and transportation services was recorded at the end of this period, compared to 3,354 uses in 1986, an increase of 47%. The largest land-use activity was electric power transformers and distributor points used to serve neighbourhood blocks (HCFDR, 1991).

8.56 The next most common activity in this sector was covered and service parking (Executive Summary, 1991). These were the main increases in land area use during this period.

Open Space And Recreation

8.57 There were 904 uses in this category in 1991, with a 92% increase from 1986. These use categories include cultural, educational and recreational activities. They are located mostly in the city centre, east of the city at Malaz and north at Olaya. Neighbourhood parks, children's playgrounds and wedding halls were the most common land-uses (Executive Summary, 1991). But despite this increase over the year 1986, this type of activity fell short of the city standard needs in parks, gardens, recreation, entertainment, etc. And this increase was only in the number of uses, which might be misleading because some privately owned activity such as wedding halls are considered within this category, where these halls are owned by individuals who rent them for exclusive private use, not open for the public. These are buildings with large entertainment halls with no gardens or recreation activities used mainly for private wedding celebrations.

Agriculture and Resource Extraction

8.58 As we see from Table 8.6, the large increase of land-use in this category is not an increase really, but was due to the widening of the surveyed area in 1991 compared to 1986 (Executive Report, 1991). In fact, these agriculture activities had existed long before 1986. The activities in this category included animal husbandry, date farms, crop farms, greenhouses and other related uses.

Mixed Uses

8.59 The number of buildings in 1991 that were of mixed use activities were recorded to be 5,614 buildings, which comprised 2,6% of total existing buildings at the end of the period (Tadweer 1, No. 5, 1991). There was no record of the number of mixed-use buildings prior to 1991.

8.60 There are a number of mixed-use districts around the city. Commercial-residential mixed-uses are scattered all around the city. But industrial / commercial / residential / warehouse mixed-use districts are located in particular parts of the city such as the Al Noor district in the south-east.

CHAPTER NINE
CASE STUDY
THE INCONSISTENCY OF DEVELOPMENTS

Introduction

9.01 The (SCET) Riyadh Action Master Plan, policies, goals, objectives and projections for Riyadh from 1977 remained the only master Plan for City planning during the periods of study. And almost all developments that took place during the study period were according to this Plan, although it had never been endorsed by the Council of Ministers as the Doxiadis (1971) Master Plan was. It did not have formal legal status, but it could be treated as a Statutory Plan as an extension of the Doxiadis Master Plan, see Figures 9.1 and 9.2.

9.02 This chapter will identify the kinds of development inconsistencies in the city that were revealed by the study survey, followed by explanations of the causes of such incompatibilities as summarized in Tables 9.1 a to f.

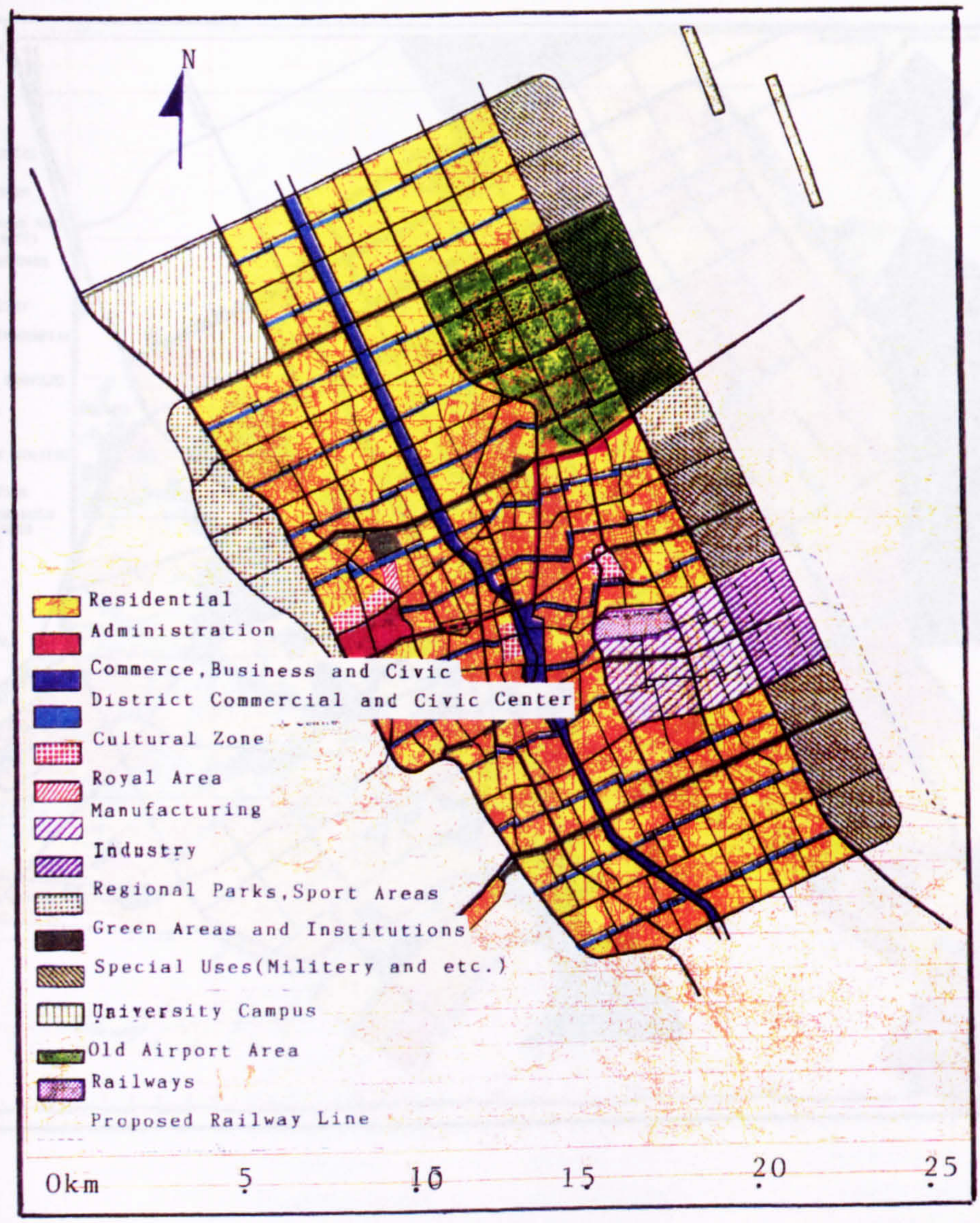


Figure 9.1 Doxiadis Land-use proposals for Riyadh for the year 2000
Source: Doxiadis Associates 1971

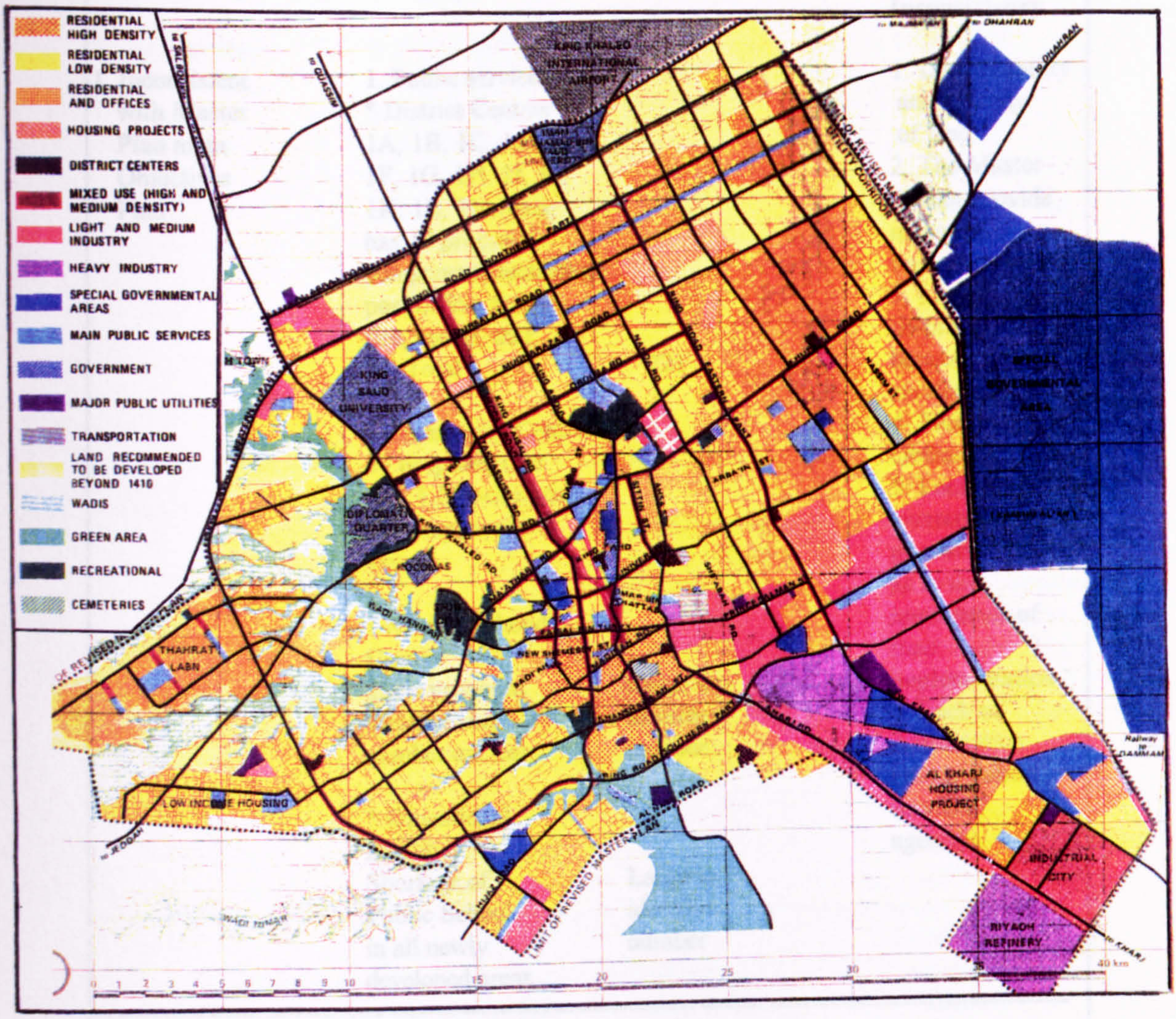


Figure 9.2: SCET International/SEDES, Proposal for future Land-use in Riyadh

Source: TR 8, MOMRA 1982

Table 9.1a
Development Inconsistency: Occurrences and Categorization

Kinds of Inconsistency	Activity Category	Number of Occurrences	Explanations of causes of Inconsistency
I. Inconsistent with Master Plan main Objectives Plan	1. Public services * District Centres 1A, 1B, 1C, 1D, 1E 1F, 1G, 1H, 1I, 1J, 1K, 1L, 1M (each has 17 proposed components including post office, police fire, sports, etc) All Total	221	1. Unavailability and scarcity of land 2. The Master did not provide means of implementation 3. Lack of co-ordination between public service agencies 4. Financial Obstacles 5. Lack of awareness of planning agencies as to the importance of their implementation 6. Lack of coordination among public services agencies
	* Community Centre: 37 proposed (see Fig. 4.10), comprise 15 component Total	556	
	* Neighbourhood Centre: Their proposed location and number unclear	Large un-identified number	
	* Educational Facilities: Shortage of Public School in all newly developed areas.	Large un-identified number	
	2. Transport: * Freeway Inter-sections with main streets where there are signals	Almost all Inter-section w/Freeways	- Inaccurate predictions and projection by transportation Plans
	* King Fahad Freeway		- Not accurate predictions of city population growth
	* Makka Freeway		

Table 9.1b (continued)

Kinds of Inconsistency	Activity Category	Number of Occurrences	Explanations of causes of Inconsistency
I. Inconsistent with Master Plan main Objectives (cont.)	3. Public Utilities: * Sewerage All objectives not implemented	5	1- Lack of financial resources 2- Lack of will by the high planning authority 3- Lack of awareness as to the importance of such facilities
	* Storm Drainage 5 stated objective not implemented	5	
	4. City Image: * Home Privacy	All Residential homes around the city	1- Absence of architectural control 2- No mechanism to implement this objective
	* Land subdivision regulations: 3 basic rules were violated vary service area percentage	In various areas in the city	1- Lack of rules & enforcement 2- Mis-management and spoiled practices
	* Aesthetics: noticed in most of the city streets	Difficult to obtain in unit number	1- Absence of aesthetic control 2- Planning decision makers are civil engineers trained in such as structures and hydraulics
	* Property value: designating an industry area in the middle of residential	One area; a couple of squares	1-Misjudgment by the Master Plan 2-No need for this particular land area at the time of designation

Table 9.1c (continued)

Kinds of Inconsistency	Activity Category	Number of Occurrences	Explanations of causes of Inconsistency
II. Not implementing Master Plan development proposals	- Housing Projects: Areas, 2A, 2B, 2C, 2D, 2E, 2F, 2G.	7	1-The dis-continued need for public housing 2-The lack of desire by citizens for public housing
	- Light and medium industry areas: 3A and 3B not implemented and proposed 3C area developed as light industrial area instead of residential	3	1-The demand for land 2-Inproper land use designation
	* Open Space: According to Master Plan Open Space standards, none of the following were implemented: - 17km^2 green belt - 6km^2 city park - 5km^2 picnic area - 3km^2 of district parks - 2.3 km^2 community parks - 0.9 km^2 neighbour-hood playground	6	1-The high demand for land 2-Lack of awareness by planning agencies as to the importance of implementing them 3-Lack of financial resources
	* Land use activities: Increased in area a lot larger than the expected Master Plan expected.	1	-Wrong projection by the Master Plan
III. Density exceeded zoning regulation of the Master Plan	1. Al-Mutanabi shopping 2. King Abdulaziz Road (East) 3. King Abdulaziz Road (West) 4. Jarir Street 5. King Fahad Road 6. Oliya Road 7. Traditional Area (City Centre)	7	1-The increase in land values 2-Insufficient planning 3-Loose rules and regulations

Table 9.1d (continued)

Kinds of Inconsistency	Activity Category	Number of Occurrences	Explanations of causes of Inconsistency
IV. No Development occurred where it should have (Urban sprawl)	- Residential and commercial land: scattered around the city within Phase One of UBL; in 1986 it comprised 64% of total area	208,800 individual land parcels (in 1986) 21% increase of development by 1991 lead to 164,952 land parcels	- Speculative purposes - Land disputes - Lack of Utility services - The abundance of development
V. Development occurred where it should not	Shanty Town: - North Mugarazat - Al Goobs - Al Manakiah	3	1- Absence of building regulation enforcement 2- Land scarcity
VI. Development activities different to what the Master Plan intended	1. Recreational: Replaced by private commercial use. 2. Light industry: Instead of residential. 3. Public Service Lands: Used for private residential	1 1 Large number of scattered parcels around the city	- The high value of land as a commodity encouraged influential people to reverse such uses.
VII. Development, utilities, and public services not in accordance with Master Plan projection	- Population margin of 400,000 inhabt. more than the maximum expected pop. of the city	1	1-A major deficiency in the Master Plan is its failure to project accurately the future city population needs and its development trends

Table 9.1e (continued)

Kinds of Inconsistency	Activity Category	Number of Occurrences	Explanations of causes of Inconsistency
	- Public Utilities:		2-Lack of financial resources
	* Sewerage covers only 20% of built-up area	1	3-Unawareness of planning authorities of the importance of its implementation
	* Storm Drainage covers very small percentage of built-up area.	1	4-Unavailability of land needed for particular services
	* Telephone: Some areas not covered and lines are in shortage.	1	
	* Mosques: Reached 2,400 higher than Master Plan projected needs of 600.	1800	
	* Cemeteries: existing 100 240 planned.	240	
	* Police Stations: The existing number is less than projected.		
	* Post Office: 4 main post offices existing where 10 proposed.	219	
	43 local and 270 neighbourhood posts proposed, none have been implemented.		
	TOTAL NUMBER OF OCCURRENCES	168,034 +	

Note: The number of inconsistent occurrences could not be accurately calculated in individual units, as some activities where inconsistency had occurred were difficult to identify in small units, as the task of doing so would have been enormous. In some cases it was difficult to break an inconsistency into identifiable units, such as traffic, public utilities, aesthetics, and so on. Besides, one occurrence of inconsistency could cover a couple of square kilometres as of housing, shanty town, open space areas, and so on.

I. The Category of Development Inconsistent With The Master Plan Objectives:

9.03 This category deals with development identified to be inconsistent to (SCET) Master Plan's objectives, policies, and regulations. Here we are only concerned with stated goals and regulations that we found development inconsistent with the (SCET) Master Plan proposed broad policies for the whole development of the city and twenty three partial policies that covered development limits, industrial land development, housing, public services (Religious, educational, health, police protection, fire prevention, sports, recreation, post services), transport, parking, public transport, traffic management, water, sewerage, storm water drainage, electricity, telephone, urban design, preservation, open space, pollution and environmental control. The plan recommended priority actions for four main objectives:

1 - To improve the quality and accessibility of public services.

2 - Develop a comprehensive transportation network.

3 - To provide public utilities parallel with urban development.

4 - Improve the city of Riyadh image.

9.04 Each inconsistency to the above stated main policies or to the other sectorial policies of the Master plan will be listed.

(1) Inconsistency with Public Service policy of the Master Plan:

Service Centres:

9.05 The (SCET) Master Plan is noted to have stated that a main objective of the plan is to provide public services to all inhabitants by means of service centres equally distributed throughout the city. These proposed service centres and their functions were explained in detail in Chapter Five.

9.06 This objective has never been fully achieved. The proposed service centres of the Plan have never been fully implemented. The service centres are designated by the Plan in a hierarchy servicing geographical areas for neighbourhood, community and then bigger district areas for larger segments of population. These service centres were to contain a hierarchy of educational, religious, open space, health, public buildings, post office, community facilities, commercial facilities, police and civil defence services that increase according to the population area served.

9.07 The existing situation is that many of these proposed centres have never been implemented in their designated location, nor in any other location, land of the proposed service centre components implemented only a mosque and one school are usually implemented, with the rest of the land for other services gone in most cases to residential use, that was given by grant or purchased by private individuals.

District Centres:

9.08 As mentioned before, the district centres are part of the hierarchy of service centres proposed by the SCET Plan. These proposed district centres were not implemented according to the plan, as Figure 9.3 illustrates:

- The designated area (1A), is currently used for commercial, for automobile sales activities, with no public service development.

- The area (1B), is partly used for a gas station and large private marriage party halls. The rest is undeveloped land area privately owned, designated for residential use.

- Area (1C), is currently an empty lot of land with all the area around it developed. This land area is owned by private individuals, and currently displayed for sale. And designated for mixed use of residential and commercial, which does not have anything to do with any public service.

- Currently area (1D), is the location of a large governmental centre.

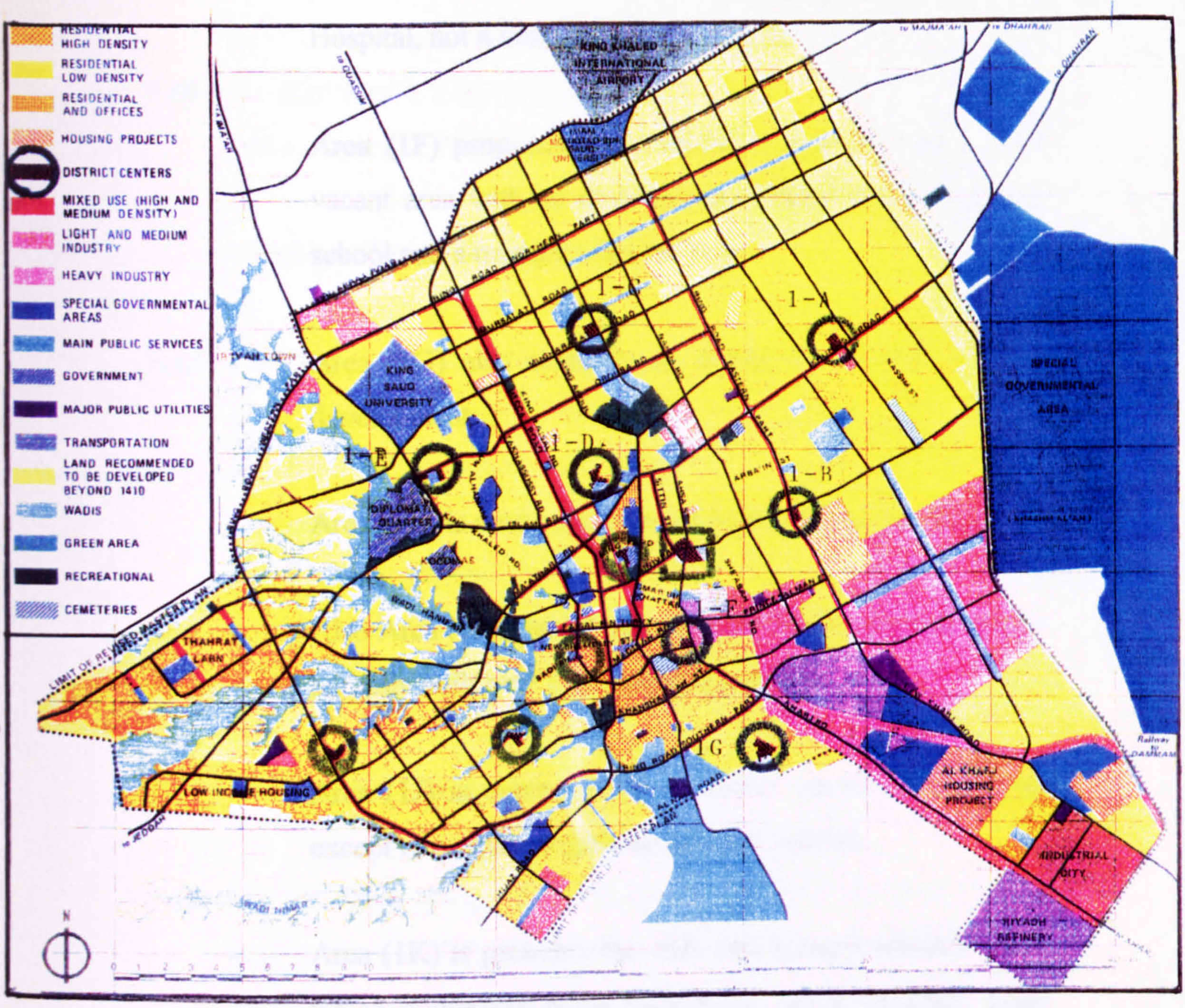


Figure 9.3: Proposed Service Centres which were not implemented.

Source: TR 8, MOMRA 1982

- Area (1E) now is occupied by the King Khalid Eye Hospital, not a district centre as proposed.

- Area (1F) proposed for a district centre is now a wide vacant area with no development, except an intermediate school and a mosque adjacent to it.

- Area (1G) also currently an empty lot of land with no development.

- Area (1H) is now a large vacant land overlooking a valley.

- Also Area (1I) which is not very far from (1H) is currently partially built over by residential homes.

- Area (1J) is currently not a district centre as proposed, except two adjacent girls elementary schools.

- Area (1K) is probably the only nearly implemented centre which comprises horse race track, sport stadium, large garden, post office, fire station, municipal office and a library.

- Area (1L) is currently cut by a street, east of which is empty undeveloped land and west of it is the auction and livestock market.

- The area (1M) is now used as governmental offices.

Community Centres:

9.09 As illustrated in Chapter Five (Figure 5.5), 37 community centres were proposed. None were implemented.

Neighbourhood Centres:

9.10 The location and number of these proposed neighbourhood centres and their distribution around the city were never plotted or stated in the (SCET) plans to judge accurately their inconsistency. But it seems, only the mosque, school and in few cases a small garden of its components are visible now of service centres around the city. So inconsistency here is difficult to obtain in exact number, but it seems enormous.

Educational Facilities:

9.11 For the Plan's policy of establishing educational services there is less achievement, with shortages of schools at all levels and kindergarten and primary in particular. Accessibility has been poor, especially in the newly developed areas, which if they have any governmental educational facilities will find them in a rented building, or if a private school in a building which has been designed to be used as a single family residential villa with very small rooms and a closed space. Even though private schools are supposed to fill the gap of shortage of government schools, there is a great shortage of girls schools in all newly developed areas. Schools in general in the city are far from where people live, and the automobile is the only means to reach school at all levels,

which creates a heavy school rush-hour and puts great pressure on already congested city traffic, producing high economic, environmental and social costs.

Postal Mail and Services, Police, Fire and Sports Facilities:

9.12 The policy objective relating to postal mail boxes, postal services, police and fire protection stations and sports facilities as part of public services has never been implemented as proposed by the (SCET) Master Plan, specially at the neighbourhood and community centre levels.

Causes of inconsistency:

9.13 It has been observed that the causes of non-implementation of he previous services are the following:

1 - Land shortage and land ownership: The high cost of land due to the speculation factor makes it scarce, and the cost of acquiring it is considered high for a government agency which has an ultimate goal of cutting its budget rather than providing the service. Such failure of a government agency to acquire designated land for its service in a service centre either by paying compensation or promising to pay, will compel the subdivision owner to sell or do whatever he wishes.

2 - The (SCET) Master Plan failed to provide efficient means to achieve these policy objectives, such as ways to curb

land shortages and find right locations for the needed services.

3 - The lack of coordination between public service agencies over location and the timing of implementation.

4 - Financial obstacles that face a public service agency in implementing its proposed program. This can be considered one of the major causes.

5 - Lack of awareness of some planning agencies as to the importance and urgency of implementing such services. The proposed rule of the (SCET) Plan was that the property owner should dedicate at least 50% of the total area subdivided for public services, and these areas should be continuously kept by the public service agencies until the designated use has been implemented. The proposed 50% rule has never been adopted, and the taking of these lands by related agencies has never been realized. Currently the rules are that a maximum of 33% of land to be dedicated for public services including road network.

(2) Inconsistency with the policy of developing a comprehensive transportation network:

9.14 The SCET Master Plan stated that its street network policy: "is to create a system of highways (free ways) and streets enough to handle future traffic size taken from traffic future projections with priority action of improving the interchanges and intersections

between freeways and arterial and collector streets."

Transport:

9.15 The current traffic situation in the city, specially in the two major freeways of Makkah Road, that circulates traffic between the east and west of the city, and that of King Fahad's that circulates traffic between north and south, is that these two main freeways are extremely congested, which in its peak periods is intolerable. The intersections of these freeways with the crossing main arterial roads are controlled with traffic signals, but the heavy traffic over these intersections means that the existing situation is inconsistent with the above traffic policy.

9.16 This situation is due first of all to initial wrong and conservative projections of the (SCET) Master Plan, as the expected population growth of the city has been exceeded and the high rate of car ownership has risen to around 1 car per 3 persons. The Saudi traffic bureau has stated that there are 5 million cars in the Kingdom, which is a very high standard on a world wide scale that was never taken into account by the Plan. The King Fahad highway has a designed maximum capacity of 160,000 cars per day, and 60,000 cars per day on its service side road (these calculations here are in one direction). (HCFRD, 1991). The current traffic circulation is around 150,000 cars per day on its main course on the average, and about 15,000 cars per day on its service road in either direction. That is a lot less than the expected movement initially when it opened of 40,000 cars per day on the city service road, but more than the 140,000 cars per

day expected initially on the highway. So for this freeway to reach near its maximum capacity of traffic circulation early in its opening years certainly implies that it will exceed its maximum in a few years from now on the average, while now it reaches its maximum and more during peak hours.

9.17 The King Fahad freeway is currently the only major arterial free movement road that cuts the city through its centre from south - north; it passes through major governmental and commercial facilities and activities, and also connects directly to other Saudi major cities. This brings the road currently and in the future under heavy traffic movement. In and during traffic peak hours it reaches congestion beyond its capacity.

9.18 But the Kaleeg freeway is facing more difficult traffic congestion, for it has been used beyond its designed capacity since its early years of opening more than ten years ago. it is also the major freeway, (non stop), that carries automobile traffic of the city between its middle and west sides, and to other Kingdom cities. The Higher Commission for Riyadh Development studies for the Makkah freeway revealed that the size of traffic movement on that highway was over 180,000 cars/day, while its capacity is around 160,000 cars per day, and the near future necessary absorption capacity for that road is 315,000 cars per day (Tadweer 2, No. 6, 1992), HCFRD).

(3) Inconsistency with the stated policy of the plan to provide public utilities parallel with urban development:

9.19 The following are the identified inconsistencies with this objective for public utilities.

Sewerage:

9.20 The Master Plan policy stated that: "The rate of sewerage network implementation should be coupled to the rate of urbanization with the five years designated development areas, except where density is less than 15 persons per hectare where a septic tank is required."

9.21 The existing situation is that sewerage serviced areas are a very small percentage of the city, and lag very far behind the rate of urbanization; large portions of the city where density is a lot higher than 45 persons per hectare are far from being serviced by a sewerage system. Figures 9.4 and 9.5 show the proposed and current sewerage services in the city. This clearly is incompatible with the Master Plan's stated objectives, and also the following stated action priorities have not been implemented yet:

1 - "Encourage industries that have minimum water consumption." There is no evidence that this policy has been implemented, as there is no indication of that during the industrial project permit process.

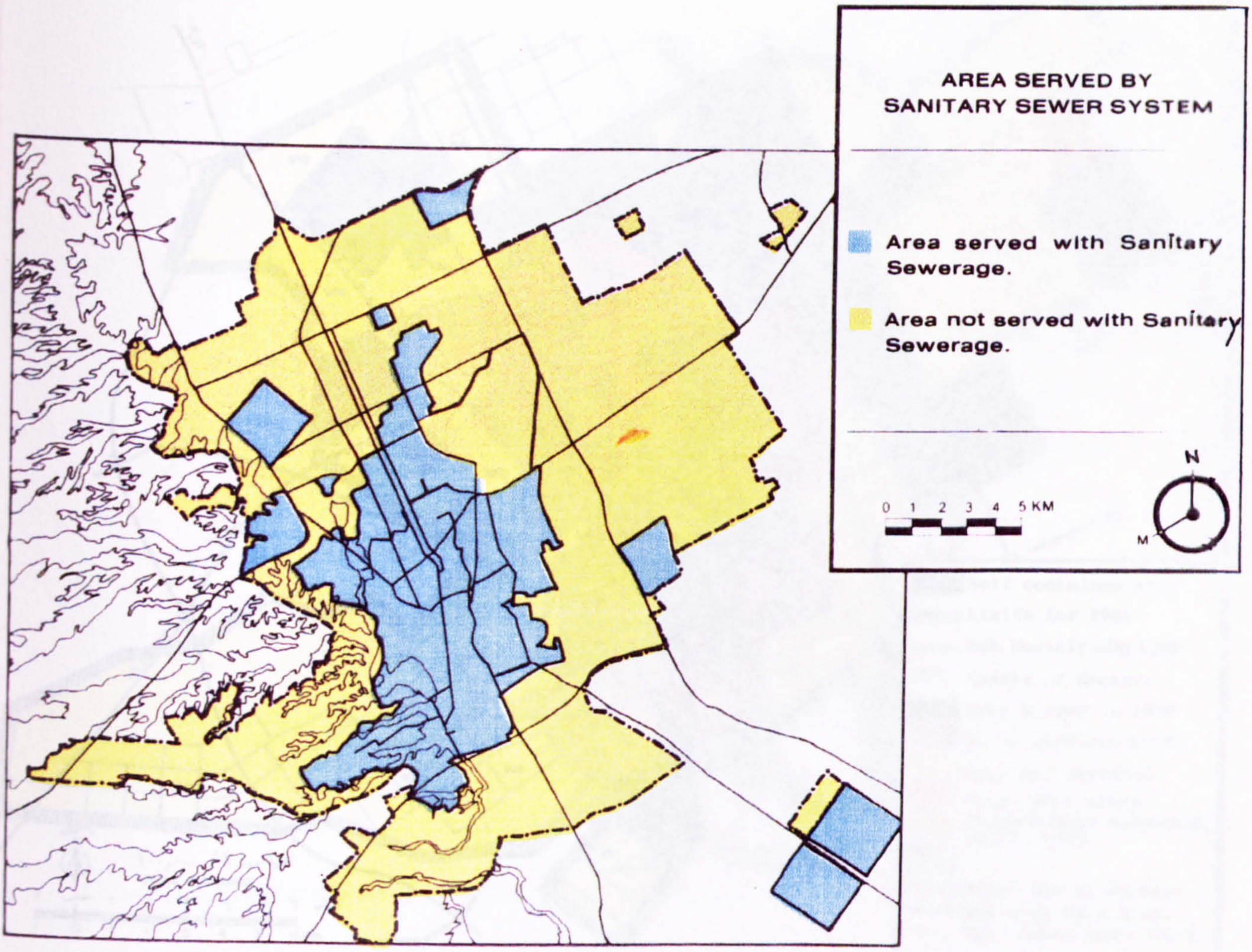


Figure 9.4 : Sewerage Covered Areas in 1992.

Source : March to Development

Riyadh Development Authority Report, 1990

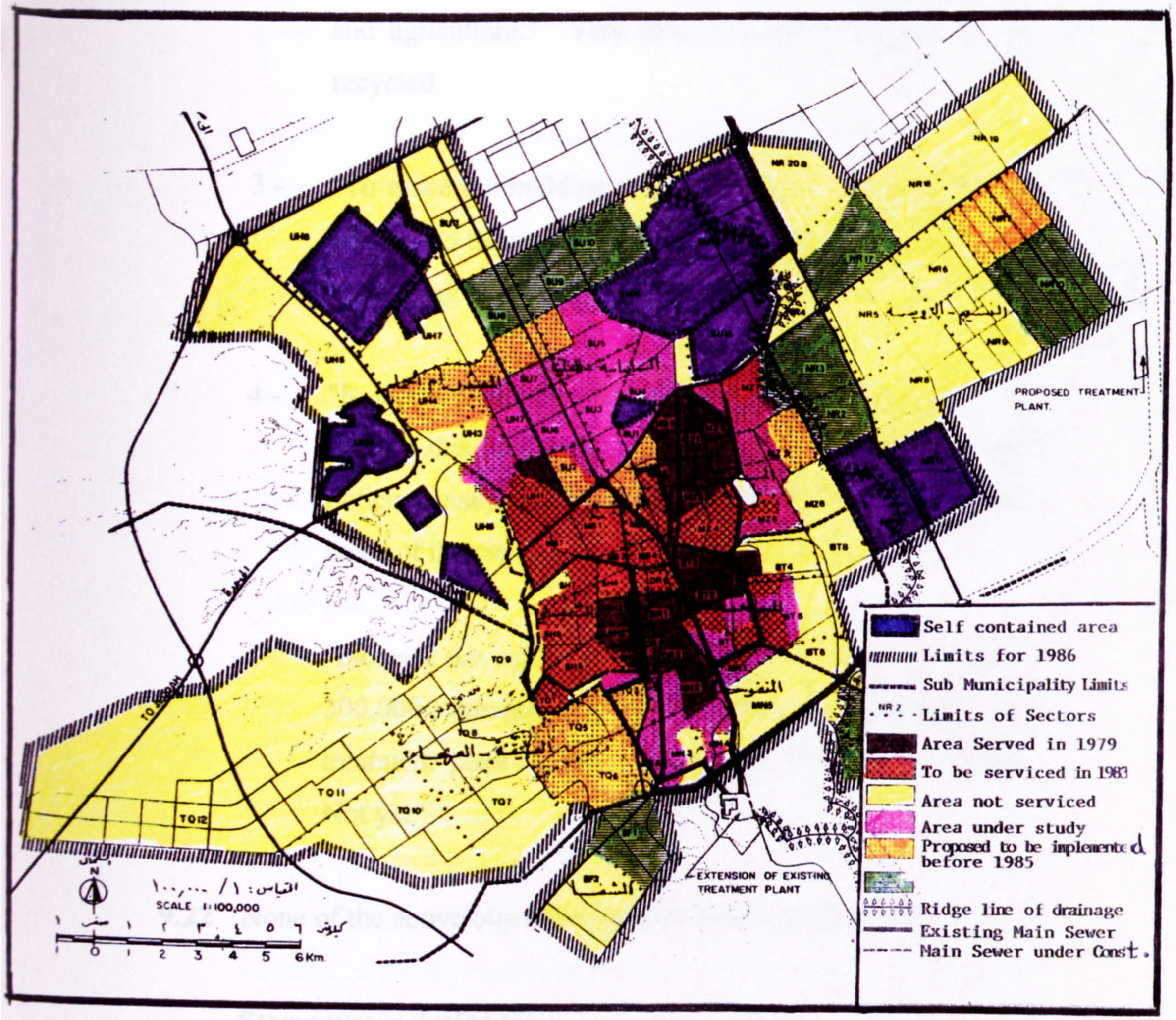


Figure 9.5 : Sewerage, Existing and Planned Conditions for 1986.

Source : Tech. Rep. No. 13, MOMRA, 1981

2 - "Treat and recycle drained water to be used for industry and agriculture." Very little of drained water has been recycled.

3 - "To make the building of a storm water drainage network coupled to the rate of city urbanization." This is very clear by looking to the city utilities network layout.

4 - "Reject building permits in low lying parts of the city and acquire this land for public use." It can be observed by noticing many developments that have taken place in low areas of the city.

5 - "Increase the capacity of current (1980) treatment plant to 300,000 cubic meters per day in 1990, and establish a new treatment plant to serve the Eastern section of Riyadh". Not yet.

9.22 None of the above objectives had been achieved by 1993.

Storm water drainage:

9.23 Around three quarters of city built-up areas are not covered by storm water drains, and none of stated five objectives have been implemented.

(4) Inconsistency with the fourth main Master Plan priority policy to improve the city image

9.24 The following are the identified inconsistencies in home privacy, land subdivision regulation and property value.

Home privacy:

9.25 In Chapter Four, it was noted that the (SCET) Master Plan (TR, 8, 9II, 1981) criticized the Doxiadis development regulation "as based on western standards with little attention to the local concerns especially visual privacy. Instead it emphasized set backs and heights."

9.26 First, privacy in one's home is a universal desire all over the world. It is not just a local concern. In the western world a window of a single family house bedroom would not be found only 4 meters directly from the bedroom window of the next house, as we still have in Riyadh and other urban areas in the country. Second, the (SCET) Plan did not provide a solution for this issue by introducing firm and efficient building control regulations to correct this odd situation. Instead it repeated the Doxiadis mistake of emphasizing set backs and heights. In the city it is easy to observe the lack of home privacy in houses and flat buildings.

9.27 The (SCET) objectives of protecting privacy of private homes and that zoning regulation should have a legal structure to safeguard privacy, were never achieved. There was an inability

of government planning agencies to come up with a concrete solution to this problem that could be legally enforced.

Land subdivision regulations:

9.28 There have been a number of occurrences incompatible with these standard regulations.

1 - The standard rule (3 i), to prohibit centre lines off sets of less than 50 meters in the horizontal alignment of any streets across an intersection. Figure 9.6 shows an example of a violation of that rule.

2 - Also there have been violations of the rules that blocks should never exceed 500 meters and be not less than 200 meters in length, and that pedestrian walk ways should not be less than 4 meters wide.

3 - And there have been violations of the rule that: "In no case shall the street be less than 15 meters wide."

All the above stated standards had been violated in a number of locations throughout the city, in contradiction to these rules.

Aesthetics:

9.29 While one of the (SCET) Master Plan objectives was that the city's development should be aesthetically desirable, this has not been applied on building facades along major streets. The

Figure 9.6

disuniformity of adjacent building facades is typical. It is easily observed in the city that there are different window shapes and openings, one with balcony and one without and contradictory designs among adjacent buildings. Besides, the building zoning regulation of 2 meter set backs of each building on commercial streets (that is 4 meters) given a disunity and discontinuity among commercial buildings along any major street, which is aesthetically undesirable. Figure 9.7 illustrates this.

9.30 This aesthetic failure is due to the absence of aesthetic code control over building facades that specify the window size, shape, and the building outlook in a uniform and architecturally desirable shape.

Property Value:

9.31 The Master Plan objective of preserving property values, a health residential environment and keeping a good city image, and the Master Plan's proposed regulation to preserve property values by applying zoning restrictions in term of adjacent uses, is inconsistent with the Master Plan designation of a warehouse and light industry area in the north west of the city, in the middle of a single family residential area north of the Northern Ring Road (Figure 9.8) which is currently partially developed as designated.

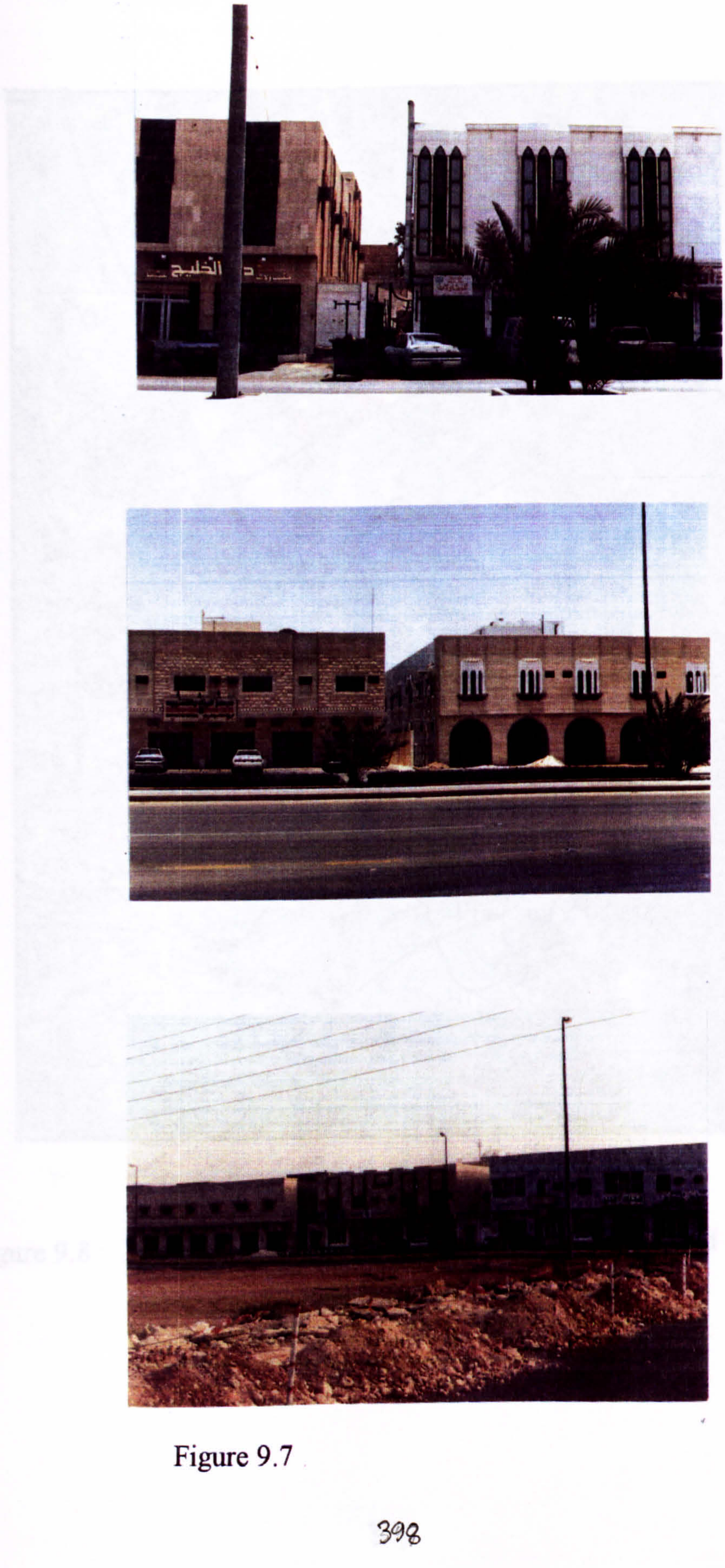


Figure 9.7

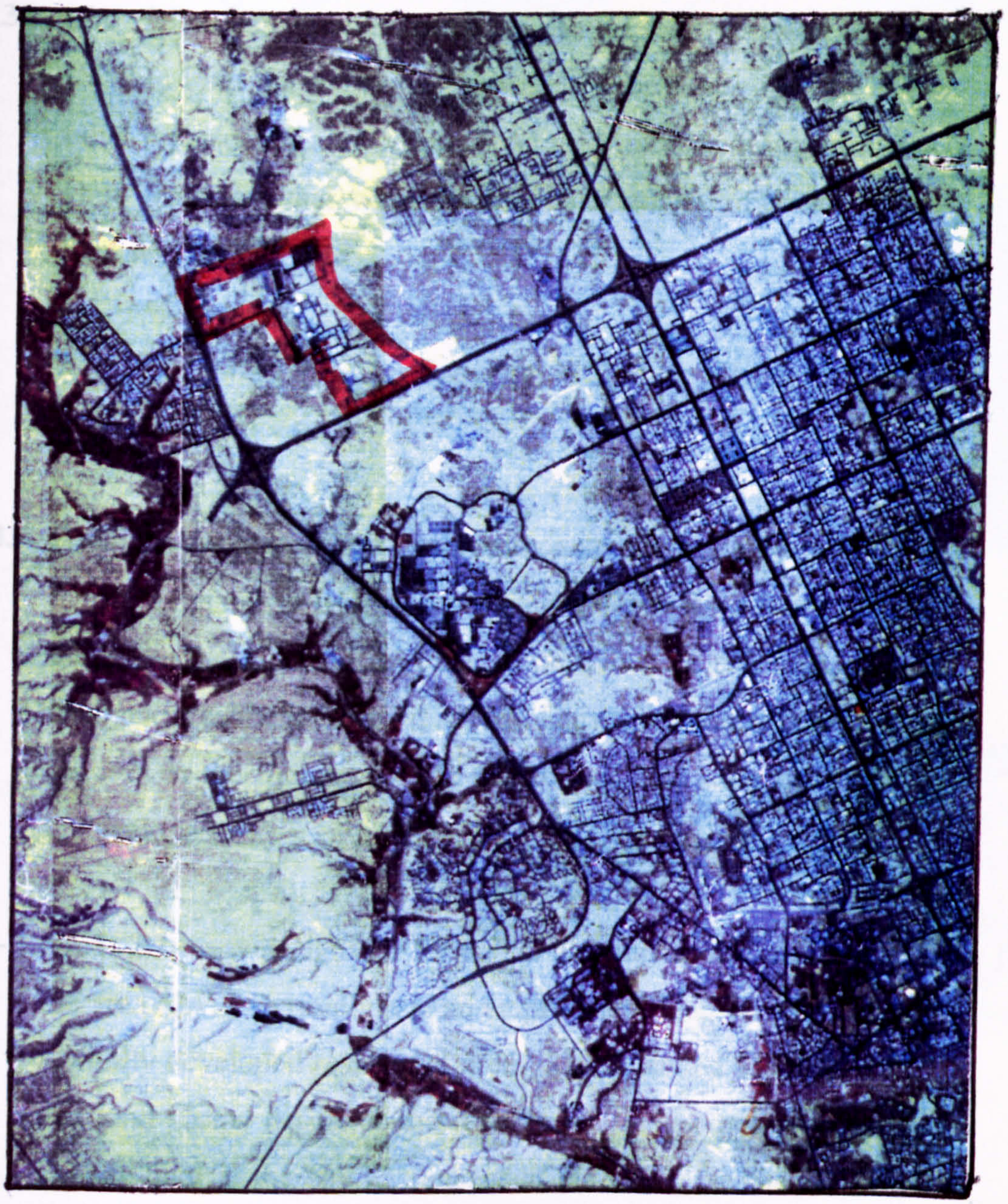


Figure 9.8 : Warehouse and Light Industry Location (Marked in Red) surrounded by Residential Designated Area.

II A case of never implementing (SCET) Master Plan development proposals:

9.32 The following section examines land-uses proposed by the (SCET) Plan but never implemented accordingly; instead, some other types of uses have been developed in these designated area. Only land-uses that were not implemented as proposed by the Plan will be indicated.

2 - Housing Projects (Government Public Housing) (Figure 9.9):

9.33 Area (2A) was proposed to accommodate a housing project. This land area is cut in two pieces by the Eastern Ring Road, and is currently vacant land. But the section west of the ring road is designated as the location of a Girls' University that is intended to be built in the future, for the rest of this land area is currently undeveloped.

- Area (2B): was designated for public housing and is smaller than the area (2A). Currently it is an empty lot of land surrounded by a wholly developed residential area. The intended future use for this land seems frozen at the time being, as the public housing already built in the city has exceeded the need; besides, there is the problem of how to distribute these dwelling units.

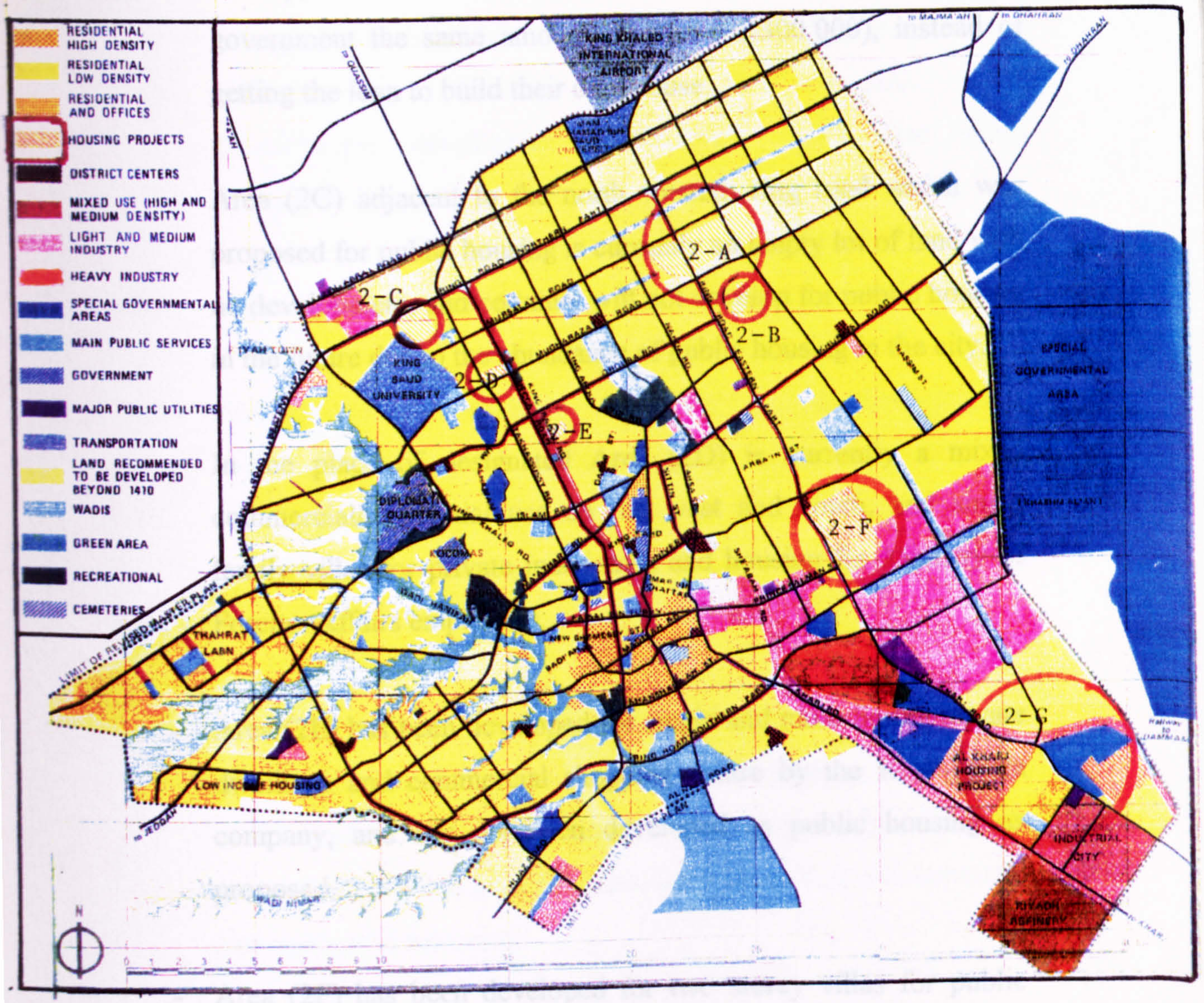


Figure 9.9 : Proposed Housing Project Areas

Source: TR 8, MOMRA 1982

The latest is to transfer Real Estate Development Fund housing loan applicants to own a unit of this public housing by owing the government the same amount of loan (SR300,000), instead of getting the loan to build their own house.

- Area (2C) adjacent to the north western ring road which was proposed for public housing is currently an empty lot of land with no development, and certainly will not develop for public housing in the future due to the abundance of public housing in the city.

- In the place of designated Area (2D) is currently a mixed commercial/residential use on the west and south, and single family villas for private individuals and housing for Ministry of Foreign Affairs employees.

- Area (2E) has been developed for single and multi family/private dwellings and commercial shopping centre by the Real Estate company, and has not been developed as public housing as proposed.

- Area (2F) has been developed for two storey villas for public housing according to plan, but over only less than half of the area designated for that use.

- Area (2G) on the far south of the city on Karj Road is one of the largest public housing projects in the Kingdom. It is considered as a small town and contains thousands of single and multi family and flats units. But the inconsistency of this development is that it is located in the least desirable area in the city, in the middle of

light, medium, and heavy industries that surround it in all directions; it is also very close to the Riyadh oil refinery, with industrial emissions and other nuisance out put. It is an extremely difficult area to live in. This can be considered rather unsatisfactory development in standard, rather than being contrary to the plan.

3 - Light and medium industry areas (Figure 9.10):

9.34 Area (3A) which was designated for light and medium industry, south of Kurais Road, has never been used for this kind of activity as proposed. It's current use is mixed commercial and residential use on the main roads, and single family villas on the inside area.

- Area (3B), located north of Kurais Road south of the old airport, was proposed to be a light/medium industrial area, but has not been implemented accordingly. it is currently used for governmental office activities, and some other mixed commercial and residential activities.

4 - Green Open Space and Recreation:

9.35 The green areas shown in Figure 9.11 are privately owned, cultivated for palm groves, crops, and other tree farms that are not open for public use. Some of these areas are only palm groves that are abandoned or need improvement, and have not been utilized by their owners nor by the government acquiring them and improving them for public recreational use.

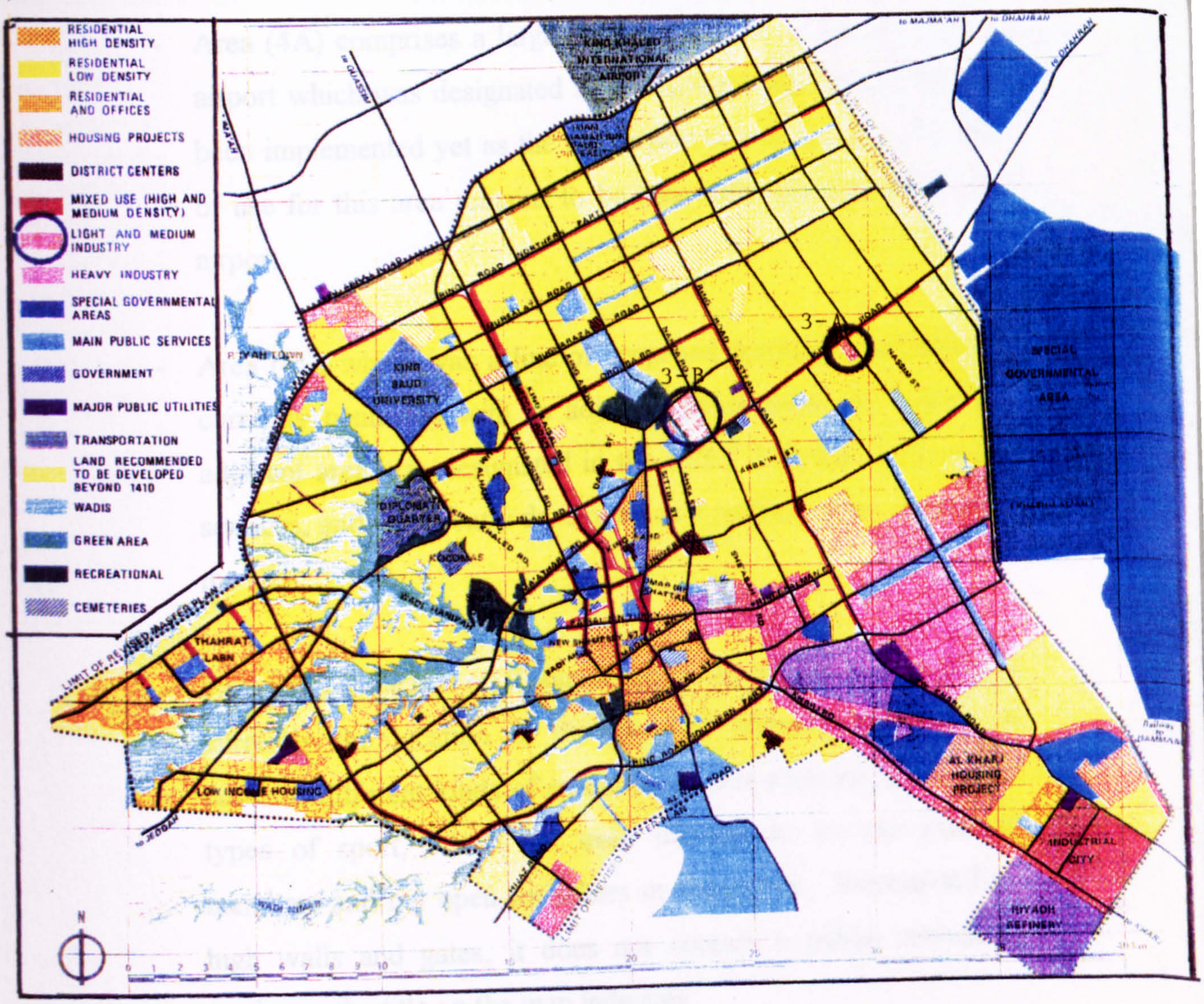


Figure 9.10 : Proposed Light and Medium Industry Areas.

Source: TR 8, MOMRA 1982

9.36 As illustrated in Figure 9.11, we can see that:

- Area (4A) comprises a large southern portion of the old Riyadh airport which was designated as recreational garden, but has not been implemented yet as the old airport is still in use. The type of use for this area remains to be seen after the removal of the airport.

- Area (4B) which was a line of proposed greenery recreation, is currently contained with an adjacent government use. But the adjacent area was designated in the SCET Plan for main public services, and is currently developed as a public garden on part of the area.

- Area (4C) is located on Kurais Road, on its southern edge, and is currently the location of the physical eduction institute. It contains different kinds of sports fields and stadiums for various types of sport, which are used exclusively by the institute members and not open for others or the public. Surrounded by high walls and gates, it does not contain a public recreation garden as the title on the map indicates.

- Area (4D) west of the city over Wadi Hanifa is the location of the "sports city," that contains a number of indoor - outdoor sports facilities and is part of the Youth Welfare Agency. The rest (dark green) of the area is designated for recreation in the proposed land-use plan, and is currently public gardens that are in use. It seems that the plan mixed-up an area of sport activity with an open public garden.

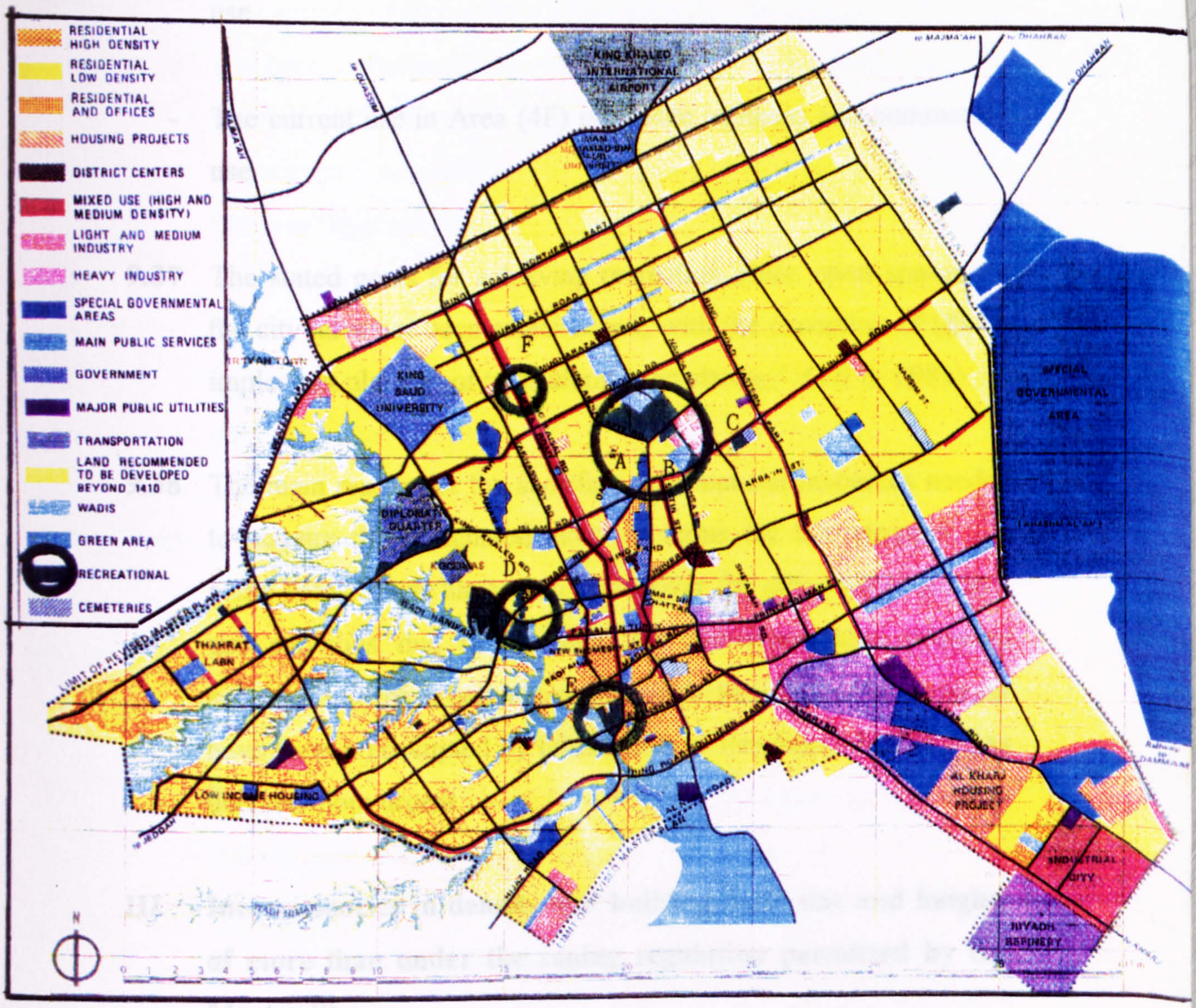


Figure 9.11 : Proposed Recreational Areas, that were not implemented.

Source: TR 8, MOMRA, 1982

- Area (4E) is currently abandoned palm groves with no apparent use.

- The current use in Area (4F) is private business and commercial use.

9.37 The stated goals for achieving recreation green open spaces for the city have not been achieved yet, with the exception of (d) "to implement planting of trees along main streets." (TR 8, 1981)

9.38 The main reason for the shortfalls are financial resources needed to acquire the designated lands or farms for this purpose. In some cases, lands have been taken over for other types of land-use activities due to the fact that the responsible planning authority may have had less concern with that kind of land use, or have been preoccupied by other kinds of development that it has deemed more urgent.

III Inconsistencies in density and building bulk size and heights of more than under the zoning regulation permitted by the Master Plan

9.39 The SCET/International Master plan in its report No. 8 stated that, while many of the Doxiadis Master Plan recommendations had been successfully implemented, most of its land-use control regulations were neglected, with one of the main reasons for this being that the intensified pressure for development in the central area caused an increase in land prices along main streets. This led the planning authorities to permit higher densities than the

Master Plan recommended, which resulted in great pressure on the capacity of the various utility systems. In trying to solve this and other deficiencies, the SCET/International (RAMP) proposed regulations for this issue as follows:

- To preserve property values by applying zoning restrictions in terms of adjacent uses.
- To determine the degree of land-use activities and of residential density, which could then be used to estimate the utilities and public services the area needs.

9.40 Event with the (SCET) Master Plan trying to overcome this problem of development control, this problem still exists and there are a number of developments that have occurred in the city that are inconsistent with the zoning regulations for bulk and height proposed by the (SCET) plan, therefore repeating the Doxiadis Plan case. Next, we will introduce some occurrences of such inconsistencies, Figure 9.12:

1 - Al-Mutanabi shopping:

9.41 In the Malaz district in a designated residential area, a street that connects Jarir Street with Omar Bin Abdul Aziz, single family residential villas were changed by the Riyadh Municipality to be a two storey commercial show room, with 100% lot use early in 1980. It became a main shopping (for non food) attraction, mainly for the eastern part of the city. But even the change of use has tremendously increased the property values along its route, but extremely depreciated residential house values in that locality.

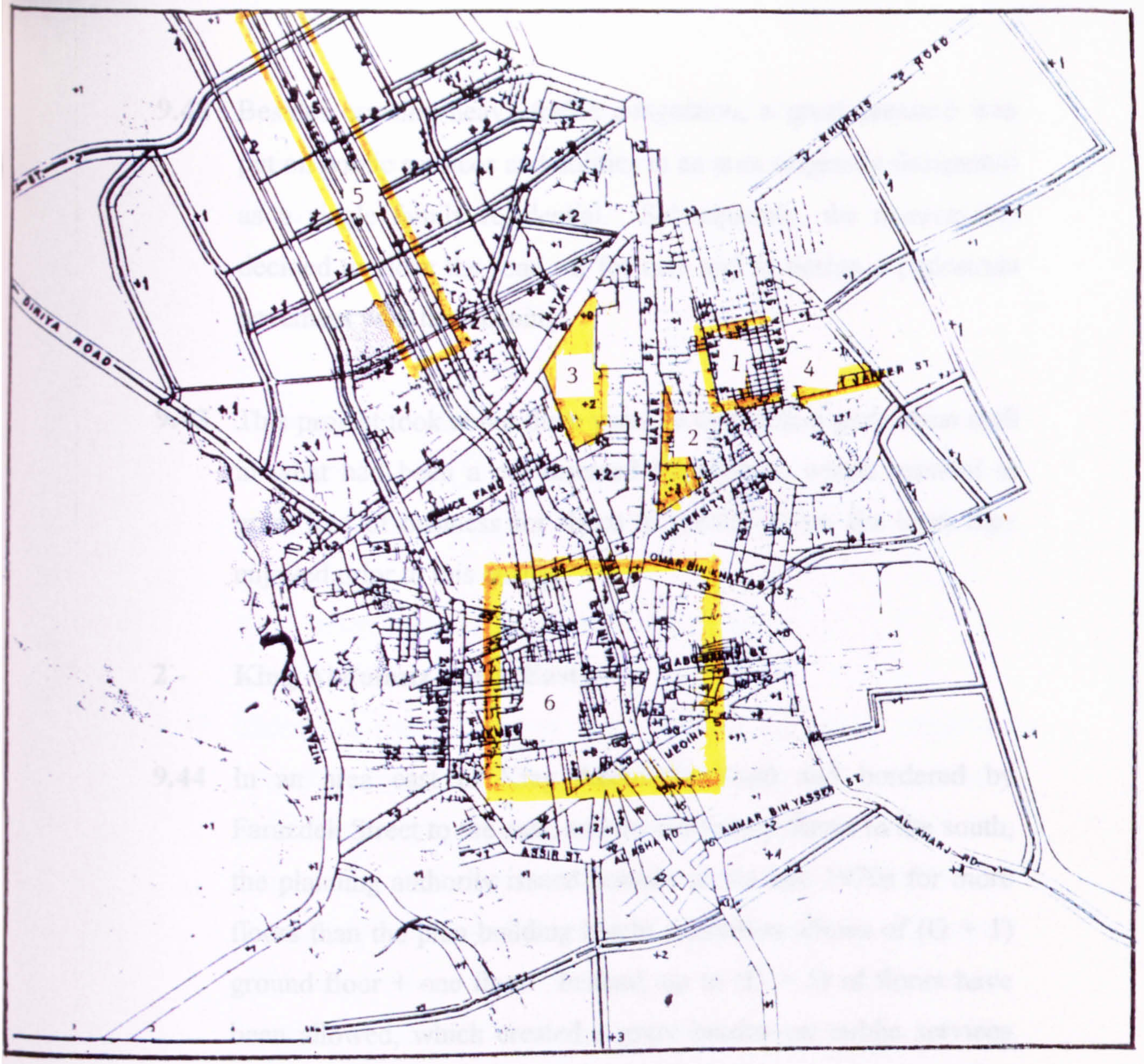


Figure 9.12 : Building Height Restriction in 1981

G + 3 = ground Floor + Three Floors

Source: Technical Report No 9II, MOMRA, 1981

9.42 Besides creating heavy traffic congestion, a great pressure was put on public services and utilities in an area originally designated as a single family residential. Subsequently, the municipality decided to close the road off for cars and to design a pedestrian pavement with landscaping.

9.43 This project took about three years to complete a pedestrian mall in what had been a car oriented long street, which resulted in great loss of business for shops to greatly below the level they enjoyed prior to this change.

2 - King Abdulaziz Road (East):

9.44 In an area east of King Abdulaziz Road and bordered by Farazdek Street to the east, and by University Street to the south, the planning authority issued permits in the late 1970s for more floors than the plan building height restriction allows of (G + 1) ground floor + one floor. Instead, up to (G + 5) of floors have been allowed, which created a great burden on public services and utilities, car parking, privacy and air space of single villas adjacent to 6 storey building.

3 - King Abdulaziz (West):

9.45 The "Wazarat" area west of King Abdulaziz, behind the government ministries started as a shanty town, occupied illegally with 100% use of lot areas by the occupants. The SCET Plan restricted building height in the area to (G + 2) i.e. ground floor + 2 storey. It is currently developed up to (G + 4). Such an

increase of density use over what is planned and permitted by the plan caused problems of congestion and shortages of all kinds of services.

4- Jarir Street

9.46 Between Ahsa Street and Ali Bin Abi Talib Street, the plan designated (G + 1) for height, but now this area along the main street is all developed to (G + 2).

5 - King Fahad's Road and Olya Road:

9.47 These two major streets are amongst the most important commercial streets in the city. The Doxiadis Plan designated 4 and 6 floors along them, as in Figure 9.12, while the SCET Plan assigned (G + 7) of floor height along Olya Road and (G + 9) along King Fahad's Road, the floors decreasing to (G + 3) and (G + 6) respectively after Oruba Road is crossed to the north. Currently the Riyadh Municipality is reviewing a number of large scale projects along both roads, where permission will be granted on heights run as high as 30 floors, and where the Municipality is now granting a permit for these projects, and require that the land lot area should have a minimum of 5000 m^2.

9.48 Introduction of such floor density as this will certainly have far greater impact than before due to fact that such development is very large in scale. If this kind of development is introduced, a lot more problems than those previously encountered will take place. Such projects will put a great pressure on public services

and utilities already not sufficient enough. Besides, and most importantly, this will violate the privacy of all residential single family houses adjacent along both roads which cover a wide area.

6 - Traditional Areas:

9.49 The term of "traditional" is used regularly to refer to areas that were built in the city in its early urban formation. These types of dwelling are not traditional in the real sense, the only traditional thing about them being the small court yards inside some of them. But, if we evaluate the rest of these dwellings' features, we will find that this will put them in the "slum" category by the know standards.

9.50 In these traditional areas, the lot area is 100% built upon with the exception of a small court yard; in some units the parcel area is 100 m^2 or less, the houses being of two stories, attached continuously with no cut off, very narrow streets at an average width of 5 m, minimal or no open space, very difficult areas to be serviced and to live in. Figure 9.13 illustrates the Manfoha area as a typical area. Figure 9.14 show a typical main street in a `traditional' area.

9.51 These slum area are located in the city centre and around it within a radius of about ten kilometres. This form of development has never been planned or intended to be the way it is now. Some areas had been developed prior to the Doxiadis and SCET Plans, and some were developed after. These developments initially

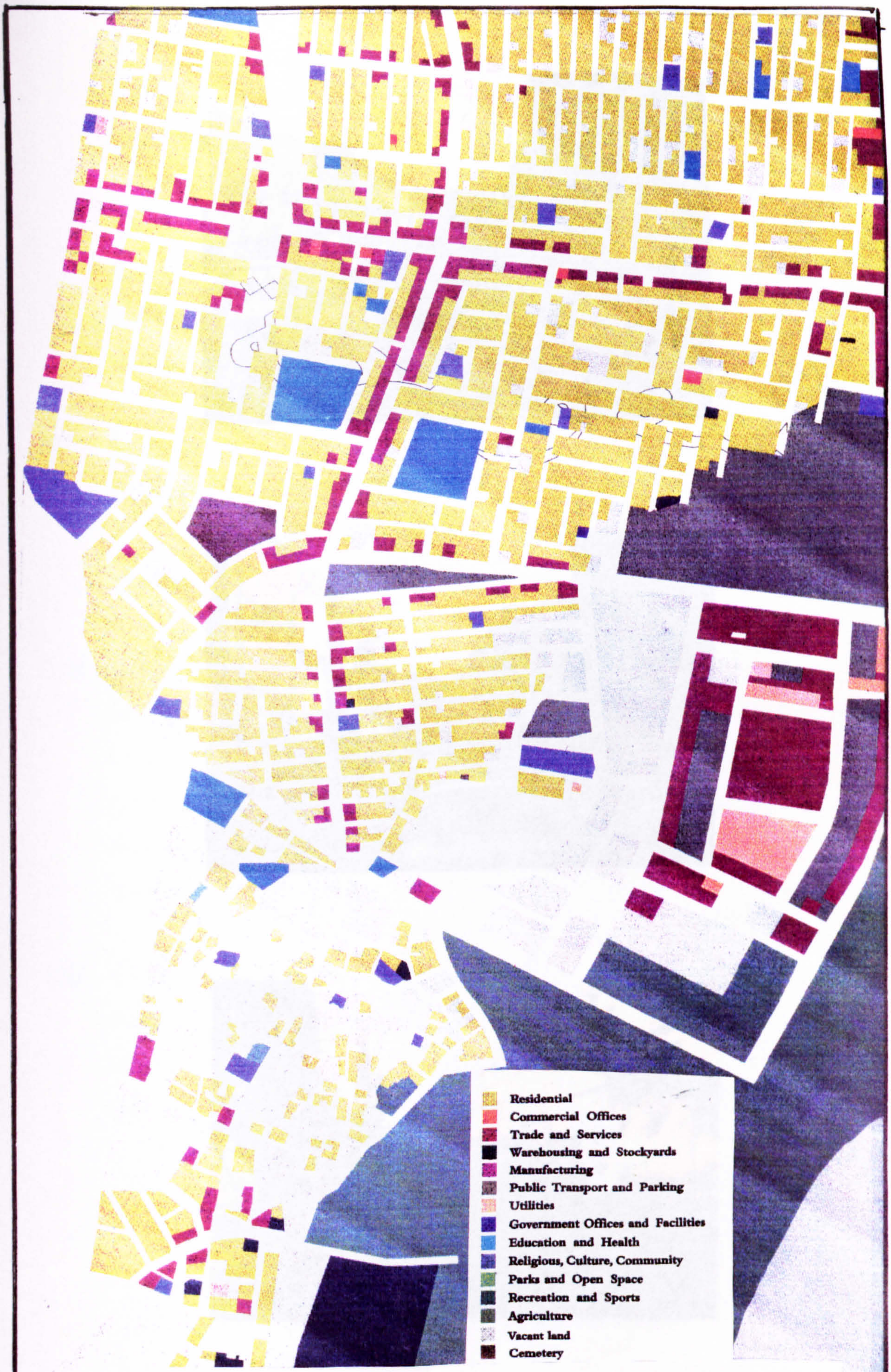


Figure 9.13 : Typical Traditional Area Land-use Layout Manfoha Area

Source: Riyadh Municipality

Figure 9.14

started for example by comparatively large land area (average 1000 m^2 each) its owners has asked for sub division of their land to 10 parcels or so, which they usually get. Then the 100 m^2 parcels each became a single residential dwelling. This is very intensive use for land which is inconsistent with the Master Plan's minimum density standards. These areas of slum are locally called "sha'abia" dwellings, which means "populous."

IV Inconsistencies through NO development in areas where the Master Plan intended that it should occur:

Vacant Land:

9.52 In this category fits the wide and large number of developable lands scattered within the built-up area of the city and on its edges. They reflect the "Leap-frog" pattern of development which is inconsistent with the Master Plan projections for development in such particular areas. Figure 9.15 shows the relative size of vacant land to the built-up area of the city.

9.53 A 1986 survey revealed that 64% of the survey area, or 517 km^2, was vacant land, including 208,800 individual parcels. Around 84% of this vacant land was developable, while the remainder was not developable due to its being a valley or hilly area, etc.

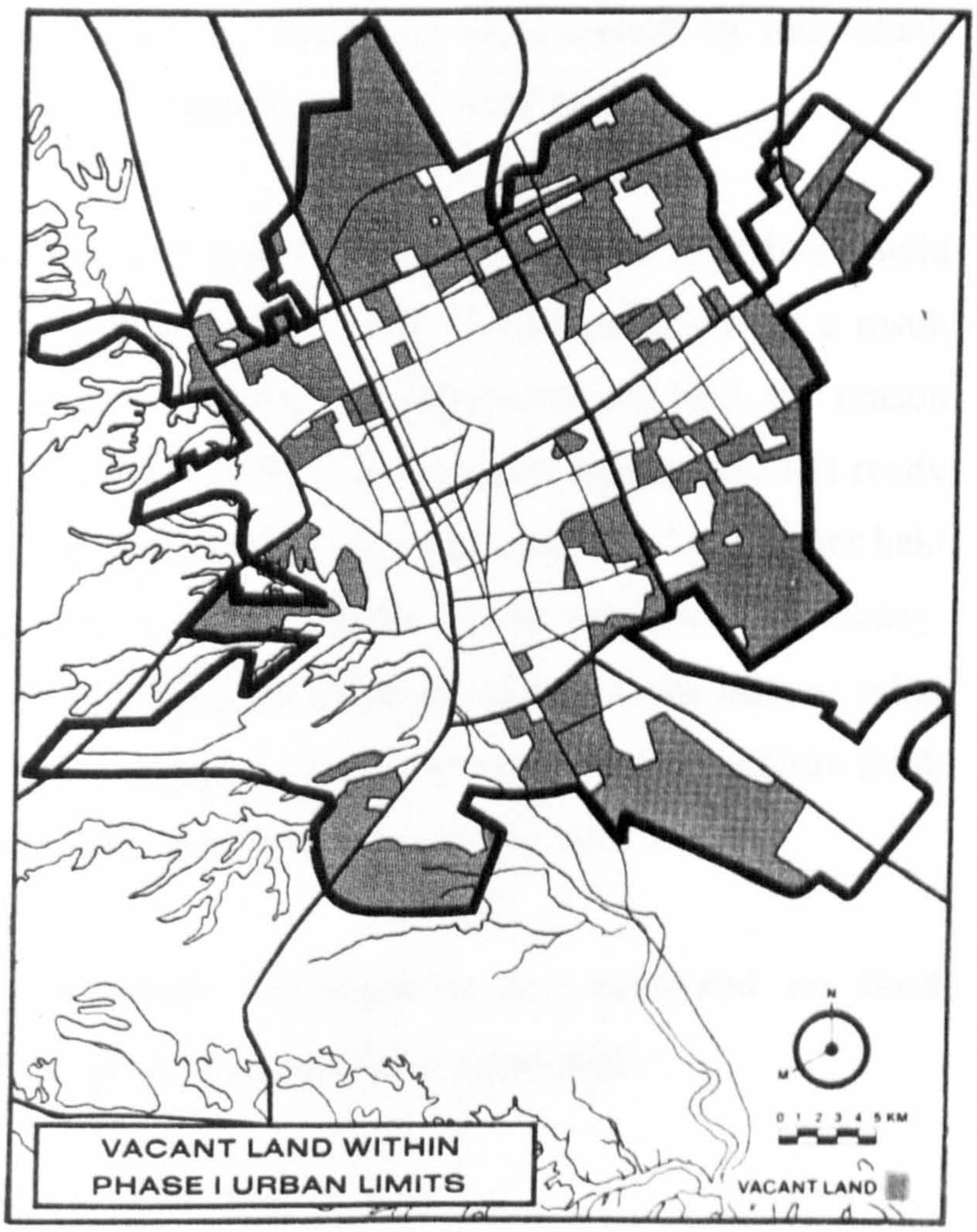


Figure 9.15: Undeveloped areas within Phase 1 of Urban Boundary Limits

Source: March to Development

Riyadh Development Authority Report, 1990

9.54 A 1990 aerial photo (Figure 9.16) showed the very large vacant lands inside the built-up area of the city; the most vacant developable land was located in the south-west and north-east. in addition, there was a great number of scattered parcels toward the city centre; some were designated for future public facilities use, special government use, and some were owned by individuals which constituted a high percentage of the total.

Those lands not developed were due mostly to their being held for purely speculative reasons, and on rare occasions as a result of ownership dispute. In the case of government land, the reason was usually that the concerned government agency was not ready to implement what is planned. In some cases the land owner held his land because he valued land as more valuable than money, which could be trimmed by inflation. Besides, the lack of other investment opportunities makes some Saudi and speculators think that nothing is more profitable than owning land.

V Inconsistencies where development has occurred on land where no development should have occurred:

Shanty towns:

9.55 Shanty and shack developments currently exist in some areas of the city. There are three major areas where this kind of development is located; north of Muggarazat Road and east of Salahadeen Road; the Alamankiah; and Al Goobs districts located at the south east edge of the city close to the industrial area. These shanty developments share the common status of

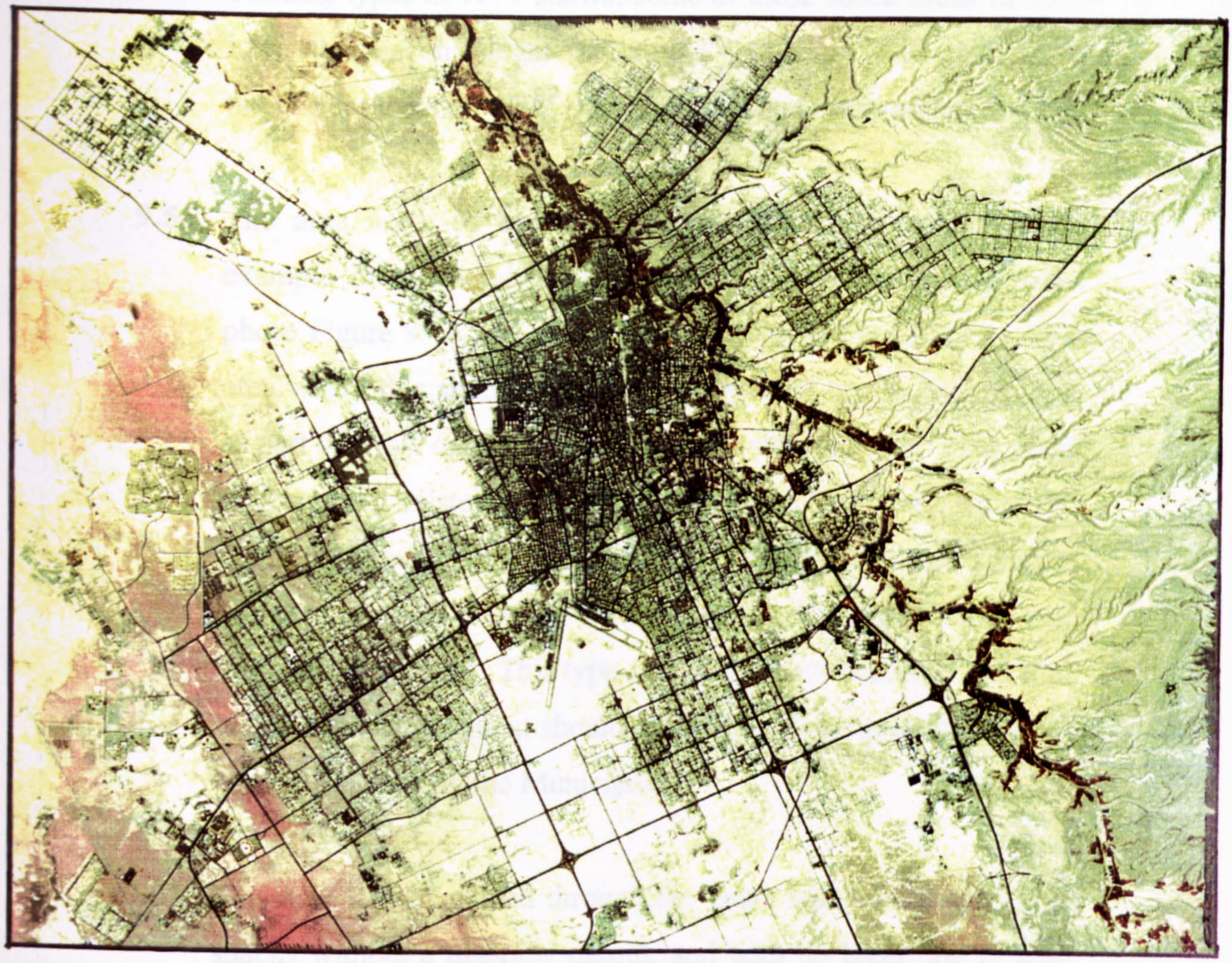


Figure 9.16: Aerial photo shows the undeveloped lands.

being illegal developments on land not owned by the occupants. Some of the traditional housing developments in the city or slum areas, had started originally as shack areas, as Figure 9.17 of building types in 1977 shows; some of these shack areas of 1977 have now become legal "traditional" housing. And also shows the current location of Al Manakiah and Al Goobs areas.

9.56 The area north of Mugarazat Road, will be presented as an example of this kind of development, as plotted in the aerial photo Figure 9.18 and in the land-use plan in Figure 9.19. This area where this slum is located is designated by the Master Plan as part of a low density, single family, residential area. This shack development existed a long time prior to the year 1982 when this aerial photo was taken, and currently all lands east and south of this area are fully developed with modern villas and palaces with very high standards. This type of development occurred in a time when such development should never have been permitted by the Master Plan nor by the Municipality.

9.57 This area has developed through the years with small residential shacks without a planning permit, and with no legal title to land ownership, it is a government owned land.

9.58 The most common people who initiated this kind of slum are bedouins, who come to work in government, military or civil services, or could be living in the city prior to moving to the area, which usually starts with two or three very small shacks of brick walls, and wood ceilings, built at night, or holidays in the absence of Municipality officials. Suddenly, the Municipality will be

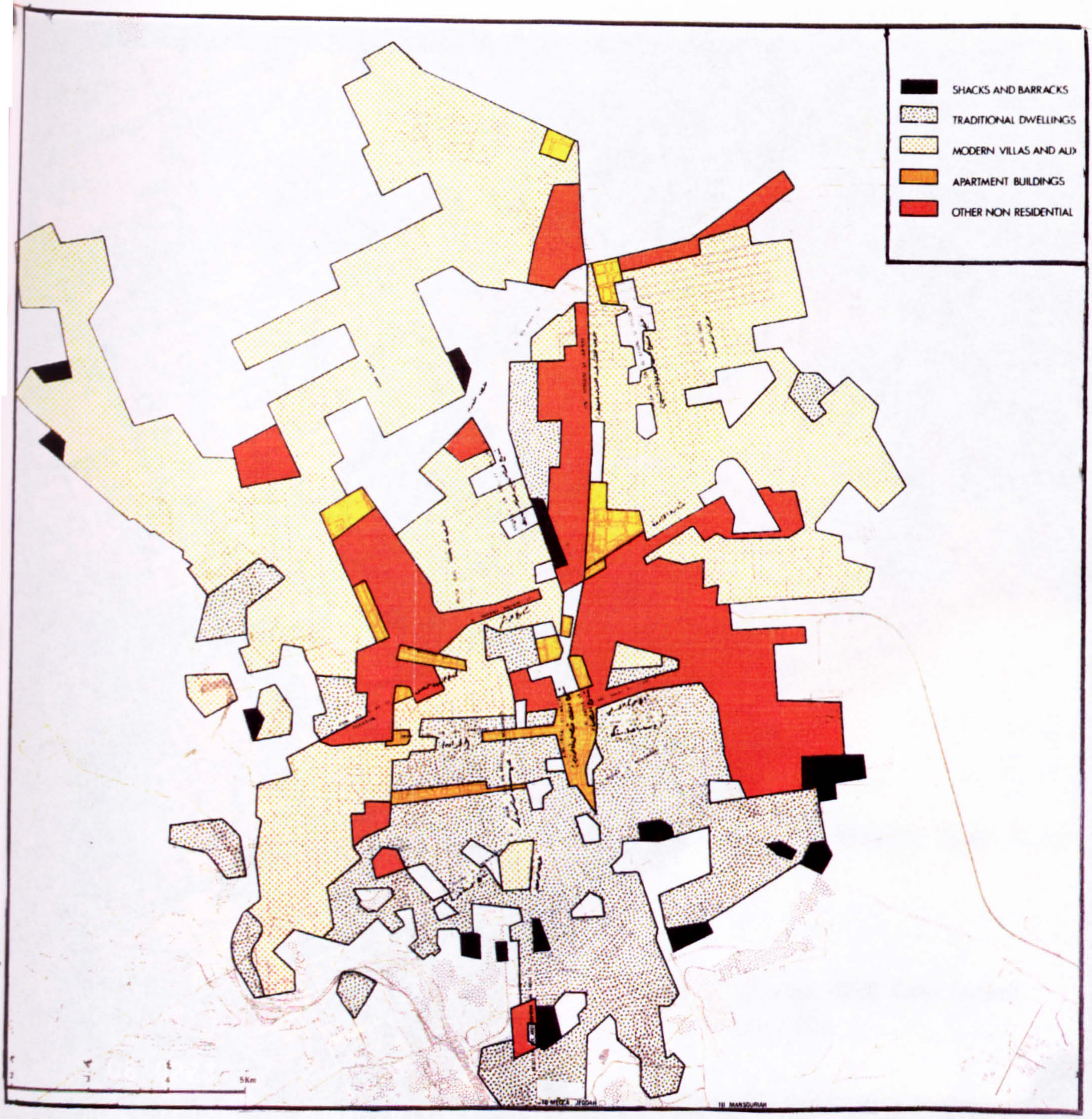


Figure 9.17: Type of Residential Developments in 1977, and location of shanty town areas.

Source: TR 6, Vol. II, 1979

Figure 9.18 : Shanty Town Area, Aerial Photo

Source: Riyadh Municipality, 1982

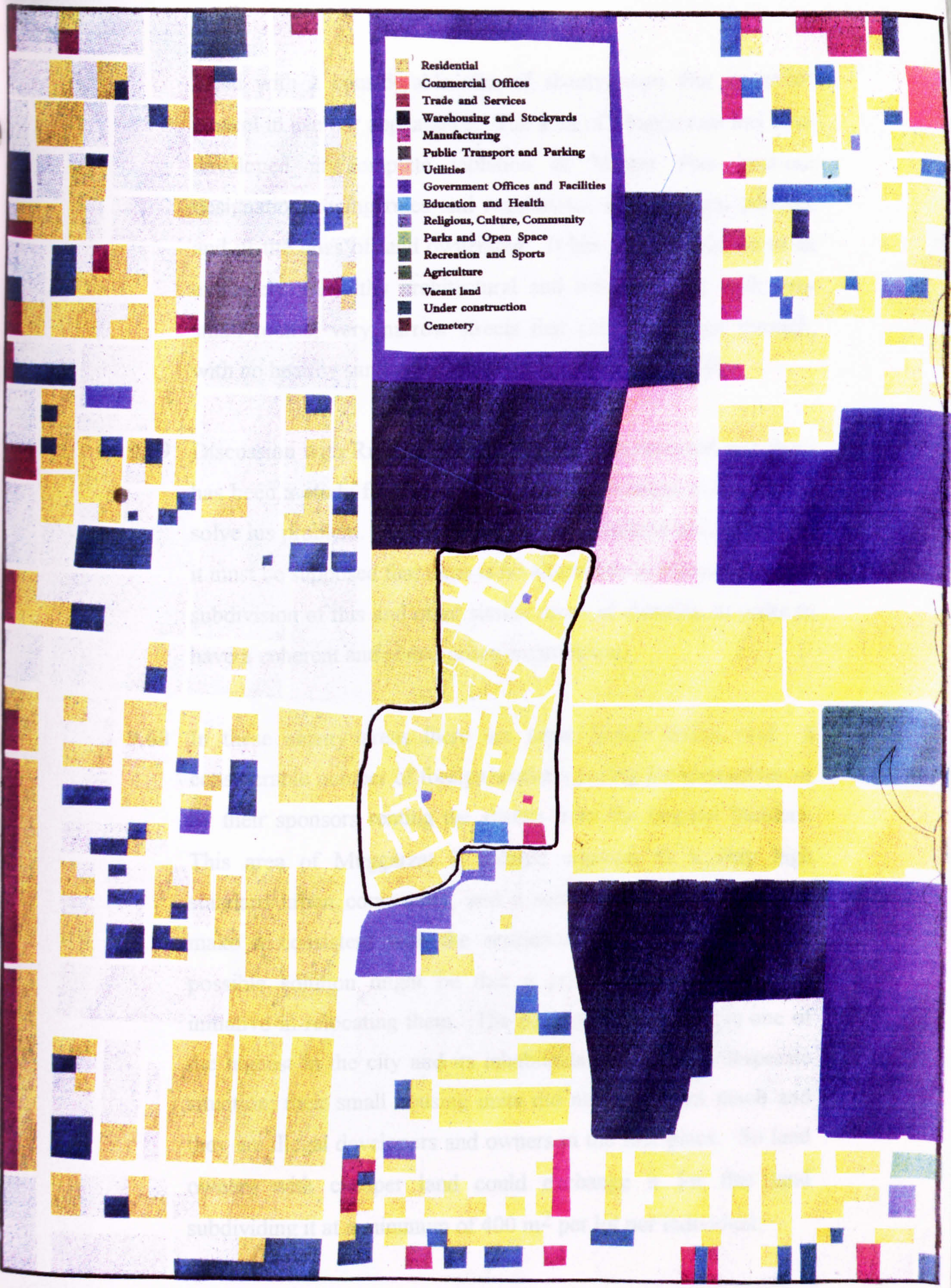


Figure 9.19 : Mugarazat Shanty Town Area and adjacent Land use .
Source : Riyadh Municipality .

faced with a considerable size of shanty town that it cannot control in use nor appearance. The area of Muggarazat has been developed in complete violation of Master Plan land-use designation zoning rules and regulations, of Municipal permits, and of the laws of land ownership. It has been developed in an extremely unhealthy architectural and urban setting, with very small rooms, very narrow streets that cars cannot go through, with no healthy sanitation and water supply (Figure 9.20).

9.59 Discussion with Riyadh Municipality officials revealed that there has been a study for this, and for other slum areas in the city to solve his problem. As the solution is not finalized and published, it must be supposed that there is no alternative to relocation or re-subdivision of this and other similar areas of shanties, in order to have a coherent and sound urban environment.

9.60 In these shanty areas there are some Saudis living, and a considerable number of foreign workers paying for themselves or by their sponsors renting the shacks from the original builders. This area of Muggarzat is located adjacent to a very high standard urban community, and a solution has to be found to make it consistent with the residential area around it. One possible solution might be that a private investor takes the initiative in relocating them. The current price of land is one of the highest in the city and its inhabitants are not in a desperate situation; their small housing units did not cost them much and they are illegal developers and owners in the first place. So land owners with cheaper land could exchange it for this land subdividing it at a minimum of 400 m^2 per lot per individual;

Figure 9.20

such transactions would be supervised by government authority. This would be a solution in case the Municipality is not going to force such illegal development out.

9.61 The other shanty town areas such as Al Goobs and Al Manakiah in the south west of the city which are in the same situation as the area example above.

VI Inconsistencies through development activities different to what the Master Plan intended:

9.62 This category has some resemblance to category (II). That is, development on a site is different from what the Master Plan proposed. The only difference is that in the latter category different kinds of development activity exist, while in category (II) proposed development are not implemented yet, but it is possible that these would be implemented some time in the future. In this category we can identify two locations as shown in Figure 9.21.

1 - Recreational:

9.63 This area is located on the corner of Muggarazat and Mecca Road and is proposed by the Master Plan to be a green recreational area, but is now developed partly as hotel accommodation services. The other side of the site is a private school, and the rest of the location will be developed for mixed commercial and residential use activities as are the areas adjacent to its north and south of it, which currently make up one of the best potential commercial areas in the city.

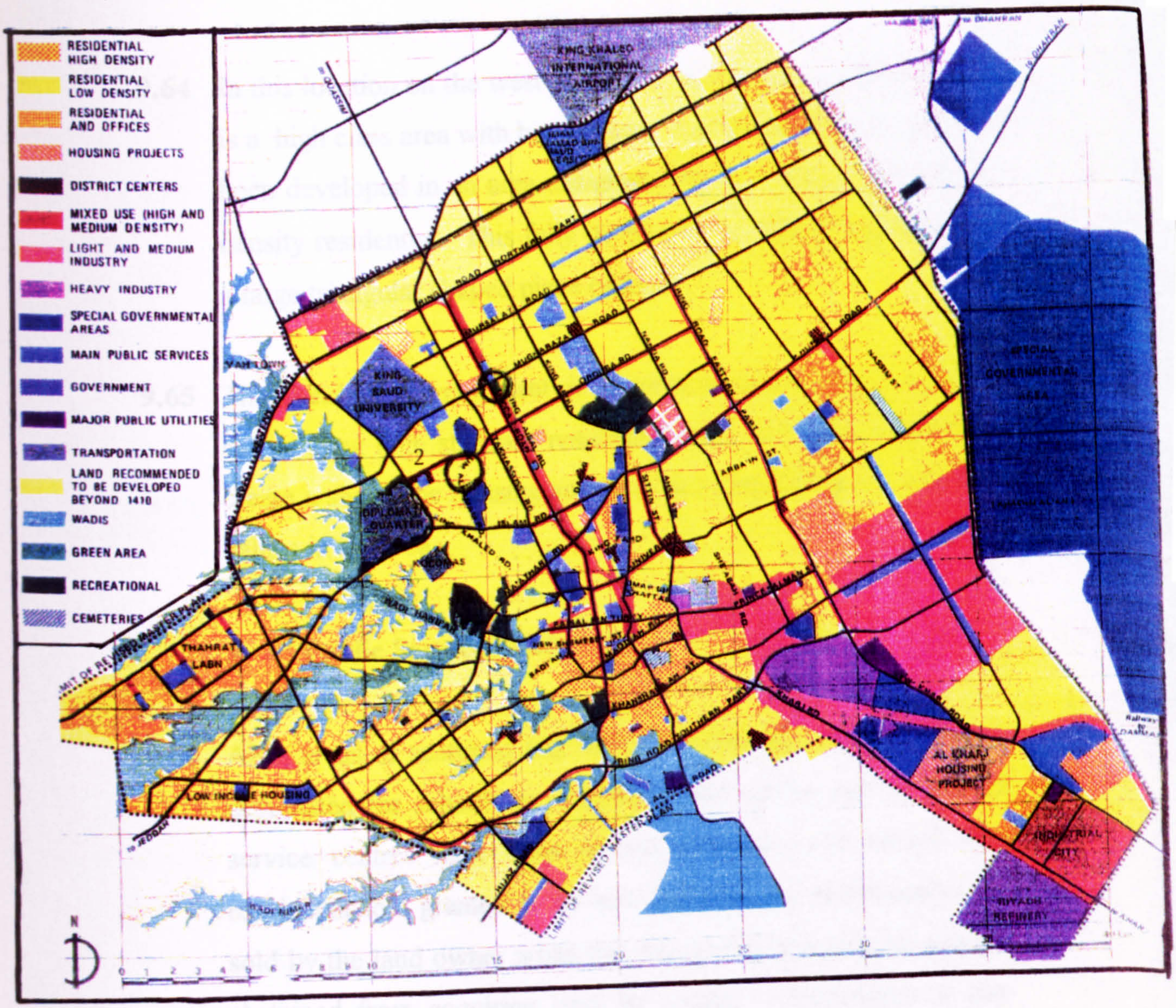


Figure 9.21 : Existing Development activity in areas that were not planned.

Source: TR 8, MOMRA, 1982

2 - Light Industry areas:

9.64 In this location on the west of the city in the Um Al Hamam area is a high class area with big palaces. An auto workshop area had been developed in an area designated by the Master Plan as low density residential. This fully developed industrial area occupies a large triangular shaped piece of land.

9.65 This kind of development is extremely incompatible with its surrounding high standard residential area, and could eventually create a slum type housing around it that would degrade property values in the area.

3 - Public Service Lands:

9.66 Also, areas of scattered lots of land around the city which were designated for schools or neighbourhood garden use as part of service centres have been denied that use, and turned into residential lots granted to an individual by the Municipality, or sold by the land owner when the responsible government agency abstained from acquiring land by paying or promising to pay compensation, and mostly used for building a private home. Such change of an area's use from public service to that of an individual creates a shortage of potential for public services in that particular area, for both the present and the future needs of the inhabitants.

VII Inconsistencies of existing city development and public utilities services with the Master Plan proposed predictions and projections for the city needs:

9.67 In this category we will refer to the Master Plan projections, so as to evaluate the degree and accuracy of the Plan's projections of the city's future needs and of the city's urban trends.

Population

9.68 As mentioned earlier in the chapter, one of the main deficiencies of the Master plan was its failure to predict adequately the expected future number of city inhabitants, by as great a margin as 400,000 more than the Plan's maximum expectation of population increase. As indicated in Chapter Four, the Plan forecast the total number of dwelling units required by 1990 as 262,000 units. But the total dwelling units reached around 349,000 units, that is 34% higher than the Plan had anticipated. Such growth was influenced by market forces of higher demand for housing when more people were coming into the city.

Public utilities

9.69 Projected public utilities needs for water and electricity networks for the year 1990 by the Master Plan for the city had been achieved, even in some areas ahead of what the plan projected, but other utility services including telephones, storm drainage, and sewerage are currently considerably much below what was projected for them. (Figures 9.22 and 9.23)

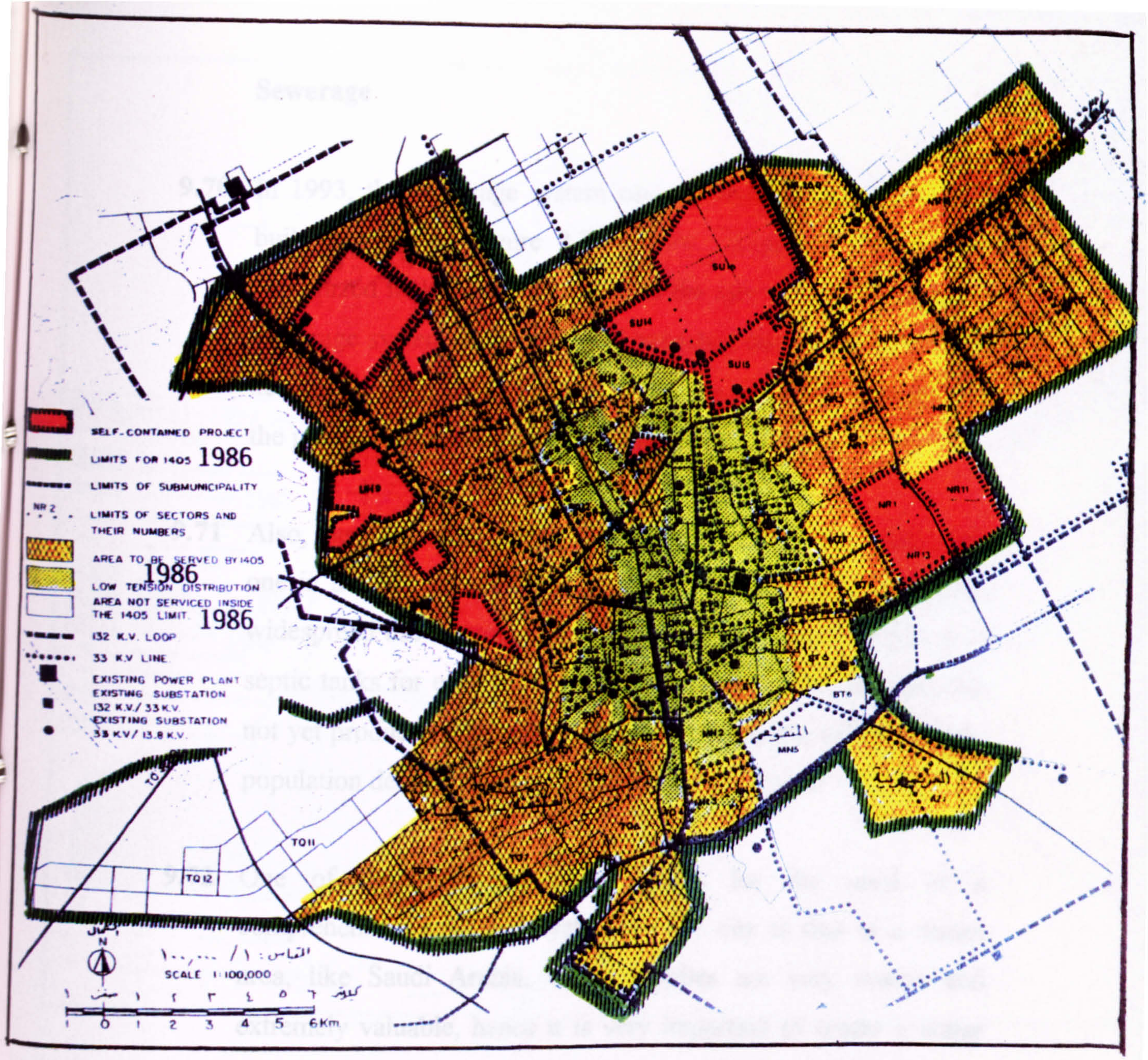


Figure 9.22: Electricity: Existing and Planned Conditions for 1986.

Source: Technical Report No. 13, MOMRA 1981.

Sewerage

9.70 In 1993, the sewerage system covered only around 20% of the built-up area, as Figure 9.23 shows. Even the Master Plan recognized in 1977 the slowness of the rate of implementing the sewerage system in the city, and expected that if the rate did not accelerate, only 23% of the built-up area would be connected to the public sewerage system in the following years.

9.71 Also, the proposed capacity increase of treatment plant and a new one in the eastern sector of he city never took place. Now the widespread use in around 80% of developed area if the city is of septic tanks for each individual building unit. This situation has not yet produced a hazardous health problem, due to the fact that population density is not fully intensified as of now.

9.72 One of the most important factors for the need of a comprehensive sewerage system for the city is that in a desert area, like Saudi Arabia, water supplies are very scarce and extremely valuable, hence it is very important to create a water recycling system rather than that water goes down the ground in waste with enormous negative impacts on the environment. Reusing such a great quantity of water after sufficient treatment could have a very positive economic and social impact for irrigation and industrial uses.

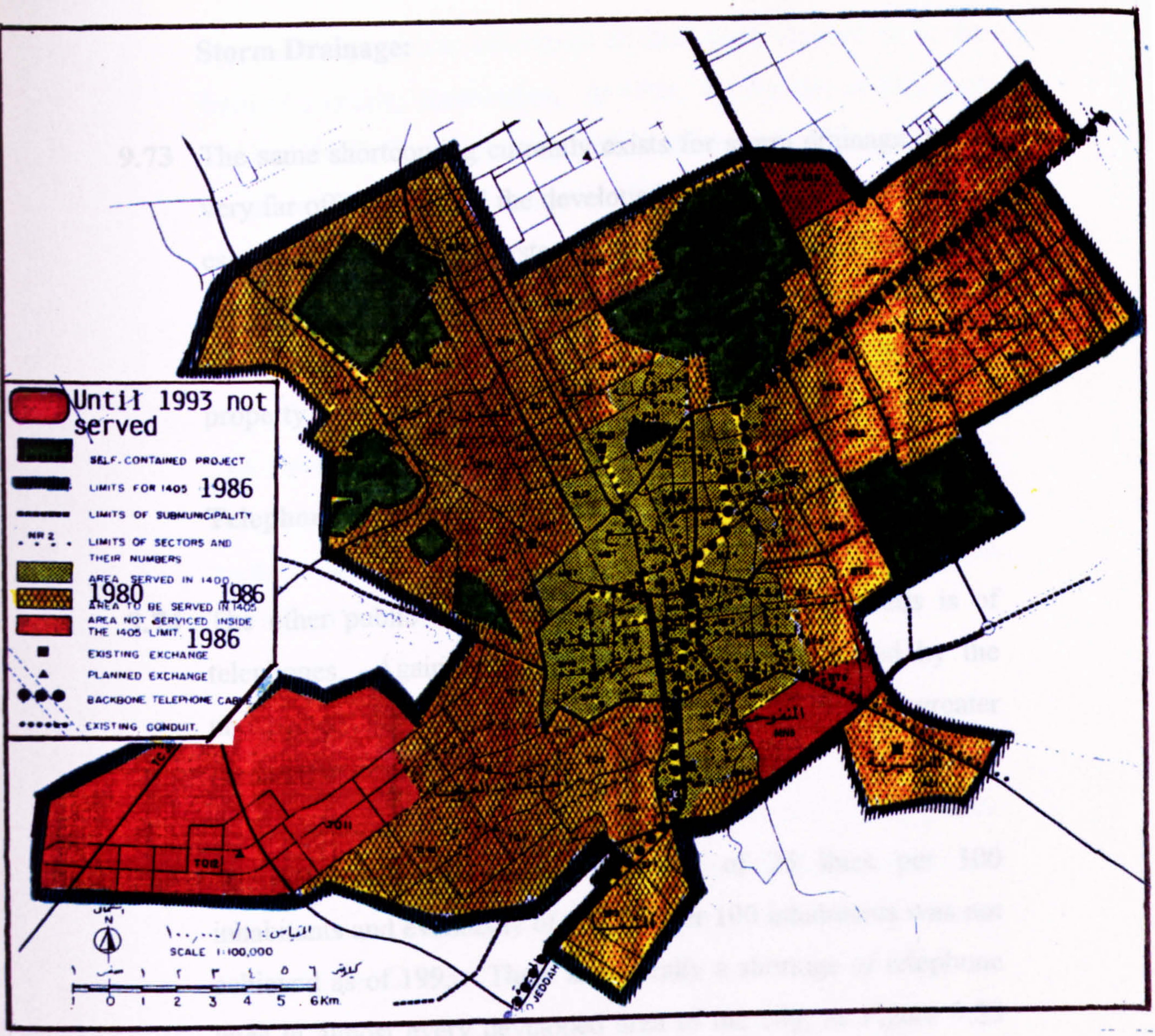


Figure 9.23 : Telephone, Existing and Planned Conditions for 1986.

Source; Technical Report No. 13, SCET international, MOMRA 1981

Storm Drainage:

9.73 The same shortcoming currently exists for storm drainage, being very far off covering all the developed area. But it is not equally essential as a sewerage system, for reason of the very low rate of precipitation year round in the city. Yet, it is needed because water pools form on rainy days, disturbing traffic and damaging property.

Telephone

9.74 The other public service that is less than the city needs is of telephones. Again this shortage has been exacerbated by the unexpected city population growth that has created greater demand.

The Master Plans's original objective of 25 lines per 100 inhabitants and eventually of 33 lines per 100 inhabitants was not achieved as of 1993. There is generally a shortage of telephone lines in almost every developed area of the city, as Figure 9.23 shows. Some built-up areas don't have the basic trench net work yet. The city's central administration of governmental, financial, and private business activities, beside its large population, needs greater telephone lines and an expansion of its system.

Mosques

9.75 Mosques are the only public service completely fulfilled and implemented faster than proposed by the Plan, because most are

developed by private individuals at their own expense or in the form of a charity contribution. In 1991, the number of Mosques reached 2400 (Tadweer 2, 8, 1992), much higher than the Plan projection needs of a total of over 600 mosques for 1990.

Cemeteries

9.76 The existing cemeteries in 1980 were 100, and the plan proposed 240 for 1990. However, in the last decade no area has been designated for cemetery location. There is no sign of demand needs in this sector yet, but eventually there will be a need when the current cemeteries get over filled when time elapses.

Police Station

9.77 Projected needs of the number of local, main and central police stations has been only partially achieved, with fewer local, main and central police stations. It seems that the current number is sufficient for the time being.

Post Office

9.78 The 1990 proposed post service requirements was imaginably which by comparison with what is implemented so far. There are only 4 main post offices when 10 were proposed; there are no neighbourhood post offices when 170 were proposed; and there are no local post offices when 43 were proposed.

Open Space:

9.79 Green open space is one of the most deficient of services which the city faces. What is implemented to date is far below what the city needs and what the plan proposed. None of the proposed green belt, city park, picnic areas, district parks and community squares has been implemented, with the exception of a few neighbourhood playgrounds in some areas. According to the open space standards proposed by Master Plan the city needed in 1993 the following, by open space category:

- 17 Km^2 of green belt area.
- 6 Km^2 of city park area.
- 5 Km^2 of picnic area.
- 3 Km^2 of district parks.
- 2.3 Km^2 of community parks.
- 0.9 Km^2 of neighbourhood playground areas.

Land Use Activities Size

9.80 By comparing the Master Plan predictions of the expected increase of the various land use activities in the city with the existing data of these activities presented in this chapter, we notice that the Master Plan projection as to the expected future size of development in the city is extremely unrealistic. It was far away from being accurate, which is certainly one of the Plan deficiencies.

EXPLANATION OF INCONSISTENCY

9.81 To explain the reasons behind the identified inconsistencies of development in the city, it has been recognised that they are being caused by problems that widely encourage plan and policy failure. Implementation was a topic discussed in chapter two, in which the studies of Lichfield, Sieber and Gunn were integrated. Almost all problems that were listed in this assimilation are seen to some degree in the occurrence of inconsistent development in the city. In the following sections are discussed the causes of the occurrences of inconsistent output of development.

MASTER PLAN PERFORMANCE:

9.82 As seen, the SCET International/SEDES Master Plan for the city of Riyadh proved insufficient in performance during city development in general. Yet it recognised problems constraining its implementation, that were stated in (SCET Master Plan Technical Report No.8 as follows:

- Lack of organisation structure, to decide how the planning task can be broken down and who will handle what part.

- Lack of planning procedures to decide priorities and determine the allocation of resources.

- The absence of feed back information on the degree of progress of planning proposals.

- The absence of one single agency to coordinate all development activity in the city. Public agencies tend to follow their own objectives without enough consideration of the programme as a whole.

- Qualified personnel are in shortage in all levels.

9.83 So, even the Master Plan recognised the above problems in its initial stage, but it did not succeed in solving or avoiding them. It did not provide solutions to problems that still exist, which were stated by the Plan (TR8, p.42) as follows:

- The inability of government to make lands available where development should occur.

- Condemnation, and ban on land transactions is non existent.

- The slow pace of providing utilities gives a scarcity value to serviced land.

- Speculation results in land hoarding by owners who delay development waiting for the highest prices.

- The Municipality and the High Committee seldom refuses subdivisions applications.

- Subdivision plans are based on incorrect information because there is no rule to require land owners to provide

an accurately detailed survey.

- Instead of having concise zoning regulations for the whole city, the Building Permit Department uses an unmanageable street-by-street zoning system.

- Due to lack of qualified personnel, compliance with zoning regulations is not confirmed.

- The Doxiadis regulations did not provide visual privacy.

Inadequate Legal Framework:

9.84 One of the major constraints of the (SCET) Master Plan has been that of its legality, which in Saudi Arabia is empowered by the endorsement of the Plan by the Council of Ministers. That endorsement by the Council of Ministers never took place, for unstated reasons. Hence the Plan has no statutory power for implementation. The major weakness of the (SCET) Plan is that it has never been adopted by the Council of Ministers, which leads to the difficulty of enforcing its policies and objectives. This weak point of the Plan compares with the statutory strength of the Doxiadis plan which was adopted by the Council of Ministers.

Ineffective Institutions:

9.85 Planning agencies in Saudi Arabia are not fully skilled, which causes deficient and inefficient output of control of development.

Also the existence of many dependent relationships among these planning implementation agencies and staff causes delay and shortcomings in implementation. This can be noticed by the inconsistency of providing public and utilities services by responsible agencies; while one particular service may reach a developed area, other services will be lagging behind.

Non-Conformity with Authorities or Plans at Another Level:

Understanding Objectives:

9.86 The policies of the (SCET) Plan are general in most cases and vague, without priority categorisation and without clearly ranked objectives; objectives such as the policy objective of "improving the city image" are too general, and do not specify as to how to achieve that goal. One of the (SCET) Plan weaknesses is its inconcise objectives.

Unclear Specification of Tasks:

9.87 Actors' roles in the planning implementation process are mostly without defined and clear tasks, which has resulted in confusion, overlap, time wasting and lack of communication between agencies.

9.88 There is clearly a lack of perfect communication between plan, planning and implementation agencies, as between the Master Plan, the High Committee, the Municipality and utilities and public services, agencies and ministries, which is noticeable by

the gap in providing services in different sectors and areas. This is clearly the result of lack of coordination of public sector efforts in that respect, such as city sewerage and city water supplied operated by two separate agencies. Also, the SCET Plan was weak in specifying who will carry out various tasks, and when.

Goal Displacement:

9.89 In the (SCET) Master Plan, implementation procedures became the policy ie. the means became the ends. The (SCET) Master Plan actually stated that: "The end-state planning practice of the Doxiadis Plan is (to be) replaced in the Riyadh Action Master Plan by a process view of Planning." It seems this approach is one of the weaknesses of the SCET Plan, while the previous Doxiadis approach of goals oriented planning could have proved more successful, in principle.

9.90 The SCET Plan's emphases are on the mechanisms by which specific objectives would be achieved and the programming of the stages in their achievement. But adopting of this strategy by the (SCET) Plan resulted in defective implementation and therefore inconsistent output of development. In fact, in the (SCET) Plan the implementation procedure became a policy.

Misallocation and Inadequacy of Economic Resources:

9.91 Goals have been in excess of resources. This is a clear fact for Riyadh with most of the delay in achieving plan goals being due to the unavailability of financial resources to support stated

objectives, especially in some utility and public services.

9.92 Three assumptions on how available financial resources tend to be utilised in the process of implementation (Healey 1985) could be confirmed also here in our case. First, resources are expected to encourage action in agreement with the main objective of implementers; second, that the implementers comply because they will get some portion of the resources; third, that the availability of resources twists implementation programmes away from their main objectives, due to the fact that implementers may utilise resources to further their own goals not according to the main objective.

9.93 The resource issue was a weakness of both the SCET and Doxiadis Plans, which has never considered estimating the financial costs of achieving their set of goals.

Insufficient Financial Resources for Compensation:

9.94 The lack of financial resources on the scale and at the rate required has been the main reason for not implementing - and even not planning for - the amount of public service development in the city allowed for in the Plan. Most of the shortfall of public services and of recreation areas has been due to the unavailability of financial resources to be paid to land owners and to acquire land for particular services, as well of course for the costs of construction and maintenance. As oil has been the major source of income in the Kingdom and its price has decreased around 50% during the 1980s, government spending has decreased which

eventually has effected development in general and caused slowness of growth.

Lack of Political Support:

Getting Compliance:

9.95 The large number of implementation institutions and actors involved in the implementation process has contributed to a certain degree to the inconsistency of development out put. The bigger the chance for actors, persons or organisations to withhold an essential contribution, the bigger the chance of failure (Baradach 1977) of implementation, such as establishing district centres where many agencies have to be involved as, in this case, six government agencies were.

Failure to Follow Through Policy:

9.96 Most of the Master Plan (SCET) policies were not executed due to the inherited Plan weaknesses, including its not being approved by the Council of Ministers and lack of political backing for its policies and objectives. This has caused general inconsistencies in development, hence ineffective control of development.

Implementation and the Policy:

9.97 Some vague and unclear policies of the Master Plan were in some cases exploited by the implementers for their interests. Both the Doxiadis and the SCET Plan lacked concise and accurate policy

statements.

Lack of Public Support:

9.98 This was another reason for the occurrences of development inconsistency in the city. An example of policy not exploited directly for the benefit of the targeted group is the location of the public housing project in Karg road, considered undesirable by a large group of citizens.

9.99 The SCET and Doxiadis Plans during their preparation or in their later implementation stages did not consider the public nor the desires of people at whom the plans were targeted, or who are affected the most. Like for instance, conducting surveys or gathering information data on the various development activities that the Plans consider and assume will take place.

9.100 In response to main questions for the thesis to answer, that were stated in Chapters 1 and 7, the research survey in this chapter revealed has shown the answers to be:

(i) Have the inconsistencies been significant?

The table of occurrences of inconsistent development shows the amount and the kinds of inconsistent developments that have taken place in the past 20 years. The Table shows that there were more than 168,000 instances - including undeveloped parcels of intended development land - which represented inconsistency with the Master Plan; public services, transportation, public

utilities, city image, housing projects, light and medium industry areas, green areas, recreational and population, commercial and residential areas.

(ii) How much development has been consistent?

As stated earlier in regard to the number of occurrences of inconsistent development, in many cases it is difficult to exactly quantify the amount of development consistent with the Master Plan. But by following the (SCET) Master Plan main objectives and policies noted in earlier chapters, it can be concluded that the consistencies with the (SCET) Master Plan goals and objectives seems more than the instances of inconsistency.

(iii) How are the consistencies and inconsistencies to be explained, or how they can be reliably measured?

The method was explained in Chapter Seven as being in simple terms the matching of existing developments with the Master Plan goals and objectives along with the proposed land use map. If the existing development was not implemented according to the Master Plan gaols, objectives and proposals, then it has been considered as being inconsistent.

(iv) Did the inconsistencies matter, and in what way?

Yes, for instance, if the Plan's stated objective was to improve the city image, while the existing stituation is contradictory to this objective. As long as a good city image was extremely desirable for city inhabitants and

visitors, then it was important to efficiently implement this objective. And the same can be said for other inconsistent occurrences where the lack of effective implementation caused deficiencies in many amenities needs.

(v) Could planning and methods of controlling development significantly improve the procedures of implementing plans, thereby improving the efficiency and environment of Riyadh?

The research revealed that experience in other countries has been that if a good planning system was at work and if all plans, rules and regulations were enforced, more control over development has been able to eased the procedures of implementing plans.

(vi) Where have development deficiencies come from, was it the Master Plan, the implementing agencies, or a third variable source?

The research reflected that all three factors have contributed to deficiencies to some degree. The Master Plan, for instance, failed in its predictions, and in laying out an efficient land use strategy and development programme, and so on. The implementing agencies contributed by not implementing many of the Plan's provisions. A third variable of insufficient resources of various kinds has caused some deficiencies, due to lack of financial resources needed for implementing plan objectives, such as failure to acquire land needed for particular services due to an inadequate budget to pay for compensation.

(vii) Has a less satisfactory environment arisen than the people of Riyadh deserved?

The research has reflected that development and public utilities and services envisaged by the (SCET) Master Plan are frequently deficient, thereby producing a less desirable environment than the Plan implied to be appropriate.

CHAPTER TEN
RECOMMENDATIONS AND CONCLUSIONS:

PROPOSALS FOR MORE EFFECTIVE PLANNING AND CONTROL OF DEVELOPMENT

Introduction

10.01 Chapter 2 identified nine common problems which recur in plan policy implementation, and we concluded Chapter 9 by analysing the case study of Riyadh in the light of the city experience of those problems. So in recommending better ways of planning and controlling for Riyadh's development, the recommendations should be approched by recognising the nine problems in turn and considering where appropriate the approaches which were found in other countries in Chapter 2; we can then go on to propose what seem the most promising approaches to the problem for Riyadh, and finally to note what may be the possible continuing problems facing effective implementation. This is the most sound approach to producing the most robust recommendations. We can then conclude by summarising the recommendations as they would be combined into the form of action through procedures for development planning and control.

Approaching the Recommendations

10.02 Throughout the thesis we have analyzed the problems of planning and control in terms of nine common difficulties which face implementation of plans and policies. These are:

1) Insufficient Plan Performance

a. Interconnecting factors
b. Diagnosing the situation
c. The cause and effect theory
d. Overlapping links
e. Trying to achieve too much
f. Outdated policies
g. Policies classification

2) Inadequate Legal Framework

3) Ineffective Institutions

4) Non-Conformity with Authorities or with Plans at Another Level:

a. Objectives clarity
b. Clarity of tasks
c. Communication among agencies

5) Goal Displacement

6) Misallocation of Economic Resources:

a. Goals versus resources to the size of goals
b. Financial resources available for compensation

7) Not Enough Time Available

8) **Lack of Political Support:**

a. Getting compliance

b. Following through policies

c. Policy and the implementer

9) **Lack of Public Support:**

a. Policy for targeted group

b. Public reaction to a policy

10.03 Despite that our research has emphasized inconsistent development occurrences, with the intention of finding out where the deficiencies lay, much development in Riyadh has been wholly consistent with plans for the city. Development inconsistencies in the city have been emphasised and were identified for the sole purpose of trying to solve the problem of their existence. The majority of development in recent years in the city has been consistent with planning intentions.

10.04 We can now proceed to take each of these problems in turn.

Insufficient Plan Performance:

10.05 Any proposed plan should have a flexible mechanism to face any future uncertainty.

Current Problem

The Doxiadis Plan, which the SCET plan is based upon, is more than twenty years out of date, and the SCET plan is itself more than ten years old and relatively outdated also, and has not been adjusted to react to urban growth trends.

Possible planning approaches from other countries:

UK areas depend not only on development plans, but on a on a number of non-statutory documents such as design guides and development control policy notes (Davies et al 1986a)

UK the approach of the Strathclyde Structure Plan is to be rolled forward every two years so as to achieve both continuity and flexibility. Regional guidelines in England are rolled forward roughly every five years.

UK structure and local plans recognised by the Planning Acts, and are required to be clear, brief and easily understood. The UK approach is now 'plan-led', with policy guidelines about judgements expected on development proposals, although administrative discretion has provided wide area of flexibility and sometimes uncertainty (Para 2.06).

UK challenge to development plans could be made affirming the wide relevance of other 'material consideration', and in some situations the government had the capacity to enforce its values through introducing strategic guidance (Para 2.04).

UK `Action Area' plans may be prepared for parts of local authority areas for execution during a designated period.

UK in Britain there is debate over whether development plan is a suitable measure for planning task. But those arguing may agree in general on the desirability of development plan, and may disagree about procedures, methods, and use of the development plans (Para 2.12).

US `The most obvious defect in all of American land use planning machinery is that the controls came before the planning' (Delafons. 1969).

US and most European countries control of development based on zoning plans with a degree of certainty, but with rigidity in some cases (Para 2.138).

US `Where reasonable controls have been adopted and are well administered, they do undoubtedly result...in a sound standard of development' (Delafons, 1969).

US Houston, Fort Collins, and Breckenridge are cases of taking decision on discretionary basis, and are examples of planning without zoning in the US (Paras. 2.126, 2.127).

US a typical zoning plan will contain detailed scale control...(Delafons, 1969).

US Florida follows a method of concurency requirement of forbiding development in urban area where there is no adaquate public facilities available concurrently with development (Para 2.123).

US the method of the Ramapo Plan is to direct the succession and timing of residential growth parallel to the availability of municipal services and other support facilities (Para 2.114).

US zoning rules are not efficient in handling large scale development (Delafons, 1969).

US Fort Collins approach of quality control of development rather than quantity (Para 2.117).

Scenario writing helps in finding assumptions that are unrealistic (Weimar and Vining, 1989).

The most appropriate approach for Riyadh:

Riyadh should have a review every five years of the development strategy stated in its Master or Comprehensive Plan. Every two years it should have a review of its local plans for areas of early development, including infrastructure provisions and size of land to be released for development.

Possible continuing problems:

Trained staff shortage.

Coordination of MOMRA with other ministries and other agencies involved in planning.

Council of Minister's adoption of proposed plans.

Also the plan should avoid the following problem areas:

a. **Interconnecting Factors**: That is when there are a large number of interconnecting factors such as in the SCET plan where government expenditures were needed to finance the various plan objectives or where the plan laid out a large number of goals and objectives without linkage to each other, such as proposing services in service centre without relating them to the area's population density or the area's development.

The plan should limit interconnecting factors, and organise and relate them as much as possible. Also the plan should avoid an emphasis in one or a very few components or package of policies at the expense of the rest, as where the Doxiadis and SCET plans emphasised privacy at the expense of other equally or more important issues.

b. **Diagnosing the situation:** It is clear from this research that the SCET plan did not properly diagnose the existing urban situation in Riyadh, as most of the inconsistency problems we have identified existed during the SCET plan's preparation but did nothing to alter them.

It is necessary to consider the effects and outcomes that will result in choosing between numerous types of control processes in the early stages of planning, so that programmes are implemented with less delay, misrepresentation and hardship (Faludi, 1988).

The cause of deficiencies during plan formulation may be either one or both of the following:

An unclear picture of an existing situation or no concern for potential problems in the control process and the allocation of resources (Faludi, 1988).

The proposed plan should also consider the outcomes that may result by choosing among various types of approaches, ensuring successful implementation by considering early in the formulating stage all possible effects that might halt goal implementation.

c. **Cause and effect theory**: This is when behaviour occurs during the implementation process that makes the theory of implementation in use an invalid one, which results in an invalid output, as where the SCET plan proposed a hierarchy of service centre locations but the lands designated for these services were converted to other uses or private uses, which caused non-implementation of these service centres due to the unavailability of land.

Any proposed plan should have the ability to predict and anticipate what could possibly happen or what might go wrong. A scenario writing of these possibilities might help by specifying the sequence of behaviour that could connect a policy to a designed outcome. Such scenario writing helps in finding assumptions that are unrealistic, and in finding an alternative approach to complementation with better chances of success (Weimer and Vining, 1989).

d. **Overlapping links**: A multiplicity of overlapping links during implementation offers wide scope for delay of its process. In the city of Riyadh, there is a multiplicity of overlapping relationships among the agencies themselves and their relations to the plan; for instance, the sewerage network responsibility is divided between the Water and Sewerage Authority, the HCFDR, the Municipality and MOMRA.

Foreward mapping in implementation assumes that the closer the linkage to the sources of the policy, the greater the actors' authority and influences; the capability of complicated implementation systems to react depends on the creation of definite lines of authority and control (Elmore, 1980).

The proposed plan should establish definite lines of authority and control to effectively implement its stated objectives.

e. **Size of intended achievement**: This is when the achieved growth exceed the intended objectives of the plan. In our case the urban growth and the population increase of the city of Riyadh were faster and more envisaged by plan objectives, which as we have observed caused a heavy burden on the system beyond its capacity and resources, associated with the shortage of various services.

f. **Outdated policies**: This is when a policy or a group of

policies become outdated during the implementation process due to a changing situation. In our case we come back to the example of service centres, where the policy creating these centres became obsolete and outdated after a long duration without implementing any of them, or coming up with alternative policy.

Hence any plan should have a flexible mechanism that makes it able to abandon any outdated failure of policy. By having the plans consistently reviewed their existing policies can be examined to see whether they should continue, be abandoned, or be revised.

g. **Policies classification**: A plan which classified its policies according to a priority grading might in some instances improperly categorise the degree of importance and priority of some of its policies; which turn out to damage the system they are meant to alleviate, as with the introduction of the Urban Boundary Limit (UBL) for Saudi urban areas with the goal of curbing urban sprawl. But after UBL adoption, land prices in the area increased by speculation as the infrastructure layout was known. This resulted in cheaper land on the outskirts of the built-up areas, so people bought it and built on it, hence continuing the urban sprawl problem. Also, subdivision permission policy in phase 2 of UBL allow for future urban sprawl in that area.

Policy evaluation essentially involves prediciton. As the

world around us is complicated, we ought to be prepared for misjudgement or failure. Our formulation of policies should bear in mind the possibility of miscalculation (Weimer and Vining, 1989).

The plan should properly classify its policies bearing in mind the risk of miscalculation during its formulation, as the world around us cannot be always and precisely predictable.

Inadequate Legal Framework:

10.06 In general, the more legal power the implementer is given in an adopted policy the more capacity he will have to enforce it.

Current problem:

The SCET Master Plan still lacks legal power as it was never adopted by the Council of Ministers.

Possible planning approaches from other countries:

UK Planning and Compensation Act 1991 confirms the status of development plans.

US The comprehensive plan in the USA is an ineffective tool because the plan has no legislative support, and many developments can occur legally although not according to the development plan (Garrett, 1987).

US Under police power, the authority legalises the way land should be used on behalf of the public interest (Gallian, Eisner, 1983).

Generally the more legal power the adopted policy gives implementers, the greater their capacity might seem to be in enforce proposed behavoir ... (but) legal power may not be enough in itself to ensure compliance of actors who control essential programme elements if they perceived the programme to be contrary to their interest (Weimer and Vining, 1989).

The most appropriate approach for Riyadh:

A proposed plan for any Saudi urban area should have a legal power delegated to it by an executive power, in our case the Council of Ministers. Its initiation should come by a decree issued by the Council of Ministers ordering MOMRA to prepare detailed plans in a specific time.

Possible continuing problems:

Legal power may not be enough in itself to ensure compliance of the implementers who control essential program elements. If they perceive the program as contrary to their interest then they might find ways to not totally comply.

Ineffective Institutions:

10.07 Implementation by planning institutions that are not fully skilled

must cause some degree of deficiency in policy implementation output.

Current problem:

MOMRA branch offices have many tasks, as stated in Chapter Four, which if efficiently performed could solve many of the current planning problems, as is the case with Riyadh Municipality.

Possible planning procedures from other countries:

UK local authority personnels, in development control process, make direct judgement on development proposals based on development plans considerations, DOE circulars etc. The central government role over the process is through plan approval, appeal, and call in procedures.

Netherlands, Germany, France and Belgium: Building permits incorporate both planning and permission and what is covered in Britain separately by building control (Davies, 1989).

Planning agencies must understand the extent of their potential limitations in implementation (Faludi, 1988).

The most appropriate approach for Riyadh:

The plan should consider the extent of each planning agency's potential limitations in implementation, and accordingly prepare

its planning process and program formulation. Also, the plan should include the allocation of skilled personnel for these agencies.

Possible continuing problems:

The continued management of these planning agencies by non-specialist and unskilled personnel.

Non-Conformity with Authority or with Plans at another level:

10.08 Non-conformity with authority or with plans at another level which caused by unclear, objectives, tasks and channel of communications among agencies.

a. **Objective Clarity**: A vague policy certainly runs the risk of having a negative effect upon implementation outcome.

Current problem:

A vague and general policy of the SCET Master Plan such as `improving the city image', without subsequent detail or classification, has contributed very much to the existence of inconsistency as identified by the research.

Possible planning approaches for other countries:

Objectives that are clear and well categorised according to

importance serve as a basic aid in programme evaluaiton, a guidelines for implementing official, and a resource to supporters of those objectives. But it is essential to view objectives clearly along the following scale: (1) Vague objectives without priority among them. (2) Clearly ranked objectives. (3) Quantitative objectives (Sabatier and Mazmanian, 1979).

The most appropriate approach for Riyadh:

The plan should have a precisely clarified policy, and avoid completely any ambiguous or too broad policies.

Possible continuing problems:

That the planners, who will also be partly implementers, intentionally make policies vague in case they subsequently wish to reinterpret them.

b. Clarity of tasks: When participants in an implementation process have no clear cut tasks, a tendency of overlapping effort, dependency and confusion will take place during the implementation process which will result in defective output.

Current problem:

Many inconsistencies between plans and development identified in Riyadh were caused by the lack of clarity of tasks among agencies involved in implementation. For instance, although

service centres were proposed by the plan, it did not specify the tasks assigned to each agency in the implementation of those centres and the roles agencies would play.

Possible planning approaches from other countries:

Multiplicity of overlapping links in implementation offers vast scope for delay (Elmore, 1980).

The most appropriate approach for Riyadh:

It is essential for the plan, early in its policy formulation, to have the tasks of potentially involved actors clearly defined and to have a flexible mechanism to switch and interchange tasks during implementation when it becomes necessary by unexpected circumstances.

Possible continuing problems:

A new plan would not consider specifying the tasks of each agency within the implementation process, which would result in the continuation of previous problems of flawed implementation.

c. **Communication among agencies**: The absence of perfect communication lines between plan and implementation agencies and among themselves will cause a deficiency in the whole system.

Current problem:

Currently there is no clear channel of communication between the planning agencies in Riyadh, where the communication lines between HCFDR, MOMRA, Riyadh Municipality, Riyadh MOMRA Regional Office, and other government ministries and agencies involved in the implementation plan are not clearly defined. Two or more may be working on the same issue at the same time, or the electric company would dig a street for its network layout and right after they finish the water company will come and start digging in the same street again. This reflects an absence of coordination and communication among implementation agencies. Also, no line of communication was set up between the SCET (RAMP) plan and the proposed Execution plans.

Possible planning approaches from other countries:

UK Development plans required to refer to policies of different authorities related to land use planning.

The most appropriate approach for Riyadh:

That the plan puts coordination and communication between implementing agencies among its priorities to ensure successful implementation.

Possible continuing problems:

The continuation of the lack of coordination among planning agencies.

Goal Displacement:

10.09 This takes place when an original objective becomes distorted to the point of being displaced. This may occur when implementation procedures slowly become policies. When a policy loses its context in the implementation process, a deficient output must inevitably result.

Current problem:

We saw how some of the existing SCET plan goals were sound and efficient, but were displaced by the implementation process. The slow process of implementation of the plan's objective of equally laying out infrastructure throughout the city made this goal distorted.

Possible planning approaches from the countries:

US useless to inject into development control systems detailed rules and regulations unless the execution of these control principles is consistent with the broad framework and goals indicated in `the comprehensive plan' (Delafons, 1969).
Goal displacement occurs where the policy context becomes separated from implementation process (Regan, 1984).

The most appropriate approach for Riyadh:

Is to clearly define the lines between the goals and objectives and the implementation process, and thereby to better avoid a means

or process becoming an end.

Misallocation of Economic Resources:

10.10 a. **Goals versus resources**: This occurs when a goal or objective target is higher than the available resources can cover, or when at certain stages in the implementation process the resources needed to achieve that particular stage were not available.

Current problem:

The fact is that the SCET plan for the city of Riyadh did not include or indicate accurately the economic sources or the finance needed to carry out its stated objectives, as a number of goals were not achieved because many of the economic resources required for their achievement were not available.

Possible planning approaches from other countries:

US Municipalities may add conditions for a contribution of funds for schools, recreation parks, sewerage plants, allowing a density bonus for providing special features like affordable houses or a day care centre (Para 2.108).

US Subdivision regulations detail minimum standards that apply to all new residential developments such as laying out streets, water supply...arrangement of parks and school sites (Delafons, 1969).

UK 1971 Act authorises agreements with property owners for regulating the use of their land, and for `planning gain', (Para 2.78).

UK interest groups in local commercial areas may share in local council compulsory costs in order they can obtain land for their development which might benefits the community (Para 2.99).

The most appropriate approach for Riyadh:

That the plan should include a supplement, detailing all aspects of economic sources need to implement its objectives.

Possible continuing problems:

It can be assumed that implementers will begin to comply with the main objective because they will thereby get some portion of the resources; thereafter, insufficient availability of resources might be expected to shift implementation programmes away from the main objectives, because implementers may utilise the resources to reach their own goals and not the main one.

b. **Financial resources available for compensation:** This is when the plan involves financial compensation to be paid during the implementation process, as for instance when lands or buildings need to be acquired for proposed development under the plan.

Current problems:

As was noticed in this research, a common denominator of causes of inconsistency identified was the unavailability of lands to carry out many of the SCET plan objectives caused by the unavailability of financial compensation. Also, large segments of the Action Area Plan proposals for the redevelopment of the inner city were not implemented because of the unavailability of the large financial compensation needed to be paid to building owners.

Possible planning approaches from other countries:

UK Successive attempts by (Labour) governments to obtain share for the public of development values created by the planning system.

US The issue of acquiring land for public use was not a major problem...The tool of eminent domain was acceptable as a basic government power (Cullingworth, 1992).

The most appropriate approach for Riyadh:

The plan should consider seriously the issue of land or building compensation in area's intended for development, and solve it according to the local situation. A possible approach, if proved successful as it is now in its initial stage, for the next phase of Riyadh's city centre redevelopment, is to involve the private sector and citizens who own properties in the area and others by offering joint company ownership among them as an investment venture. Also, and in general, the issue of allocating the necessary financial resources to pay for compensation should be

critically addressed as a major tool for planning.

Possible continuing problems:

The failure of management of these proposed joint ventures, and therefore the failure to implement a proposed program for an area. In this case; the government should have the option to intervene by allocating the needed finance to implement the plan objectives.

Lack of Time Available:

10.11 When the time given is not suitable for correct implementation.

Current Problems:

The SCET Master Plan did not indicate any clear and detailed timetable for executing its proposed objectives.

Possible planning approaches from other countries:

Multiplicity of overlapping links in implementation offers vast scope for delay (Elmore, 1980).

UK Claims for compensation and rejection of compulsory purchase orders delays redevelopment strategies (Healey et al, 1985).

The most appropriate approach for Riyadh:

This is one of the most critical external constraints that might halt the implementation process. A plan should put a detailed timetable for any of its objectives when needed in order to smooth and organise the phases of implementation.

Possible continuing problems:

Is that the time put by the plan does not match the implementing policies as projected.

Lack of Political Support:

10.12 Political support is important for the plan's successful implementation.

a. **Getting compliance**: This is when the implementing authority is unable to get political backing for a policy.

Current problem:

One of the main causes of SCET plan implementation failures was that many of the implementing agencies did not have enough political support from an upper or the same government level, to back plan proposals with which other agencies did not agree early in the plan.

Possible planning approaches from other countries:

The UK 1991 Planning and Compensation Act states that `where

in making any determination under the Planning Acts, regard is to be had to the development plan, the determination shall be made in accordance with the plan unless material considerations indicate otherwise'.

In the US, development plans are said to be always political in nature since society goals change from time to time. One main objective of a plan should be to defuse controversies between land owners, developers, and residents (Garrett, 1987).

The most appropriate approach for Riyadh:

The plan should attempt to ensure that all agencies that will be involved in the implementation process agree on policies that they will have to help implement. Also, in order to achieve complete compliance of the implementing agencies, the plan should always try to make the number of these agencies as few as possible, therefore decreasing the number of possible withholders of compliance to policies.

Possible continuing problems:

The continuous involvement of large numbers of agencies in the plan implementation process.

b. Not following through policy: A failure to continue and go ahead in implementing policy due to the lack of political support.

Current problem:

The above cause of failure of implementing plan policy can be applied to the SCET plan. Many of its failures in implementing its policies were caused by lack of political support, in our case the Council of Ministers.

Possible planning approaches from other countries:

Procedures allowing for participation of interest groups in features of implementation may be very useful in preventing political attacks on the entire policy (Faludi, 1988).

The most appropriate approach for Riyadh:

The plan should confirm the political support by gaining first the Council of Minister's approval, and secondly the support of other involved agencies.

Possible continuing problems:

If a formulated plan does not have political support from the Council of Ministers or other forms of political backing, it will not succeed in implementing its policies, repeating previous problems.

c. **Policy and the implementer:** When policy has been used for the advantage of the implementer or in some instances abused by the implementer.

Current problem:

In many instances the municipality has used land designated for public services for other purposes, such as granting land to private individuals. Most of the areas of these proposed services are not clearly defined and specified as to how their implementation will be achieved .

Possible planning approaches from other countries:

UK Requirement that all local authorities responsible for local planning should prepare local plans for their whole area.

The most appropriate approach for Riyadh:

To prevent such abuse, policy design needs to be clear and concise and should have an enforcement mechanism.

Possible continuing problems:

The continued abuse of government land therefore disturbing plan objectives.

Lack of Public Support:

10.13 Public support is essential in some cases for plan implementation success.

a. Policy of targeted group: In order to succeed, a plan

policy should be exploited directly for the group for which it is intended.

Current problems:

The SCET Master Plan did not take into consideration in its policy the targeted groups. For instance, we have seen in this research that the location of public housing was in a section of the city that was least desirable to the city inhabitants.

Possible planning approach from other countries:

US New measures tend to encourage low cost housing by specifying the percentage for low cost housing, (Navarro and Karson, 1991).

•

US zoning modification usually require two public hearings (Para 2.107).

UK submission of application involves definite amount of publicity to be done by the public authority (Rydin 1993).

Planning agencies can rationalise control by communicating features of implementation to the public in an efficient way, (Faludi, 1988).

The most appropriate approach for Riyadh:

A plan should consider targeting the groups that it plans for

directly, by assessing and surveying their existing situation and what are their needs or the urgent plan required for them. And that they should be informed and, be involved if needed, in development that they will be part of.

b. **Public reaction to policy:** People's reaction and responsiveness or passiveness toward policy is important to its success.

Current problem:

All the SCET Plan surveys lacked any sampling or test of the people's reaction or desires towards its proposed policies. So most of its policies were not tested to see their reaction which has resulted in the passiveness of the public towards the plan and its policies that were never publicised in the first place.

Possible planning approaches from other countries:

US Public hearings held into special ordinances (Para 2.107).
UK Requirement that local planning authorities publicise and consult on development plans.

The most appropriate approach for Riyadh:

A newly introduced plan for Riyadh must never look at the people that it intends to plan for as objects, but should consider peoples' behaviour and attitudes towards what is planned for their physical environment. This can be conducted by allowing public

participation and interest groups during plan preparation, and in any urban issues that may occur later on.

Possible continuing problems:

Not considering the behaviour and reaction of the people who will inhabit the area to be developed would result in an unsatisfactory urban environment.

Recommendation: Combining the Approaches to Riyadh's Planning and Control of Development Problems into Action Packages:

A New High Commission for Urban Development and a New Development Planning System:

Plan Administration

10.14 It seems clear as a result of our analysis that not only is more effective planning control needed, but also a more carefully designed comprehensive plan and other tiers of local plans to face the tremendous urban problems that are taking place. But these new plans need to avoid the failures and mistakes of the plans previously in use. The proposed plan must be linked to methods of efficient control for development and procedures for effective implementation. It is important to remember that many of the stated objectives, rules and regulations of the (SCET) Riyadh Action Master Plan were sound,and could yet be very useful if they were efficiently implemented, such as the policy for service

centres.

10.15 It is proposed here, that Riyadh should have two tier urban plans, one being comprehensive and broad that could be extended to other Kingdom' urban areas. The second tier plan should be for the local level; this type of plan will have complete detail of the type of land use activities that will take place in the city's jurisdiction.

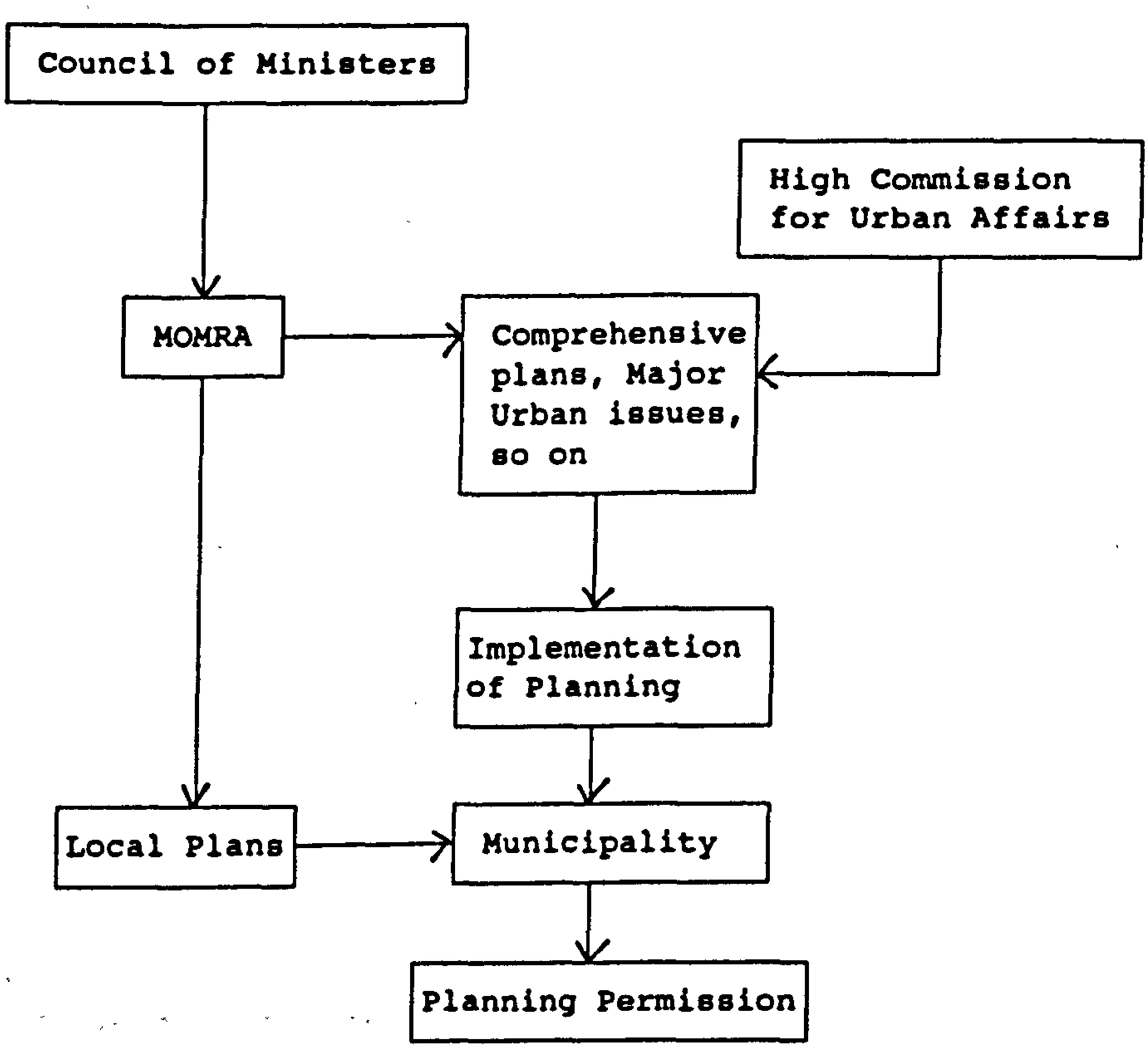
10.16 The proposed Comprehensive Plan for Riyadh would be administered and supervised by the Ministry of Municipal and Rural Affairs (MOMRA) from its initiation to its approval, and thereafter, with the birds-eye supervision on main guidelines by a proposed High Commission for Urban Affairs. It is recommended that the plans proposed would be managed as follows, (See figure 10.1):

- The comprehensive plan would be directly initiated and overseen by MOMRA and closely worked out with the proposed High Commision for Urban Affairs.

- The local plans would be prepared in details and later implemented by the Municipality and approved by MOMRA in consistency with the comprehensive plan strategies.

- It is proposed that local plans would have associated Action Area Plans for areas that need redevelopment to be implemented also by the Municipality.

Figure 10.1: Propose Planning Structure



10.17 It is suggested that there should be established a High Commission for Urban Affairs to review major policies for urban development in Riyadh, either urgent or as the need arises in the future. This new Commission would replace the current Higher Committee for the Development of Riyadh (HCFDR), currently involved in many most detailed issues which greatly overlap with and in future could very reasonably be left entirely to the responsibility of the Municipality. There are two Saudi commissions of this kind currently existing i.e. the High Authority for Public Working Personnel, overseeing major issues concerning government, civil and military personnel, also the High Authority for Educational Affairs.

10.18 The proposed High Commission would not intervene as the HCFDR does now in day to day processes of implementation, but would act as a top authority in major urban issues that need decisive resolution by a high and weighty backing. Also, the Commission would provide political power in support of critical planning issues. It would be extremely important that the new Commission should have skilled planning experts available to it, not necessarily employed on a full-time basis but to be available to provide expertise and advice in areas of the Commission's interest. The Commission would meet and issue resolutions only when the need arises, dealing with major issues on which MOMRA cannot provide decisive action on because it has limited political capacity.

10.19 Also, the Commission will be working with MOMRA in reviewing and preparing comprehensive plans in its final stage for approval of the Council of Ministers. The Commission will lay out the main principles for future urban strategies for Riyadh and possibly other urban areas. It will also programme a coordinated system for development among major Ministries that are directly involved in planning, whose Ministers will be members of the Commission. These Ministries are: MOMRA, Interior, Health, Education, Electricity, Water, Transportation, and Communication. In the meantime, MOMRA should reactivate its coordination department to develop a programme for coordinated development activities among public institutions which would be submitted to the High Commission for authoritative support.

10.20 MOMRA will keep most of its current urban functions with a few exceptions. It should delegate preparation of local plans to municipalities in all urban major localities, except in smaller urban areas where such preparation is beyond local technical capacity. MOMRA will initiate and oversee comprehensive plans for the city under the directions of the proposed High Commission of Urban Affairs until the plans have been granted approval from Council of Ministers; the same would apply to any main urban issue that is beyond MOMRA's political capacity.

10.21 The Municipality will have the role for implementing the comprehensive plans, the preparation and then the implementing of local plans, through granting planning permissions. The recently established Municipal Council will be expected to work locally and closely with municipalities; it should monitor the

preparation of local plans and the general implementation of plans and of planning policies. Municipalities should not take relatively major urban decisions without MOMRA approval, which in turn seek approval from the new Commission on major issues to deter corruption and flawed implementation.

10.22 Although this thesis'analysis has been only for Riyadh, the city's experience is unlikely to be very much different to that of other major Saudi urban areas, mainly because of the highly centralised system of government and planning in the Kingdom, Hence,the new High Commission and Development Plan System would be justified for Riyadh alone, but it is reasonable that its responsibility might also be extended to cover the whole of the Kingdom,because other urban areas such as Jeddah are known to have similar experience of planning and master plans.

The Need for a New Development Plan System for Riyadh

Weaknesses of SCET Master Plan:

10.23 It is observable from our research that the SCET Riyadh Action Master Plan (RAMP) has contributed to a certain degree to current planning problems. It has failed in a number of critical issues as shown earlier in this research, including inaccurate prediction of future occurrences such as expected city population growth, and therefore of allied urban growth and so on. It is an outdated plan with a large number of deficiencies.

10.24 In preparing a new plan for Riyadh it is important to keep in mind the weaknesses and failures of the previous one. The new plan should include supplementary policies for the control of development and for implementation procedures. The policies for control of development and implementation should not be separate from the plan to avoid overlapping, to indicate their significance and to maintain coordination.

10.25 The following are the main weaknesses observed in the SCET plan:

- It has never been considered as an obligatory plan due to the fact that it was not adopted by the Council of Ministers.
- It did not cure many of the urban problems.
- It was based on old information of the urban situation of the second half of the 1970s.
- It lacked its concern for local situation.
- It failed to predict the approximate population growth.
- It did not provide an efficient method for control of development.
- It did not predict the urban growth trends.
- It failed to provide a system of implementation for many of its stated policies and objectives.
- It did not sufficiently project the city's amenity needs.
- It, repeated the mistakes and failures of the earlier Doxiadis Plan, such as aesthetics and privacy.
- The implementers of the plan were varied in number with no clear tasks or idea of their exact role in the implementation process.

The Form of the Comprehensive Plan.

10.26 The proposed comprehensive plan may be very similar to the form of a British structure plan, that is of being broad and comprehensive in nature. The plan should have a written statement along with all the needed illustrations and maps. The plan will transfer national, economic and social policies to all urban localities. Also, the comprehensive plan should have guidelines for implementing the proposed local or action area plans. The plan will have no specific time limit but will have long range targets, indicate the stages of development and general. It will cover designated geographical urban boundaries, which in the case of Riyadh will be Phases 1 and 2 of the Urban Boundary limit and the area adjacent to the outward UBL as example.

10.27 The proposed plan's structure should include:

1 A detailed assessment of the area's social, economic and physical situation.

2 An indication of the main urgent urban problems for which the critical strategy will be formulated.

3 Define the level of authority that will have decisive action on the various critical issues.

4 Analyze critically the previous plan's failures and success in policies.

5 Determine the main functions of the urban area, as to the degree to which they contribute to it as a capital city, or as a commercial, tourist or heritage area.

6 Have accurate data of the area's inhabitants and realistic speculation about the long range trends of population and future growth.

Local Plans

10.28 Detailed local and action area plans should be prepared which should be consistent and in compliance with the comprehensive plan strategies. These local plans should comprise a detailed map and illustrations, other related supplements and a written statements indicating detailed local objectives, existing local problems and solutions. These plans should be precise in character, but to be flexible in case of changing circumstances and events, the municipality will review the plan every two to five years and, if needed, alter or replace it depending on the local urban situation, with MOMRA approval.

10.29 The local plan's main functions are: implementing the strategy of the comprehensive plan; to provide a detailed basis for controlling urban growth; lay out local procedures for development control; arrange locally for coordination between planning agencies directly and indirectly involved in the local development planning process; lay out implementation stages and procedures for local plan provisions. The plans should distinguish between essentially urgent objectives of a short run

nature, and broad long range objectives in order to determine priority in implementation.

Area Sectors of the Proposed Plan

10.30 Almost all Saudi urban areas particularly Riyadh are characterised by three physical layout features.

1 Deteriorating built-up areas.
2 Recently developed areas.
3 Large and widely spread vacant lots of land within and adjacent to the built-up areas.

As we have noticed, there are occurrences of inconsistent development in most of Riyadh's built-up areas, and some of these inconsistencies are irreversible except by re-building. Therefore, the proposed comprehensive plan should be supported in deteriorating parts of the urban area by Action Area Plans within the local plans and by long range plans, for the recently developed and vacant land areas.

Deteriorating Areas

10.31 These areas in Riyadh now constitute a large portion of the city centre and parts around it, most of which it is dominated by traditional `slum' type dwellings. These dwellings are deteriorating and in very poor condition, unsuitable for habitation and a very large number are not in use. The condition of this old urban area is unacceptable for modern city life. It has narrow,

poorly circulated streets, 100% lot use with high density and absolutely no open space, besides other social and urban ills. So plans to address the redevelopment and renewal of these areas is a priority, by issuing a new set of rules and regulations for land-use and control of development, and to ensure the consistency of these rules and regulations to the main goals of the comprehensive plan. These Action Plans can be successful as the previous stage of the Riyadh Action Master Plan has proven successful in its recent implementation, which has reshaped the city core and revitalised economic, social and urban conditions. Also the area of villas and other concrete developments that were built some 30 to 35 years ago are currently deteriorating and now fit within this category. These buildings circle the old part of Riyadh with a large concentration north and north east. Most are now used for other uses than their original designated use, such as offices or storage areas, so a new form of rules and regulations should be set up by the plan for any redevelopment or refurbishing in that area.

Recently Developed Areas

10.32 As these have been developed in the last five years or so they would be expected to have an approximately 30 to 40 year life-span. Previous experience has shown that concrete built locally deteriorates in quality at the end of this period, and so there will be a need to re-build these parts, which is probably the only way to correct the currently existing inconsistencies in these areas. So the plan could propose a long range plan for these areas to be revised and reshaped gradually within 30 to 40 years from now.

Vacant Lands

10.33 As we noticed earlier, vacant land area occupies a very large portion of the city of Riyadh. hence, the new plans ought to consider a new development policy for these areas to cover their deficiencies and needs of public services, open green space, cultural aesthetic design, new essential roads and other amenity needs. The plan should anticipate a policy of acquiring lands, and a second policy of setting rules and regulations for the growth of those areas in a way to be consistent with the overall plan, goals and objectives. Also the same consideration could be applied to land areas of phase 2 of the Urban Boundary Limit.

10.34 In general there is a need for better and more comprehensive planning for the city that also could be applied to other urban areas of the Kingdom. Suggestions toward comprehensive planning are indicated in an appendix at the end of the thesis that outlines technical procedures for good planning approach in support of thesis recommendations.

Land Policies

Current Problems:

10.35 We have observed that the absence of adequate legislation or an efficient means to implement existing regulations has caused problems, including land speculation and large areas of vacant land, ineffective land-use control, and the permitting of sub-division plans in areas far away from built-up areas.

Possible solutions:

10.36 There is need for further research to deal with vacant land and its associated problems of speculation and misuse. The following ideas toward land policies should be further investigated before the Government might introduce new land policies:

a. For undeveloped vacant land, introducing a form of levy or fine to be imposed on a land parcel for specified period during which it was displayed for sale, in which the owner had no intention of developing it. As many of the observed inconsistencies are of urban sprawl.

b. For more efficient land use control, the government should study putting new sub-division rules for the already sub-divided vacant land within the area and on the outskirts of the city limits. This could be by introducing the curvilinear design subdivision shown in Chapter Four. In this form of sub-division the land is used more effectively than in currently used designs of sub-division; it gives the same number of lots, but requires 10% less intersections and 17.6% less streets than the current design. Besides, it provides a good sense of residential community and its street layout distracts traffic noise.

c. Government planning agencies should use more authoritative power and other indirect means to reject development in areas where it is not supposed to take place, and encourage development in areas where it is

intended to be developed. The government should use legislative power by enforcing rules and regulations that permit or do not permit development in an area.. For instance, the creation of small shanty towns around the city was the result of the government planning agencies not enforcing development laws that lay in its hand. Also, the government has many tools in its hand that can be used indirectly to enhance or discourage development in an area. One major tool is the laying out of the infrastructure, providing an incentive to attract development to an area by constructing such as a large park, school and so on.

d. Planning agencies ought to be responsible for formulating concise development objectives and in addition, co-ordinate the actions of the various public agencies involved in urban land development, to ensure that their actions are consistent with the original objectives.

e. Planning agencies should accurately project land needs by coordination with other planning agencies, so they all can use designated land efficiently and properly.

f. A system of compulsory land acquisition powers ought to be introduced by the government, to be used for public purposes, and compensation should be at the going land price on the market. In Riyadh one of the causes of public facility shortages is the Municipality's reluctance in acquiring land for this purpose, compared for instance to Jeddah. Hence, the government through the

comprehensive plan should set a policy on compulsory land purchase and compensation, which could be by money or another piece of land or another form of exchange that would be acceptable to the owner.

10.37 In order to establish an overall land policy it is reasonable to be guided by the following objectives:

- ensure the availability of reasonably priced and services urban land in the face of land speculation.
- allocate financial resources to match the rate of urban growth and of services and utilities.
- improve the efficient utilisation of land by enforcing control regulations.
- utilise vacant land to improve the urban area's image.
- introduce new measures to encourage the redevelopment of deteriorating buildings.
- introduce some form of incentives to encourage the private sector in developing vacant lands within the built-up areas.
- introduce a hierarchial system of public services by reviving the previously proposed services centres, acquiring land for that purpose.
- sub-division plans already approved should be reassessed by the new plan in order to comply with the new sub-division rules to be introduced by the plan.

Conclusion:

10.38 Our recommendations are to some degree influenced by

approaches employed in Western Europe, mainly UK, and in the United States. In this situation it might be asked whether they are appropriate to Saudi Arabia which has a political context very different to the United States, France, The Netherlands and other countries with many centuries of legislative experience and of planning and controlling development be various means.

10.39 Although the extent of self regulation of Saudi society over a long period might be underestimated by some Western observers, it is certainly true that significant urbanisation is a very recent phenomenon in the Kingdom, whose history of settlements is slightly different to that of Egypt, Iran, Algeria and other Middle Eastern countries in sense that it were more of rural type settlement. Yet, in a brief period of barely forty years, living standards and general standards of urban infrastructure in Saudi Arabia have outrun those in all other major countries of the Middle East.

10.40 In this period of unprecedented growth of Saudi cities, a rise of living and environmental standards have been achieved which are exceptional amongst the rapidly urbanising countries of the world. Perhaps only South Korea has avoided the scale of urban poverty and environmental squalor characteristic of Bombay, Manila, Lagos, Rio de Janeiro and other comparably expanding cities.

10.41 Hence, it can be argued that whatever the shortcomings in public services and other matters which have occurred during Riyadh's fast development, there is potential to work towards the kinds of

planning and control methods which are familiar in Western countries. As yet, there remains a gap between the kinds of Western methods already adopted in planning practice and the traditions of Saudi politics and administration. Closing the gap will depend upon developing administrative practice, the authority exercised by the Council of Ministers, the spread of trained staff amongst the agencies involved in planning and development, and on public acceptance of the public advantages of planning. We accordingly believe that creative management of Riyadh's future does depend upon progressive strengthening of the planning system. Slowly perhaps, but by the approaches we recommend.

BIBLIOGRAPHY

- Alder, John (1979): **Development Control** London, Sweet & Maxwell, p.77-79, 129.

- Al-Hathloul, Saleh Ali (1981): **Tradition, Continuity and Change in the Physical Environment:** The Arab Muslim City, PH.D. thesis.

- Barret, Susan and Fudge, Colin (1981): **Policy and Action: Essays on the Implementation of Public Policy,** Methuen, Land, New York, p.4.

- Bartone, Carl (1991): **Environmental Challenge in the Third World Cities,** Journal of the American Planning Association, Vol.57, No.4, Autumn 1991, American Planning Association, Chicago, IL.

- Baradach, Eugene (1977): **The Implementation Game,** Cambridge, MIT Press.

- Brand, Janet (1980): 'Recent Enforcement Activity in Great Britain: An Analysis' in Ramsay A. and Young E.; **Enforcement of Planning Control, Law and Practice,** University of Strathclyde, Department of Urban and Regional Planning.

- Brindley, Tim; Rydin, Yvonne and Stoker, Gerry: Remaking Planning (1989): **The Politics of Urban Change in the Thatcher years,** London. Unwin Hyman.

- Carter, Philip O. (1993): **Techniques for Coordinating and Managing Growth,** Journal of Urban Planning and Development, Vol. 119, No.2, June 1993, Cal., USA.

- Castells, M. (1977): **The Urban Question,** English edn (Edward Arnold) pp. 76.

- Council of Minister: Decree No. (175), **Urban Boundary Limits,** (1989).

- Cullingworth, J.B. (1988): **Town and Country Planning in Britain,** Unwin Hyman, London, p.111-150.

- Cullingworth, J.B. (1993): **The Political Culture of Planning,** Routledge, London.

- Cullingworth, J.B.; and Nadin, Vincent (1994): **Town and Country Planning in Britain,** Routledge, London.

- Davies, H.W.E. (1989): **Planning Control in Western Europe,** London: HMSO.

- Davies, H.W.E.; Edwards, D. and Rowley, A.R.: **The Relationship Between Development Plans, Development Control and Appeals,** The Planner, October 1986.

- Davies, H.W.E. (1991): **Zoning and Discretionary Control: A Comparison Paper** presented at UAA/AESP Conference in Oxford, July 1991, p.2, 5, 6.

- Davies, Keith (1984): **Law of Compulsory Purchase and Compensations,** London, Butterworths.

- Department of the Environment (1992): **Planning Policy Guidance: Development Plans and Regional Planning Guidance,** PPG 12, Feb., 1992, HMSO 1992, Sec.(5.3) (5.4) (5.55).

- Department of the Environment (1988), **Planning Policy Guidance: General Policy and Principles,** PPG1, Jan., 1988, Sec. 12, 13, 14, 30.

- Delafons, John (1969): **Land Use Control in the United States,** MIT Press, p.12, 33, 95, 138, 141.

- Dobry, George (1975): **Review of the Development Control System.** HMSO, p.157.

- Downing, P. (1979): **Implementing Pollution Laws: Observations from the American Experience,** Zeitschrift fur Umweltpolitik 4, 351-92.

- Elmore, Richard F. (1980): **Backward Mapping: Implementation Research and Policy Decisions,** Political Science Quarterly, Vol. 94, No. 4, Winter 1979-80, pp. 601-616.

- Freilich, Robert H. (1977): 'Management and Control of Growth' in Scott, Randall W., Brower, D. and Miner, D., Vol. II, **Development Timing, Moratoria and Controlling Growth: Preliminary Report.** Urban Land Institute.

- Faludi, Andreas (1988): **A Reader in Planning Theory,** Pergamon Press.

- Frankline, Herbert M. (1977): 'Management and Control of Growth' in Scott, R. W., Brower, D. and Miner, D., Vol. II, **Controlling Urban Growth: But for whom? The Social Implications of Development Timing Controls,** Urban Land Institute.

- Garrett, Martin, A., Jr. (1987): **Land Use Regulations, The Impacts of Alternative Land Use Rights,** Praeger, p.28, 2, 13, 55.

- Gallion, Arthur B., Eisner, Simon (1983): **The Urban Pattern: City Planning and Design,** Van Nostrand & Co., p.177, 203, 293.

- Goggin, Malcolm L. (1986): **The "Too Few Cases/Too Many Variables" Problem in Implementation Research,** The Western Political Quarterly, Vol. 39, No. 2, June 1986, p.330-346.

- Hambleton, Robin (1983): **Planning System and Policy Implementation,** Journal of Public Policy, Vol. 3, Oct. 1983, Cambridge University Press, pp. 397-418.

- Hanf, Kenneth (1982): **Regulatory Structures: Enforcement as Implementation,** European Journal of Political Research 10 (1982), pp. 159-172 Elsevier Scientific Publishing Company, Amsterdam, The Netherland, pp. 159-172.

- HCFDR (1987): **Toqreer Metaq Anomo Al Onrani Le Madenat Arriyadh,** (In Arabic), HCFDR.

- HCFDR (1987): **Demographic, Transportation, Land-use, and Economic Studies for the city of Riyadh,** Higher Committee for Development of Riyadh.

- HCFDR (1989): **The Investment Climate in Arriyadh, Saudi Arabia,** HCFDR.

- HCFDR (1987): Riyadh Development Authority, **Demographic, Transportation, Land-use and Economic studies for the city of Riyadh,** Hill International.

- HCFDR (1992): **Al Riyadh Al Ams (Riyadh Yesterday),** A publication contains old photos of the city between 1911 - 1956, The Higher Commission for Riyadh Development, (HCFDR).

- HCFDR (1991): **Current Socio-Economic Patterns for the city of Riyadh:** Executive Summary, HCFDR.

- HCFDR (1992): **Urban Development strategy for city of Riyadh: A plan for providing public infrastructure to city of Riyadh until the year 1995,** HCFDR (In Arabic).

- HCFDR, Tadweer Periodical (1992): **"Completion of Riyadh Land-use Survey for 1991",** 1, issue 5, 1992, High Commission for the Development of Riyadh (HCDR). pp.8-10 (In Arabic).

- HCFDR,Tadweer Periodical 2 (1991): **Land Use in Riyadh,** issue No. 4, 1991, HCDR.

- HCFDR, Tadweer Periodical 2 (1992): **"Three million and three hundred thousand Riyadh population in 1992"**, issue 8, 1992, HCDR, pp.2-5 (In Arabic).

- HCFDR (High Commission for Development of Riyadh), (1991): **King Fahad's Road,** Rajab 1411 H, (1991 AD) (In Arabic).

- HCFDR (High Commission for Development of Riyadh) (1990): **March to Development,** Riyadh Development Authority.

- Healey, Patsy; Doak, Andrew; McNamara, Paul and Elson, Martin (1985): **The Implementation of Planning Policies and the Role of Development Plans,** Vol. 1, HMSO, p.14, 31-32, 34, 46.

- Healey, Patsy (1986): **Planning Policies, Policy Implementation and Development Plans,** The Planner, Sept., 1986, pp.9-12.

- Healey, Patsy; McNamara, Paul; Elson, Martin and Doak, Andrew (1988): **Land Use Planning and the Mediation of Urban Change:** The British Planning System in Practice, Cambridge University Press.

- Healey, Patsy (1983): **Local Plans in British Land Use Planning,** Pergamon Press.

- Hjern, Benny (1982): **Implementation Research - The Link Gone Missing,** Review Article, Journal of Public Policy, Aug. 1982, 2, 3, pp. 301-308.

- Hooper, A.J. (1987): **`Development Control in the Federal Republic of Germany',** of in full report: The Control of Development in Western Europe, by H.W.E. Davies, D. Edwards, A.J. Hooper and J.V. Punter, London HMSO.

- HMSO: **Town and Country Planning Act, 1990,** Chapter 8, Sec. (55), (106), (172), (226), (73), (72). London: HMSO.

- HMSO: **Planning and Compensation Act, 1991/2,** Chapter 39, London HMSO, Sec. (2).

- HMSO: **Town and Country Planning Act, 1971,** Section (112 (1) (d) [5]).

- Hupe, Peter (1990): **Implementation & Meta Policy: The Case of decentralisation in the Netherlands,** Policy and Politics, Vol. 18, No.3, pp.181-191.

- Ibn, Taymiya (1982): **Public Duties in Islam,** The Islamic Foundation.

- Landis, John D. (1992: **Do Growth Controls Work? A New Assessment,** Journal of the American Planning Association, Vol. 58, No. 4, Autumn 1992. America Planning Association, Chicago, IL.

- Lichfield, N.; Kettle P. and Whitebread, M. (1975): **Evaluation in the Planning Process,** Oxford: Pergamon.

- Mandell, Myrna (1984): **Application of Network Analysis to the Implementation of a Complex Project,** Human Relations, Vol. 37, No.8, pp.659-679.

- Ministry of Municipal and Rural Affairs (MOMRA) (1982), Riyadh Action Master Plan (RAMP): **Revised Master Plan,** Technical Report No.8, SCET International/SEDES.

- MOMRA, (RAMP) (1981): **Urban and Development Policy,** Technical Report No.10, SCET Intenational/SEDES.

- MOMRA, (RAMP) (1982): **Executive Summary/Development Trends,** Technical report No.6, Vol.I, SCET International/SEDES.

- MOMRA, (RAMP) (1979): **Proposal for organisation of planning for the city of Riyadh,** Technical Report No.7, SCET International/SEDES.

- MOMRA, (RAMP) (1982): **Action Area No.1,** Technical Report No.12, SCET International/SEDES.

- MOMRA, (RAMP) (1979): **Riyadh Existing Conditions, Physical development,** Technical Report No.6, Vol.III, SCET International/SEDES.

- MOMRA, (RAMP) (1982): **Action Area No.2,** Technical Report No.14, SCET International/SEDES.

- MOMRA, (RAMP) (1981): **Planning Regulation,** Technical report No.9, Part II, SCET International/SEDES.

- MOMRA, (RAMP) (1980): **Projects of Third Five Years Plan for the city of Riyadh,** Technical report No.13, SCET International/SEDES.

- MOMRA, (RAMP) (1982): **Execution Plan for (1400) 1980,** Riyadh Action Master Plans, Technical Report No.11, SCET International/SEDES.

- MOMRA, (RAMP) (1979): **Socio-Economic Survey,** Technical Report No.6, Vol. V, SCET International/SEDES.

- MOMRA, (RAMP) (1979): **Riyadh existing conditions: Land-use,** Technical Report No.6, Vol. II, SCET International/SEDES.

- MOMRA, (RAMP) (1980): **Planning regulations (Standards),** Riyadh Master Plans, Technical Report No.9 I, SCET International/SEDES.

- Navarro, Peter and Carson, Richard (1991): **Growth, Controls: Policy Analysis for the Second Generation:** Policy Science, 24, 1991, Kluwer Academic Publishers, 1991, pp.127-152.

- O'Toole, Laurence J., Jr. (1986): **Policy Recommendations for Multi-Actor Implementation: An Assessment of the Field,** Journal of Public Policy, 6,2, 1986, pp.181-210.

- O'Kleef, Thomas (1977): 'Management and Control of Growth' in Scott, Randall W.; Brower D. and Miner D, Vol. II, **Time Controls on Land Use: Prophylactic Law for Planners,** Urban Land Institute.

- Purdue, Michael; Young, Eric; Robinson, Jeremy (1989): **Planning Law and Procedure,** Butterworths, London and Edinburgh, pp.426, 444-445.

- Porter, Douglas R. and Watson, Bob (1993): **Rethinking Florida's Growth Management System,** Urban Land, Feb. 1993, pp. 21-25.

- Punter, J. V. (1990): **Design Control in Bristol 1940-1990,** Redcliffe, Bristol.

- Ratcliffe, John (1993): **An Introduction to Town and Country Planning,** UCL Press Ltd.

- Renaud, Bertrand (1981): **National Urbanization Policy in developing Countries,** Published for the World Bank, Oxford University Press, p.29.

- Regan, Priscilla M. (1984): **Personal Information Policies in the United States, Britain: The Dilemma of Implementation Considerations,** Journal of Public Policy, Feb. 1984, 4, I, pp. 19-38.

- Riyadh Municipality (1987): **Riyadh Urban Growth Boundary.**

- Riyadh Newspaper (1992): **Discussion of Urban Boundary Limits,** issue 9065, April 19th, 1992 (In Arabic).

- Roberts, Hugh: **An Urban Profile of the Middle East,** Groom Helm, London, 1979.

- Rydin, Yvonne (1993): **The British Planning System: An Introduction,** Macmillan Ltd.

- Sabatier, Paul A.: **Top-Down and Bottom-Up Approaches to Implementation Research, A Critical Analysis and Suggested Synthesis,** Journal of Public Policy, 6,1, 1986, pp.21-48.

- Sabatier, Paul A. and Mazmanian, Daniel (1983): **Policy Implementation** Encyclopedia of Policy Studies (1983a), pp.143-169.

- Sabatier, Paul A. and Mazmanian Daniel (1979): **The Conditions of Effective Implementation: A guide to Accomplishing Policy Objectives,** Policy Analysis, 5, Fall 1979, pp.483-504.

- Schacht, Joseph (1986): **An Introduction To Islamic Law,** Clarendon Press, Oxford.

- Scott, Randall W., with Brower, David and Miner, Dallas (1977): **Management and Control of Growth,** The Urban Land Institute, Washington, DC.

- Stuart, Greg (1994): **Concurrency - Management Practices in Florida: Comparative Assessment,** Journal of Urban Planning and Development, Vol. 120, No.2, June 1994, pp. 59-73.

- Thornley, Andy (1991): **Urban Planning Under Thatcherism,** Routledge, London and New York, pp.133, 145.

- Underwood, J. (1981): **Development Control: A Review of Research,** Progress in Planning, Vol. 16, Oxford, Pergamon.

- Wannop, U.A. (1992): **Unpublished Memorandum,** University of Strathclyde.

- Wakeford, Richard (1990): **American Development Control: Parallels and Paradoxes from an English Perspective,** HMSO, London.

- Weimer, David L. and Vining, Aidan R. (1989): **Policy Analysis: Concept and Practice,** Prentice-Hall International, pp.120, 292-322.

Appendix

Suggestions Towards Comprehensive Planning

Plan Preparation

The proposed new Comprehensive Plan will go through the following stages:

- Deciding to adopt the Plan.
- Formulating the main goals of the Plan.
- Clarify the objectives.
- Setting up alternative strategies.
- Assessment and evaluation of all previous steps.
- Plan approval.
- Implementation.
- Observation and review.

In the initial preparation stage for the plan, the consultant or the team preparing the plan will have to consider a large number of issues without depending on only one source of information, or on one government planning institution. The planners should, in addition to existing sources and information available to them, do a thorough investigation and survey to update the analysis in Chapter 8 and study the components of past urban trends of population growth and present existing problems, and should also manage to have a local survey of Riyadh's inhabitants to find out what are the urgent and the future needs of the city dwellers. The plan should adopt a strategy of planning for the urban area for

short, medium and long term spans. The long range plan should look at possibilities over twenty years. Those preparing the plan ought not to borrow a copy of any other country's plan provisions and apply them directly. The local problems need to be considered before any application of external planning solutions, although external experience may well have lessons to teach.

In the initial preparation, the planners must depend on three sources; conducting a survey, planning institutions, available data and information. The available data, information, and maps from government and non-government institutions should be thoroughly assessed and carefully studied and updated with current information from the survey.

Data collected in the survey should be reliable, up to date, and should include all land use activities, physical appearance of built-up areas, utilities, amenities, population statistics and social and economic factors. Also, public participation by questioning opinion on certain issues should be inclusive in the survey.

The planning institutions are the ones the planners will encounter most. So it is critically important to identify the institutions' role in order to ease the preparation process, and to give the plan some status in its early stages. The plan should also concentrate on eliminating as many as possible of the marginal actors to be involved in the plan's preparation or implementation, to avoid deficiencies of the previous plans.

At the initial preparation of the plan, related data, statistics, maps

and other documents about the area ought to have been reviewed, assessed, sampled and categorised. Also, data on hand should have been evaluated to ascertain its correctness and accuracy, therefore reliability. Based on the sources of the survey, planning institutions, and available data, forecasts of expected urban trends and land use activities will have been established which monitoring will allow to be progressively calibrated and rolled forward, within reasonable confidence limits.

Ensuring Plan Success

The Importance of Consistency between Levels of Planning

Factors of poor understanding and disjointed cooperation have been identified as having seriously interfered with effective implementation in Riyadh. We have suggested that a new High Commission could have a significant impact on Riyadh's future development. But we must recognise that creating agencies is only a part of the process of improving the efficiency of planning. The agencies have to cooperate and adapt to changing circumstances, and they have to be staffed with not just cooperative but also skilled and competent staff. So, having outlined the revised system of plans and agencies proposed and before going on to discuss planning procedures, it is worth summarising some of the kinds of essential action and improved professional and administrative performance required to support our proposals as follows:

- Establishment of a good organisation structure to decide how planning tasks can be broken down and who will

handle what part.

- Planning procedures to decide priorities and determine resource allocations.

- Feed-back on the degree of progress of planning proposals.

- Planning needs to be staffed by qualified personnel.

- Qualified personnel should be in charge to ensure compliance with zoning regulations.

- Local plans should provide a permanent and acceptable solution to the problem of privacy that previous plans were not able to solve.

- The government, through the comprehensive plan's should be able to make lands available where local public developments are required.

- The government through the comprehensive plan's provisions could condemn and ban land transactions in some areas.

- A policy of increasing the pace of providing utilities to be developed within the city limits to prevent speculation on serviced land.

- Means to prevent land hoarding and speculation.

- Any subdivision permission should be totally denied in any area not covered by the plan.

- Subdivision plans should be based on accurate information about the site extracted by a planning official, not the owner as was previously the case.

- Concise zoning regulations should supersede the previous practice of street-by-street zoning system.

Plan Monitoring

All comprehensive and local plans need to be monitored continuously during their implementation process. This monitoring mechanism would allow for finding and identifying flaws in the plan's structure or in its implementation process, which could then be altered, revised or abandoned for an alternative course of action. Such a monitoring system should be created via establishing, for instance, a plan monitoring office attached to MOMRA, or possibly an independent administrator. Such a monitoring office should have monitoring the plan as its sole function, with a continuous full time trained staff.

Additional Areas of Plan Concern:

The plan ought to have concern for the following subjects: privacy, aesthetic, utilities, public services, green open spaces, population, in-city roads, land subdivision, and plan consultation.

Privacy

Home privacy which was the subject of failure in the previous Doxiadis and SCET plans needs to be solved with this plan. The two prior plans failed to come up with a popular solution to this issue.

Aesthetics

This is an important issue that was not given enough attention in the previous plans. This, with home privacy and similar issues, could come under a broad objective of "Improving the city or town outlook". Some examples of unsatisfactory aesthetics were pointed out in Chapter 9, and there is more to be explored. Improving the city's outlook may involve detailed explanations of 'how'; such as an assessment and revisions of existing building rules and regulations, and laying out a number of details to reach this objective, and so on.

Utilities

Utility provisions have to be laid out in parallel with development in an efficient way, and should be utilised as a tool of controlling and directing urban growth where desired and of eliminating urban sprawl and land waste.

Public Services

The plan needs to have concern for school locations and

proximity to residences and other essential services of daily or weekly use which help eliminate travel distance within the city. The previously introduced hierarchy of service centres by the SCET plan should be reintroduced and effectively implemented, with all its components.

Green Open Space and Recreation Areas

Green open spaces with saudi urban areas are an essential use that almost all areas are lacking especially in Riyadh, and the plan ought to emphasise the creation of large green spaces within built-up areas to establish a beautiful city image, and areas of recreation. There is a variety of methods and techniques to measure the demand and needs for recreational facilities, which the plan should apply. A hierarchy of green spaces at neighbourhood, community and larger district levels should be introduced.

Population

As the population is the basic element of an urban community's existence, its size, expected growth and movement, desires and activities are crucial to the planning. So the plan should incorporate a complete demographic study and assessment, which will include permanent and visitors, army camps, and so on, and the population break down in terms of age and sex and their current and expected distribution in and around the urban area.

In-city roads

As the Kingdom is an automobile orientated society and has the high ratio of car ownership of one car per three individuals, this makes it essential to have an efficient street and highway system in order to have smooth and easy access between areas. The plan should consider the importance of this factor as one of its main goals.

Land Sub-division

As has been observed, sub-division permissions given in areas outside the Master plan boundary were one of the main causes of the spread of uncontrolled development, and of its by-product problems. The plan has to totally restrict subdivisions in areas not covered by the plan boundaries.

Plan Consultation

Ratcliffe (1993) summarised some of the stages by which a British structure plan is prepared and adopted, which could be useful in our proposed comprehensive plan as a critical preparation for planning control:

1. The plan initially starts with the production of a project report pointing out the scope of the plan, a list of studies that have to be carried out, time-table of work in hand, an indication of how the authority intends the work to be performed, and the manpower implications. This report

could act as a basis for initial discussion with MOMRA and other government agencies.

2. While the planners start on the plan, the regional office of MOMRA sets up an assessment team group comprised of managerial and professional planning staff helped by representatives of other related government departments. This assessment team follows the plan through until approval, first observing the plan's preparation, formulating any modifications, and then its approval.

3. MOMRA then has to supervise identification of the number of strategic policies available to the planners. This includes deciding on the likely size and possible location of future increase or decrease of growth in order to eliminate potential growth problems. The policies and proposals for the implementation of this strategy are then put together and presented in a draft written statement.

4. The plan submitted to the proposed High Committee for Urban Affairs, and discussed in its meetings in order to clarify doubtful issues and matters which MOMRA might have to revise. When any necessary revisions have been made, according to the Committee or others concerned with the plan, through a specialist team at the Committee and the Ministry who will make a final review and assessment of the plan. If no major revision is necessary the plan will be submitted to the Council of Ministers for approval and adoption.

Planning Control Methods:

The concluded diagram model (Figure 2.12), at the end of chapter two can be used, wholy or partially as a guideline for conducting development control in the Kingdom. The various methods introduced in that model could be very useful. Each method should be chosen depending on a given urban case. For instance the government could apply urban growth control on areas where it intends to halt development, or it could use the method of granting permission through negotiation with developer in order to gain some benefit for the community, and so on.

Urban Environmental Standards and Facilities

Recommended Solutions:

The SCET Revised Master Plan proposed four main objectives:

- improve the quality and accessibility of public services.
- develop a comprehensive transportation network.
- provide public utilities according to development priorities.
- improve the image of the cities.

While these four objectives remain worthy objectives, we have seen that they have not been achieved, so the proposed plans should address the following general

policies:

1. To evenly provide all amenities and public service in all urban areas already developed or in the process of development through the following:

- This could be done either by re-introducing the hierarchy of service centres proposed previously by the SCET plan, but with reassessment of their prior designated location to appraise the area's needs and its population density, expected density, current and expected development. And the plan should lay out a procedure or a mechanism to ensure the efficient and the desired implementation of these service centre proposals. Or, if the above centres' implementation is not all possible due to the unavailability of land that would accommodate all the service centre components, then these services could be located individually and evenly within the built-up areas on whatever land is available in the area which will be acquired. These public services and amenities should be distributed according to nearly equal distance between each centre of the same level, taking into consideration the population maximum expected density. In areas where it is fully developed and there is no vacant land to build the needed service over it, the plan should put in its provisions a procedure to acquire property in the built-up areas, if it can be adjusted to the service needed, or if not then it should be demolished and developed over again.

- These public service facilities should include religious, educational, health, recreational, fire protection, post, neighbourhood public libraries and public sports fields. The service types proposed in the SCET service centres are sufficient to support a residential community's needs.

- A house to house survey should be conducted in each area to estimate approximately its inhabitants' needs and desires of the kind of services to be attained.

2. Make all public services and movement in urban areas accessible to all urban area residents, via an efficient road system and easier traffic circulation by doing the following:

- Adopt an urgent short range traffic plan for the city and another long term one. The short term plan should deal with the current city of Riyadh's traffic problems of circulation easement. The long term plan should deal with a long term plan for the city at least twenty years ahead.

- The short range plan should deal with the existing problems of traffic congestion circulation in the city, especially in the two main spinal traffic highways for the city, north-south and east-west King Fahad highway and Kaleege highway respectively, whose problem of heavy traffic was mentioned in preceding Chapters. Probably the best and least costly solution now would be to include the service roads which are only divided by three metres pavement. The two highways' widening would be done

simply by including the pavement inside the highway by which at least three car lanes would be added to the existing three lanes, or a two car lane added to the main lanes of the current highway plus a one car lane of service road. In this proposed solution, the only technical and financial problems would be dealing with the tunnel and bridge areas that both highways pass through. Adding two or three more lanes to both highways would greatly ease traffic circulation on them. In addition to the proposed alteration, an organised system of traffic signals in all streets should be implemented so as to ease through traffic and discourage auto speeds and encourage some of the traffic to use those highways and others.

- This short term solution would be enough for the next five to ten years. Afterwards, the long range solution should be realised.

- Long term solution for these two highways would have to consider at least doubling their current capacity. This can only be done by constructing another elevated highway parallel to the current Kaleege highway and a parallel highway on top and along the King Fahad highway. Such a project would be huge and could have some negative impacts on areas along its path. And it may cause other planning problems. A project of this scale should be thoroughly investigated and assessed if it is to be proposed and later to be implemented. But there is concern for these two highways for the reason stated earlier, in that they are

the main spinal east-west and north-south traffic distributors and are the most congested.

- Broadly, the plan should address a clear and precise transport policy for Riyadh. An auto traffic policy should have priority, as the Kingdom as a whole is an auto orientated society and the only alternative to widening and increasing the main highway and streets capacity would be to discourage car ownership. But to decrease the number of cars which is not feasible and their growth is irreversible. However, another possible approach would be to keep the city population increase rate low and to discourage migration to the city by various means, which might be a difficult goal to achieve.

3. Improve the urban area's air environment, by introducing measures to curb the auto emissions that pollute the air, such as preventing the importing of diesel cars; and industrial pollution ought to be regulated.

- Riyadh is the most crowded city of the Kingdom with cars in the increase every year. Such an extremely high number of autos is producing a very large quantity of toxic emission into the air that also makes the city living environment unhealthy. Besides the car pollution, the factories southeast of the city also contribute to city air pollution to a lesser degree.

The SCET plan did not put a concrete pollution policy for

Riyadh, and the proposed plan should address this issue in detail setting measures for auto emission control, using methods of anti-pollution that were proven successful in other countries. The first thing to be done now without delay for any plan is for the government to issue a decree to stop importing any small diesel cars immediately.

4. Improve the landscape appearance of the urban area and preserve the original local architecture, landscape appearance and local architecture would be improved by:

- Setting rules and regulations that make building appearance in the main streets uniform by having the same colour, building and window shape and architectural continuity to provide an aesthetically desirable appearance.

- Introduce landscape on open areas around the city's major intersections and main city attraction areas.

- Make new rules and regulations that would emphasise the adoption of building of local architectural design. The HCFDR renewal project of the city centre according to old Nagdi architecture is a successful implementation of such an objective, that could be followed through in the re-building of all the old deteriorating sections of the city and also for all the new projects and new developments.

5. Set an overall programme to fulfil urban needs in utilities and to follow at the same pace the rate of development in

the urban areas. And special attention ought to be given to cover all areas with the sewerage network which lags behind the rest of the utility services, as does storm drainage provision. Action can be through:

- The plan should put the sewerage provision of utilities facilities as a priority, and a goal of extending sewerage network service to all developed areas should be achieved in the short run, extending the service to all developable areas in the long run. The storm drainage network should have its pipings installed in parallel to eliminate cost and delays.

- Electricity network should assess its current overload capacity and project city future needs of electric power.

- A policy of water consumption should be introduced to curb misuse and waste, and future city water needs and alternative resources be projected. Last but not least, action is needed to achieve water reuse by structuring a wide water treatment program to reuse the huge quantity of water wasted every day in the city.

6. A sequence of green open space areas should be introduced at a wider scale to all urban areas, from neighbourhood parks up to metropolitan parks, which can be achieved by using the large amount of vacant land.

- As stated earlier, one of the extreme facility shortages the

city has is the absence of open green space areas.

And the standards put up by the SCET plan for the city minimum requirement of green space was not met. As there are a large number of empty lots of land everywhere in the developed areas of the city, there should be an organised taking over by the government through the Municipality of lands to use as neighbourhood, community, district, or district parks.