

**New Urban Settlements: An economic evaluation  
of current progress in the Egyptian new towns.**

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of the University of Liverpool for the degree of  
Doctor in Philosophy

by

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## **Abstract**

During the 1970s in Egypt, a decentralisation policy in regard to population and industrial distribution and the enhancement of economic development, was formulated. This policy was based on the creation of new towns in the desert region, and it came into fruition with the designation of four new towns between 1975 and 1979 and six more during the 1980s. These were designated mainly to attract part of the overspill population from the traditional urban areas, absorb part of the internal migration and help in expanding not only the national economy but also the developed area of Egypt.

However, at the present time these new towns are far behind in achieving the economic and demographic purposes they were established to serve and the new towns so far developed have had very limited effects on the economic and demographic structure of Egypt.

This research investigates the motivations behind the adoption of the new towns policy in Egypt. It also examines the progress, the achievements and the difficulties encountered, in terms of both economic and demographic objectives, as well as the universal theoretical concepts underlying the functional and physical characteristics of the new towns.

This study has identified certain shortcomings and weaknesses in the new towns policy. A number of recommendations are consequently made to improve and accelerate its progress and some guidelines are outlined to keep the needs of the policy within the economic and financial capabilities of the country.

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## Chapter 1

### Introduction

#### 1-1 Introduction to the study

Historically, planning and development in Egypt was undertaken along the Nile's banks and in the Delta region, while millions of hectares in the desert have not been developed. To this add the following problems:

(1) The geographical distribution of the population is seriously imbalanced with about 96% of the population living on no more than 3.5% of the total area of Egypt. This meant that, by 1976, about 38.2 million persons lived on an area of no more than 35,000 sq.km (CAPMS, 1981), giving high population densities in the inhabited area in general and in large cities in particular. For instance, by 1976, the population density was 23,688 person/sq.km. in Cairo and 7372 person/sq.km. in Alexandria, which was about twenty-three times and seven times the national level, respectively (CAPMS, 1983).

(2) During the last 50 years Egypt has experienced a rapid rate of population growth from 15.9 million in 1937 to about 38.2 million in 1976 (CAPMS, 1980), that is an average rate of population growth of about 3.5%. Moreover, an increase from 37.5 million in 1976 to about 64.0 million by the year 2000 is anticipated, which means that in the next 25 years the country will experience a huge increase in its population, that is a further 26.5 million persons, or 75% of what the population was in 1976.

(3) Internal migration has increased the disequilibrium in the distribution of the population between urban and rural areas. Between 1907 and 1976 the urban population, as a percentage of the total population, increased from 17% to 44%. In the same period the rural population percentage decreased from 82% to 56% (Nassef, undated).



(4) The geographical distribution of the industrial sector in Egypt displays a pattern of over-concentration in particular regions. By 1976, Cairo and Alexandria together had about half the industrial capacity and labour force of the entire country (Abdel-Maksoud, 1986 c).

(5) There is an acute shortage in housing accommodation, with the gap in Egypt reaching some 4 million units by 1986.

These factors raise questions as to the quality of life to be found in Egyptian cities, with problems such as traffic congestion and inadequate housing services and amenities still to be solved. It has also led to an annual loss of about 16.8 to 26.9 thousand hectares of arable land because of urban expansion demands which have been met traditionally by encroaching upon the surrounding agricultural land.

It was argued, therefore, that the only way to meet the demand for urban development and to enhance economic development was to develop new settlements in the desert regions outside the Nile's valley. As a result of this argument a national urban development policy was formulated during the second half of the 1970s to tackle the problems of urban areas in Egypt. The policy was elaborated as follows:

1- Agricultural land must be protected from any encroachment by expanding urban settlements or any other forms of non-agricultural production development.

2- The only area suitable for agricultural purposes is the narrow strip of the low land along the Nile river. This area cannot be expanded under the conventional agricultural methods adopted in Egypt. To meet the growing needs of Egypt's population for agricultural products new land should be reclaimed and new agricultural methods will be essential.

3- New settlements should be developed in the desert region to tackle the problem of rapid population growth, ease the pressure on existing cities, provide employment opportunities and speed economic development (Amer, 1987).

It was decided that the new towns policy would be undertaken on a national scale, relying upon central government to finance their development which would be carried out by new governmental agencies responsible for each new town. The programme has taken a definitive pattern with the designation of the Tenth of Ramadan, New Ameryiah City, Sadat City and the Sixth of October between 1976 and 1979. The broad objectives of the new towns policy, as stated by the Regional Development Strategy 1978-82, are:-

- 1- Reducing the population pressures from big cities.
- 2- Creating job opportunities as a means of attracting people to the new towns and consequently aiding the growth of these towns.
- 3- Increasing regional and national income and expanding the economic base of Egypt, as these towns are to represent new productive communities.

Further new towns were designated during the 1980s, starting with New Damietta in 1980, New Sallehia in 1982, New Noubaria, New Beni-Suef and New Menia in 1986 and New Asyut in 1988. This brings the total number designated in Egypt to ten new towns.

The new towns would, if they achieved their targets, accommodate some 3 to 4 million persons by the year 2000, which is about 14% to 19% of the estimated population increase between 1980 and the year 2000. However, by 1986 the new towns were progressing slowly with a total population of about 11,000 inhabitants, compared with an overall population target of more than 500,000 inhabitants (CAPMS, 1987). Similarly, by 1988 the number of job opportunities created was 28,000 compared with an overall employment target of more than 140,000.

Nevertheless by 1988 an amount of £.E. 1359.7 million of public funding had been invested in the Egyptian new towns. This amount has been spent on large scale provision of infrastructure and services as well as on housing construction (MHNCU, 1988).

Taking into consideration these outcomes and the vital role the new towns were designated to play, research to evaluate the performance, problems and achievements of the Egyptian new towns has been rather neglected. Thus, the present research provides an opportunity to investigate the scope of, and the prospects for, new towns policy in Egypt in the light of both the national context and the earlier British experience, which may provide an appropriate international measure.

### **1-2 The hypothesis underlying this study**

The research programme was developed to examine the basic hypothesis that Egyptian new towns are far behind in achieving their objectives and that they are not, as they were expected to, affecting urban development, assisting demographic, industrial and economic decentralisation or enhancing economic development in Egypt. The government of Egypt expects that the new towns policy will affect national population distribution and the directions and potentials of future economic development and urbanisation. Given the present level of development and progress in the new towns, it can be argued that despite the substantial financial support it has received, the policy is not having any significant effect on the economic nor the demographic structure of the country. Construction activities have been focused upon as a pragmatic, physical means of developing the new towns in Egypt, but the application of efficient and consistent planning and monitoring systems has been overlooked. It is argued here that the performance of the agencies and the balance of their programmes can be improved, using the financial resources

available, through the adoption of more efficient and consistent comprehensive planning and monitoring systems.

### **1-3 The aim and objectives of the study**

In the light of disappointing levels of achievements in the first batch of new towns over the past eleven to fourteen years, the ultimate aim of this research is to develop guidelines to assist the new town development agencies to meet their initial terms of reference. Within the parameters of this aim, six interrelated objectives are defined:-

1- to develop an understanding of the conceptual basis underlying a programme involving new towns.

2- to examine past approaches to various administrative, economic and demographic elements involved in the translation of the "new town" concept into a programme of public works.

3- to investigate the scope of, and the intentions implicit in, the Egyptian new towns policy.

4- to investigate the process of financial resources allocation to new towns development agencies, and to consider ways and means to optimise the use of such allocations.

5- to analyse the economic and demographic growth and progress achieved in the new towns of Egypt.

6- to investigate the achievements of the new towns in furthering urban development in Egypt.

To meet these objectives a range of fundamental questions has been posed, in the belief that the answers provided as the study develops will substantiate the

original hypothesis. They will also provide a framework for structuring the investigation of the issues listed.

- 1- Are the conceptual features of the new towns related to sound theoretical constructs?
- 2- How can the "new town" concept be translated into a national public programme?
- 3- What is the intended purpose and the scope of the Egyptian new towns programme?
- 4- Does the financial system adopted by the Egyptian new town agencies control efficiently the sums allocated for various development schemes? Have they maximised the benefits which could be derived from them?
- 5- To what extent have the Egyptian new towns achieved the economic and demographic objectives set for them?
- 6- To what extent have the Egyptian new towns managed to achieve the universal, theoretical or conceptual features of all new towns?
- 7- Can the new towns development be better organised so that the advantageous aspects of the programme can be attained and so that the inherent problems can be either avoided or more readily solved?

#### **1-4 Research methodology**

Once the area of research was identified, it was important to design the research programme so as to achieve, methodically, the aim and objectives set for it. Achoff (1953) divided the design stage into three operational phases. The first phase, "the formulation of the problem", seeks to specify as precisely as possible the nature of the problem. The second phase, "the idealised research investigation", identifies the optimum research procedures that would be followed if there were no

practical restrictions. The third and final phase, "the practical research design", translates the idealised research design into a pragmatic one within the practical limitations of the research.

To achieve the aim and objectives of this research a comparative planning study mode is adopted. The manner of this approach permits " the study of planning problems and practice in different countries in relation to the institutional context of the respective countries" (Masser, 1984, p.140), and in this study the conceptual features of the new towns are investigated in a comprehensive perspective including British experience in terms of developing new towns on a national scale. This aspect was investigated in some detail. The Egyptian new towns policy is considered both in terms of the motivations behind its adoption and its scope. Then the Egyptian new towns are evaluated in the light of universal, theoretical and conceptual features, the British experience and the national context, to elucidate their problems and weaknesses. Finally, guidelines are developed so that such problems and weaknesses can be avoided or readily solved (Figure:1-1).

The adoption of the comparative planning approach in this study provides insights for the researcher which can deepen the understanding of the process involved. It also represents a means of overcoming the shortcomings due to country-specific training in the planning field. The British new towns policy represents a case where new towns were developed on a national scale. It was financed by central government, developed by public bodies (the development corporations), and aimed to absorb overcrowded population and over-concentrated economic activities from the conurbations. Further, the British new towns developed in the second half of 1960s were designed to act as economic growth centres. Such features, in addition to the common feature of a mixed economy, though the balance between private and public sectors involvements is slightly different in Britain and Egypt, show a marked degree of similarity with the Egyptian new towns policy. It was decided therefore that an investigation of the British new

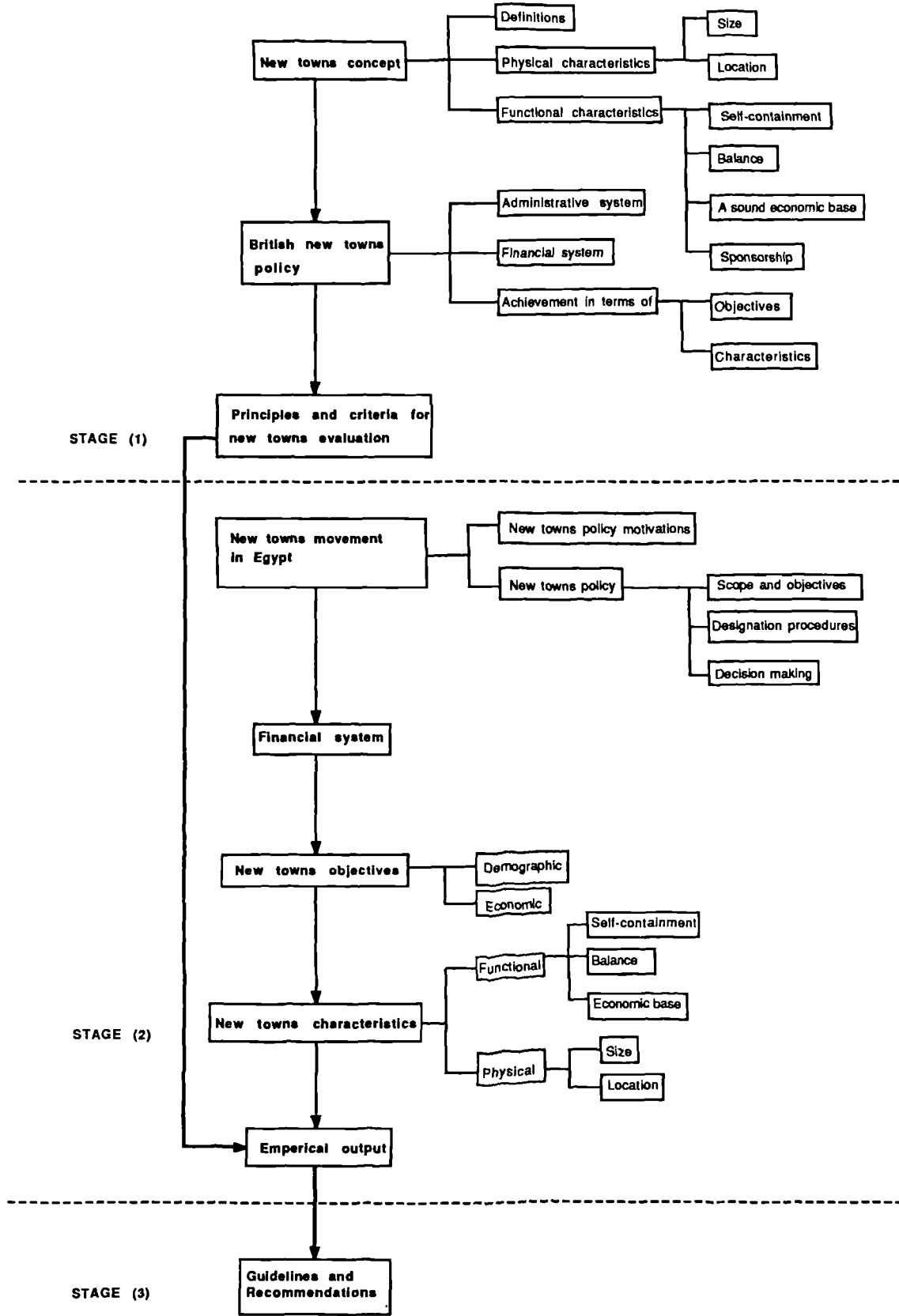


Figure:1-1: The conceptual framework of the study.

towns experience would provide a number of useful general lessons and a better understanding of how basic new town development processes could be established.

It is recognised, nevertheless, that the ability to transcend a culture-bound assumption brings about the danger that the greater the framework of reference, the greater the difficulties there are likely to be in applying its generalisation to anything in particular (Masser, 1984). The investigation of the British new towns policy is, therefore, undertaken only as means of deepening the understanding of problems faced in translating the new towns concept into a public programme and of the difficulties in matching theoretical constructs with practical project implementation in a "mixed" economy.

#### **1-5 The structure of the thesis**

The thesis report is arranged in nine chapters and the sequence of these chapters follows the chronological development of the research. Following the introduction of the thesis in chapter one, a literature review to identify the conceptual features of new towns is provided in chapter two. A comprehensive investigation of the British new towns policy and achievements is provided in chapter three. Chapter four is devoted to the Egyptian new towns policy in terms of both motivations and objectives. Chapter five provides an outline of the field survey conducted as an important part of this research. Chapter six is devoted to the financial system adopted in the Egyptian new towns. Chapter seven is concerned with the evaluation of the Egyptian new towns in terms of their economic and demographic objectives. Chapter eight is devoted to the evaluation of the Egyptian new towns in terms of their attainment of theoretically desirable features for the new towns. Chapter nine provides summaries, draws conclusions and formulates recommendations for future action.

Chapter two establishes a relevant definition to be adopted in this study for the new town concept. It also identifies the conceptual features underlying the



theoretical premises of new towns as they appear in the definition adopted, seeking generalisations from the past and present experience in new towns development.

Chapter three investigates the operational considerations as well as the mechanisms of the British new towns policy. This involves considering the historical background of the policy in terms of its origins and evolution. This is followed by examining the first steps in a new town development, that is, the legal designation procedures. Then the administrative and financial perspectives of the new towns development are studied and analysed in some detail. The next section is concerned with the achievements, as well as the means that led to such achievements, of the British new towns policy in terms of their objectives, both economic and demographic and their match with the conceptual characteristics discussed in chapter two. The final section concludes the lessons which may be learned from the British experience.

Chapter four considers the new towns programme in Egypt, starting by looking into the different motivations which led to the adoption of the new towns policy. This is followed by an investigation of the origins, the objectives and the implementation steps of the policy. Finally, the designation procedures and the management systems, in terms of decision-making, are considered briefly in relation to the new towns initiation.

Chapter five provides an outline of the field survey which was conducted as an essential part of the research. It begins by explaining the rationale for mounting a field survey. This is followed by a consideration of survey methods, and the issues taken into account in designing the questionnaire and the sampling procedure. A discussion of the field trip is followed by the chapter summary.

Chapter six evaluates the financial system adopted in Egyptian new towns. It begins by considering the overall structure of expenditure on new town developments. Various financial sources for new towns development are analysed

from an overall point of view and in terms of fund allocations for each new town. The attention of the chapter then concentrates upon four selected new towns; namely the Tenth of Ramadan, the Sixth of October, New Ameryiah City and Sadat City. This involves the evaluation of the financial system both in terms of the sums spent and the benefits obtained from the development of these four new towns.

Chapter seven evaluates the new towns in terms of the achievement of their original objectives, pointing out the difficulties faced and their successes. It begins by studying the economic development undertaken in the new towns and compares it with the economic targets set for them. Then the demographic achievements of the new towns are compared with the original targets set, pointing out the weaknesses and the strengths of the new towns in that respect.

Chapter eight examines the Egyptian new towns in terms of the theoretical and conceptual characteristics considered in chapters two and three, in order to determine the extent to which these features have been incorporated. This involves investigating the functional characteristics which lead to self-containment, both in terms of the provision of employment as well as facilities and services for the residents of the new towns. Demographic structures and characteristics are discussed and linked to the variety of economic activities that have growth and linkage potentials that can enhance the economic as well as the demographic development of the new towns. Management and sponsorship approaches that can ensure systematic implementation of plans and avoid the duplication of efforts are considered and this is followed by a re-evaluation of the physical characteristics of new towns in regard to their locations and sizes.

In chapter nine the findings of the research are summarised. A number of conclusions are drawn and some recommendations are formulated for revisions in both planning policy for the new towns (in general and in particular) and organisation and management decision-making practice.

## Chapter 2

### New urban settlement concepts

#### 2-1 Introduction

There have been large discrepancies in the terms and definitions used to describe new urban settlements. On one hand, the variety in the terms such as "new town", "new city", "new community", "satellite town" and others which have been employed by town planners to describe large-scale urban development, have been used by some planners as corresponding expressions and by others as distinctive concepts. On the other hand, it appears that none of these terms has a unique or universally accepted definition or description of the new settlement concept, which means that the concept has a variety of sometimes conflicting definitions (Leons, 1980). Such problems are indicative of the confusion which often surrounds discussion of the subject.

The intention of this chapter, therefore, is to find a relevant term and a definition for the new urban settlement concept for adoption in this study. It also intends to identify the basic features of such settlements as they appear in the definition adopted; seeking generalisations from the past and present experience in new urban settlements development.

#### 2-2 New urban settlements terminology and definitions

All urban settlements, it was suggested, fall into two major categories. The first category includes the economically self-contained settlements, while the second contains those which are not economically self-contained (Figure:2-1). The settlements in the first category are relatively independent economically and have physical self-identity. They are not based primarily on a community pattern, in all their dimensions, but are relatively self-contained and self-sustaining. Usually these settlements are carefully and comprehensively planned and developed, to

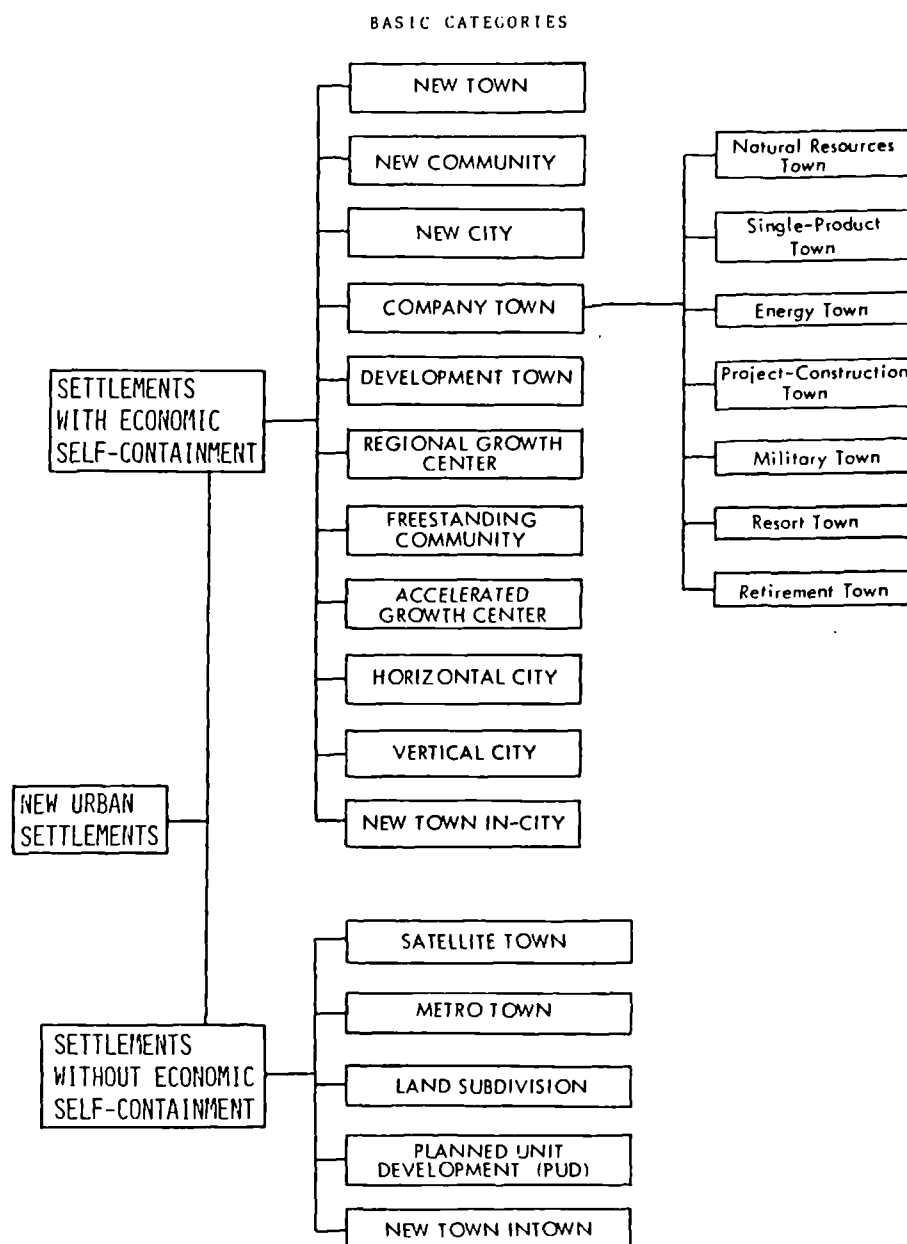


Figure 2-1: New urban settlements.  
Source: Golany, 1976.

serve pre-ordained purposes and achieve goals other than merely providing housing.

By contrast, the settlements included in the second category are not economically independent, and are all physically or economically related to already established cities. Since major job opportunities exist outside the settlements the majority of their inhabitants form a night population, and the settlements thus have a lower day density. Mainly used as housing centres, these settlements depend on a pattern of commuting to an established urban centre. Consequently, the social contribution of the population to community life is at best intermittent.

As the new urban settlements in Egypt, as defined by the Egyptian New Towns Act 1979, are planned as self-contained settlements, with the aim of acting as attractive growth centres outside existing urban centres, the attention of this study will concentrate on the first category. This will take the form of determining the variable nature of the concept, and selecting a definition considered to be most appropriate for adoption in this study.

The first concept in the self-contained urban category is "new town", which since the end of the nineteenth century, when it was re-born as a comprehensive *and unified concept*, has presented definitional challenges for town planners. For example, in his definition Merlin (1971) focuses on the urban functions of the new towns as he considers that they should be:

"... able to exercise a complete range of urban functions, which includes not only the grands ensembles but also new sectors created to aid the growth of a built-up area to which they remain closely linked and on whose centre they remain largely dependent." (p.256)

Another definition concentrates on the planning and ownership aspects.

Weaver (1965), for instance, considers the new towns as:

"... well planned large communities, usually removed from existing cities, providing housing accommodation, employment opportunities and public, educational and cultural facilities, as well as commercial amenities. They are usually planned, executed and owned by a governmental entity" (p.13)

In terms of contemporary community planning aspects as a major component of the new town concept Stein (1957) emphasises that new towns should be:

"... contemporary .This does not necessarily mean that they should have particular type of "new look", a different type of architectural style or veneer. By contemporary I mean towns that are planned, built, and operated to serve present day needs and conditions." (p.217)

Other definitions have dealt with new towns in more comprehensive and precise details, such as Suquent-Bonnaud (1960), who identifies the requirements which new towns should fulfil as;

"... ( being) large enough to have an independent existence, in other words , self-contained towns with commercial, educational, social and cultural institutions that satisfy the needs of families and individuals alike ; above all, the towns must have a sufficient number of industrial enterprises to create a wide labour market. Such towns are fundamentally different from "satellite towns",where workers are dependent upon another urban centre which may , may not, be easily accessible, or from towns enlarged by new districts, which meet other needs and raise other problems. They are, also, different from towns that have been almost entirely destroyed and have been rebuilt on the same site...

We also mean entirely new towns , deliberately created by an act of will... for a given purpose and- most important of all in accordance with well-established principles and a carefully devised plan, bearing in mind the need for economic and demographic balance." (p.16)

The conflict between these definitions is attributed to the different approaches through which town planners have described or defined new towns. They appear to focus more on the necessity of certain aspects, rather than others, such as, social, economic, physical or organisational factors.

A second term, used to describe economically self-contained new urban settlements is "new community" which has been employed by American town planners instead of "new town" to describe large-scale development. They claim that the critical difference between new towns and new communities is in the limited degree of self-containment experienced by the latter.

Most definitions of the new community concept, however, show that despite the difference in the degree of self-containment between the two concepts there are, in reality, no distinguishable features between them. For example, a new community was defined as:

". . . a new, planned large-scale development, built as expansion of an existing urban centre or in a newly developed area on privately owned land. Private developers usually initiate and implement these communities and occasionally receive some governmental support. New communities, which are built to provide a range and high standard of housing on a free-market basis, are planned to be self-contained, *self-sustaining, and well balanced*, with a degree of economic opportunities... New communities are planned to have basic local social and cultural services and public utilities, shopping centres, educational facilities, and other daily amenities to enable future independence. They are planned for diverse land use, including land set aside for natural green areas and open space. The new community is also viewed as a potential opportunity for innovation in all of urban living." (Golany, 1976, pp.31-32)

Similarly, it was suggested that new communities should have:

"The inclusion in a project of commercial, recreational and institutional facilities required to serve the residential population and an industrial employment base for much of the population." ( Miller, 1972, p.3)

Another term that has been used, since the 1960s, to describe an unconventionally large new urban settlement, is "new city". It was suggested that the new city concept subsumes most of the elements of the new town concept, except its size which should be more than one-quarter of a million population and that it should function as a regional growth centre (Golany, 1976).

These features, nevertheless, could not be considered as critical differences between the two types of new settlements because, on one hand, as with the new cities, one of the functions for which new towns have been and are established is to serve as growth poles(Galanty, 1980). On the other hand, the size issue could not be considered as a distinguishable feature between planned new settlements which experience similar characteristics, particularly since the new towns have no specific limits on size that are universally accepted by town planners and economists.

Many other definitions and concepts have been considered by town planners, but referring to them would not change the fact that there is no general agreement about the definitions and terms employed to describe large-scale urban development. Because the extent of the differences between these different terms are neither well defined nor universally agreed upon no distinction will be made between them, and the term "new town" will be used because it is the one most commonly employed. Now, after the term has been selected, an attempt will be made to consider a definition that is most appropriate for this study. This involves



first examining the appropriateness of the definition suggested by the Egyptian New Towns Act 1979, particularly in terms of covering the main features which distinguish the new towns from other forms of large-scale urban development. This is followed by an examination of those basic features which are evident in the variety of thoughts and writings on new towns.

The Egyptian New Towns Act (1979) defines new towns as:

"Every self-contained demographic gathering that aims at creating new cultural centres and attains social stability and economic welfare, be it industrial, agricultural or commercial. They aim at re-distributing the population by acting as pulling areas outside existing cities, towns and villages." (p.1)

Such a definition fails to underline the essential need for these new towns to develop sound economic bases that can sustain their independence and also assist in enhancing their economy. It also overlooks the need for these towns to be balanced in terms of their populations' socio-economic structure, so that they would not be seen as one-class communities and in terms of the profile of their age-structure, so that their sponsors would not face subsequent problems in development and management. The dynamics of population growth means that changes inevitably take place over time, creating a need to programme the provision of certain age-specific facilities, types of housing and employment opportunities.

This definition does not include the issue of who is to sponsor the development of the new towns, nor does it consider the range of the elements that need to be taken into consideration in determining the optimum size of individual new towns.

For this study, the definition of the characteristics that could be considered as more appropriate to describe a new town is<sup>(1)</sup> :

"A town large enough to be self-contained, i.e. with a wide range of facilities that will satisfy the needs of all of its inhabitants. The location of the town should be selected in accordance with a range of factors, such as its functions, proximity to, but not contiguous with, large regional and sub-regional markets and good accessibility both to transport and communications networks. The town should be developed with a sound economic base that involves a wide range of industries, services, agricultural activities and institutions to enhance its economic and demographic development and to create a variety of employment opportunities. Such a town is created by an act of will, away from existing cities, for given purposes in accordance with a carefully devised plan that takes into account the need for socio-economic and demographic balance."

### **2-3 New towns characteristics**

There are a number of characteristics which are considered by town planners and economists as the major distinguishing features between new towns and other types of large- scale urban development . These characteristics could be divided into two categories, the first, " the functional characteristics", refers to the characteristics related to the functions and performance of the new towns during their development. This includes "self-containment", "balance", "sponsorship" and "a sound economic-base". The second category deals with the "physical characteristics" of the new towns, either in relation to their sizes or locations.

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(1) This definition is considered as more appropriate for this type of study. Other definitions, however, could be thought of in relation to other types of studies.

### **2-3-1 Functional characteristics**

#### **a- Self-containment**

Since the establishment of the first garden city , the term "self-containment" has been considered as an essential feature of new towns (Ogilvy, 1968). For instance, Unwin (1909) argues that garden cities should be planned as:

"... definitely organised and largely self-contained units to provide for the expansion of industry and population and designed to provide as far as possible all that is necessary to localise the life within them. Each unit must itself include all the necessary parts, and for each, space must be allowed for expansion"

Self-containment has been referred to in most definitions of the new town concept. For example, O'Harrow (1964) considers self-containment as one of the major features of new towns. He suggests that;

" If (large-scale developments) are not to be sprawl, they must be reasonably self-sufficient and self-contained. They will then be 'new towns'." (p.105)

The term self-contained has a dual meaning. The first simply refers to the urban facilities which are likely to be found in a new town. In essence, Mumford (1951) argues that a self-contained town should provide the daily required social, cultural, educational, commercial, and public or private services to satisfy the community and to *minimise* commuting behaviour. The second, as Thomas (1969) points out, means that a self-contained new town should be relatively independent in terms of employment provision for its residents and therefore should provide both places for residence and places for work.

It was argued that the intention behind the desirability of self-contained towns is to avoid megalopolis and long journeys to work with their high cost of money, time and nervous energy (Robson, 1967). However, as most settlements

are in one way or another dependent upon other urban centres, a completely self-contained town cannot exist (Golany, 1976). Consequently, the ideal degree at which any new town may be considered as a self-contained community is a controversial issue which relies largely upon the criteria used and the conditions of each new town (Robinson, 1973).

Self-containment is nevertheless largely desirable, both to maintain a balance between the levels of employment and population and the provision of adequate facilities for the residents in order to minimise cross-movements in and out of new towns and to create an integral town with its own identity. It should be borne in mind that a new town which serves as a growth centre (a more common case at the present time) would create jobs for residents from other areas, not necessarily distant ones. This would result in a reduction in the degree of self-containment experienced by the new town, but does not negate "self containment" as an objective for the new towns.

#### **b- Balance**

The term "balance" has been used in connection with the new town concept to describe a variety of desired relationships within them. In this sense there have been many attempts to interpret "balance". Thomas identified three main approaches.

The first suggests that a new town should be balanced in terms of the combination of the town and the country areas which must exist within its boundaries. The motive behind this approach was derived from the desirability of combining the advantages of the rural surroundings and the city, and this was mainly related to the garden city concept (Mumford, 1951). The second argues that a new town should be balanced by keeping jobs and housing completion in steps, in order to reduce in-and-out commuting during the development of new towns (Aldridge, 1979).

The third, which is related to the internal structural circumstances of the new towns, emphasises that a new town should be balanced in some kind of social and demographic sense. This balance is indicated in two interrelated ways. The first states that new towns must be planned to attract a mix of age groups and socio-economic classes<sup>(2)</sup>. The second concerns land uses arrangement, given the new towns need to provide not only a variety of housing types and sizes, but also a diversity of facilities for all classes (New Towns Committee, 1946 c). It was argued that social balance is intended to avoid mainly working class communities, because the presence of large numbers of people with the same style of life, educational prospects and expenditure patterns in a new town can have a narrowing effect on its people. Also, it was suggested that one class or solely working class communities would:

"... develop social inertia, in particular would lack the leadership which, it was thought, the middle class would provide... (and that new towns) must contain those members of the indigenous community who can bring with them and disseminate certain cultural elements considered necessary for the foundation of civilised life." (Heraud, 1968, p.36)

In relation to social balance, some planners claim that for a new town to be balanced it should attract all socio-economic classes in roughly the same proportions as the national average (Smailes, 1945). This opinion, however, was criticised by many town planners not only on the ground that this means ignoring the influence of the particular functions and location of a new town on its socio-economic and demographic composition (Thomas, 1967), but also that it may be

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(2) It was suggested that the desire for socially balanced new towns could be traced back to the nineteenth century. For instance, Buckingham (1845) argued that the plan for New Victoria was for:

" an entirely new town.... peopled by an adequate number of inhabitants with such due proportions between the agricultural and manufacturing classes and between possessors of capital, skill and labour as to produce.... the highest degree of health, contentment, morality and enjoyment, yet seen in any existing community"

( Quoted in Heraud,1968, p.34)

inconvenient for the economic activities undertaken in the new town and the optimisation of the provision for employment (Galanty, 1980).

**c- A sound economic base**

If each new town is to be planned as a self-contained and balanced community, its economic base must be carefully considered. On the one hand, achieving self-containment may be influenced by whether or not a town is planned upon a viable broad economic basis (Robinson, 1973), and on the other hand, a particular economic base for a new town may affect its population composition and rate of growth. This in turn would determine its employee incomes, and therefore, their consumption patterns and standards of living (Golany, 1976).

The question which still arises is; what are the main principles which should be considered in the planning of the economic base of a new town? There have been many attempts by town planners to identify such principles. For instance, it is generally agreed that the economic planning of the new towns should consider their role as regional and national economic development instruments, and they should be developed within the framework of regional and national economic policies to ensure that conflicts are minimised (Hague, 1980).

Robinson (1973) regards the economic base of new towns from the stability point of view. He argues that they should have a cross-section of economic activities, in order not to be dominated by a single industry or occupation, which would minimise their economic stability. In the same regard, emphasis has been placed on the need for establishing not only factories, shops and local services, but also head offices, research establishments and sections of government offices (New Towns Committee, 1946 c).

Dunning (1960) considers the economic base of new towns not only in respect of their economic stability, but also their growth prospects. He underlines

the need for new towns to have industries which offer favourable growth prospects, in addition to employment diversity and a minimum risk of employment instability. Further, it could be that the industry in the new towns, in addition to offering favourable growth prospects, needs to have strong inter-industry linkages, with a high capacity for transmitting growth impulses through both backward and forward linkages, in order to introduce, initiate and reinforce economic growth of related firms in the new towns. These forward and backward linkages are not reflected in market prices and therefore represent an externality, which could cause the social benefits of an investment to diverge from the private benefits (Bulmer-Thomas, 1982). Nevertheless, a single industrial unit should not be introduced as a core or a focal point of the economic base, for as is in the case of dominant firms in the growth pole theory, this can endanger the economic stability of the new towns.

The nature of the economic base and its short and long terms perspectives should, therefore, be carefully considered during the planning stage of a new town and also through the development stages to guarantee a degree of economic growth and stability. Also the managerial and physical layout plans of the new town should be flexible in order to allow changes to be incorporated according to the evolving economic needs of its region and the country as a whole.

#### **d- Sponsorship**

New towns, as pre-planned communities founded to serve pre-established purposes, are usually created and developed under some form of sponsorship. The form of sponsorship may differ with the purposes of the new towns (Clapp, 1971). They may be sponsored by government, private enterprise, or a combination of both. The sponsorship form to be adopted would, consequently, determine the financial methods to be employed. For example, in Britain all the new towns were publicly sponsored. The planning and development of each new town was undertaken

by a public corporation answerable for its decisions to the Ministry of Housing and Local Government and its successors (Robinson, 1975).

The new towns in the Soviet Union were sponsored by the Gosstroi and Gosplan which were jointly in charge of the selecting of sites, allocating of capital, approving large building projects and supervising the undertaking of the building programme (Baranov, 1967). Another form of sponsorship was employed in some cases in Germany where municipal authorities had created new towns sharing responsibilities with private companies, such as Volkswagen company in the case of Wolfsburg new town, and their construction was entrusted to non-profit-making building societies (Merlin, 1971). In many countries new towns have been and are being established by private companies, such as in the United States, Germany, and Japan.

But whatever the sponsorship form is, there is a general agreement amongst town planners that new towns should be controlled by one single sponsor or agency during their development process, in order to assure systematic implementation of the plan (Clapp, 1971) and to avoid the duplication of efforts (Desai, 1967). Also, a huge project such as a new town, calls for an integral long term development programme and involves the investment of large sums of money. Efficiency and flexibility within the management system and the ability to adapt to the changes in the needs of the new town as it grows, should be the cornerstone in determining the management system to be employed.



## **2-3-2 Physical characteristics**

### **a- Location**

One of the major factors which may influence a new town's success is its location. Although there are many considerations which would affect the site selection process for a new town, such as proximity to communications, availability of land, and the physical characteristics of an area<sup>(3)</sup>, the main factors to be considered are the functions which it is built to serve.<sup>(4)</sup> As the functions vary from one new town to another, the location issue has not been referred to in most definitions of the new town concept, except in cases where the author refers to a certain type of new town (Clapp, 1971). For instance, Archer (1969) suggested that the main location requirements for the new towns which serve as regional centres are:

- \* Availability of water;
- \* Good access to the state and national transport and communications systems;
- \* Proximity to a large regional population;
- \* proximity to a region with development potential; and
- \* Reasonable proximity to large markets.

Although without reference to a specific distance range from other urban areas, Merlin (1971), in an attempt to categorise new towns according to their location, has identified, the following categories:

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<sup>(3)</sup> Although Losch (1954) suggested that the location of a town at a favourable point could be explained by "natural resources, location of large-scale consumers, and intersection of traffic routes". He warned against "regarding such obvious advantages as sufficient causes for an agglomeration of locations"

<sup>(4)</sup> In the case of a privately developed new town, the optimal location is determined by the effects of the site selection (land cost, employment base, accessibility and holding cost) and financial performance (Ricks, 1970).

- \* Towns built outside established urban regions for economic reasons, such as the acceleration of economic growth within a depressed area, for example Peterlee and Newton Aycliffe in Britain (Steele, 1963), or for political reasons, such as the creation of new capitals e.g. Brazilia and Islamabad.
- \* Towns established outside urban areas but within commuting distance of a large city, in order to relieve urban congestion in the parent city, such as the eight new towns of the London region in Britain and some of the new towns in Poland, especially in Upper Silesia (Merlin, 1971).
- \* Towns planned as extensions of existing cities, such as the case of Copenhagen and Stockholm<sup>(5)</sup>.

Generally, any discussion of the location issue has to consider carefully the purposes which new towns are established to serve; bearing in mind the necessity for locating the new towns far enough from other urban centres in order to avoid being developed as extensions of existing cities or being dominated by them.

#### **b- Size**

The optimal size of a new town is one of the most controversial issues associated with the new towns concept. The disagreement between town planners and economists about an optimal size is mainly attributed to the diversity of criteria used for determining the optimal performance standards in their respective areas of responsibility. Using a unitary criterion may give conflicting indicators of the optimum (Duncan, 1951).

For example, Brennan (1949), argues that towns should be in the range of 10,000-20,000 people, in order to create a desirable social life for their

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<sup>(5)</sup> Considering this category as new towns would contradict with the previous arguments that the new towns should be self-contained and independent, with their own identity and not being dominated by other urban centres. Such urban development should be considered as satellite towns rather than new towns.

inhabitants. Others used the per capita cost of municipal services in existing urban centres to estimate the most efficient size range. For instance, Duncan (1957) and Ogburn (1937) indicate a selected optimum size in the range of 50,000-100,000 people, based on the per capita cost of municipal services in existing urban centres with more than 25,000 people in the United States. The Royal Commission on Local Government in England (1969), suggested an optimal size range of 250,000-1000,000 on the grounds that such size range would enable the local authorities to employ the wide variety of qualified staff and the financial and material resources necessary for effective provision of all services. It was argued, however, that:

" (such) estimates should vary from country to country and over time as the components of the urban government service mix and relative cost conditions alter." ( Richardson, 1972, p.30)

Others, like Duncan (1960) and Thompson (1965) argued in favour of sizable towns on the ground that there is a direct relationship between the size of a town and the extent of the diversification of its industrial structure. Also, Richardson (1972) suggested that productivity (as measured by output per capita) tends to increase with the city size, primarily as a result of agglomeration benefits. Clemente and Sturgis (1971), using the 1960 United States census of population, suggested that while statistically a significant relationship between the size of a town and its industrial structure does exist, the dependent variable (town size) explains less than a third of the variations in their index of diversification. Consequently they concluded that the clarity of this relationship is questionable <sup>(6)</sup>.

In the United States, the target population appears to be determined by the particular developer's goals, financial capabilities, or market evaluation (Golany, 1976).

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<sup>(6)</sup> Yet, Crowley (1973), using data about the Canadian cities in 1951 and 1961, argued that the Canadian cities in general support the assumption that larger cities tend to be more diversified than smaller ones. For more details see; Clemente and Sturgis (1971) and (1973), and Crowley (1973).

In Britain, it was suggested that the optimal size for the new towns lay in the range of 30,000-50,000 population in the immediate built up area, but with related districts, within a ten mile radius, bringing the total to 60,000-80,000. In certain cases it was considered that a smaller population might be sufficient. It was argued that the suggested upper limit was based on the need for:

- \* Minimising the need for local transport, through convenient nearness of homes, work places, shopping and cultural centres, and schools;
- \* The contact with the countryside; and
- \* Speed of programme implementation in the establishment of several medium sized towns rather than a smaller number of large towns.

The lower limit was based on the need for:

- \* A high standard of social and cultural life at a reasonable cost;
- \* A well-balanced provision of industries; and
- \* A balanced community with all social classes (New Towns Committee, 1946 c).

In the Soviet Union the optimum size of a town is determined by its pattern of production, its layout, the feasibility of providing a high standard of community services and the viability of using industrial building methods efficiently (Baranov, 1967).

Nevertheless, Richardson (1972) suggests that:

" There is no inherent reason why the optimum should be an economic optimum... However, once we accept the relevance of non- economic and non-quantifiable criteria (such as, health, crime and safety, leisure and social institutions, community and family ties, psychological and mental

health hazards)<sup>(7)</sup> ... we are faced with a weighting problem that is virtually insoluble." (pp.31-32)

Instead of referring to more of these arguments, it may be more relevant to consider the basic issues which should be taken into consideration when determining the size of a new town. These essential considerations are:

1- Functions: the number and diversity of the functions a new town is established to perform may determine the foundation of the new town and may consequently dictate its size. It was argued that the more functions there are for a new town, the larger the population it would need (Golany, 1976).

2- Provision of services: there are two issues which could be considered in relation to this factor. First, the average cost of these services per capita, which would decline to a certain extent as the size of a town increases. But beyond a certain size per capita cost would increase sharply without any very obvious increase in the amenities or standard of provision, with the optimum size between the extremes <sup>(8)</sup> (Golany, 1976). Second, the diversity of the services, as the greater the range of services that is desired, the larger the town would have to be (Duncan, 1951).

3- Economic diversity: there is a general agreement between town planners on the desirability of a certain degree of diversity in the economic activities in a new town. This diversity would require a certain minimum size for the town (Robinson,

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<sup>(7)</sup> For more details see Duncan (1957).

<sup>(8)</sup> This does not mean that per capita cost of individual services would change in a similar manner. For instance, Hirsch (1959), in a study based on an empirical analysis of 149 government units in the St. Louis metropolitan area and some Massachusetts cities, found out that some services would not be affected by the growth in the size of a city, such as public education, fire brigade and police services. While, for central administration of municipal or special districts' government services, a growth beyond medium- sized cities would tend to increase per capita expenditure. Yet, in the case of water and sewage services growth in the size of a city would lead to a decline in per capita expenditure until a very large scale is reached. For more details see Hirsch (1959) and Scott and Feder (1957).

1973). Also, the development of large towns with populations of 200,000 to 300,000 or 500,000 has advantages from the stand-point of production; such as the concentration of productive forces, the integration of production and the guarantee of a stable supply of labour force (Valentei, 1967).

Because of the diversity in the relative importance of these factors from town to town and the effects of the character and interrelationships of the region in which it is located, the optimal size of town should be determined only after a comprehensive study of these interrelated factors for each new town separately.

#### **2-4 Summary**

Finding a universally accepted definition for "new urban settlements" was not possible, because of the variety of definitions produced by town planners for a number of concepts used to describe large-scale urban development. The confusion surrounding the concepts and the definitions led to the introduction of an appropriate definition for the term "new towns" for adoption in this study; one that incorporates the essential features universally desired in the new towns. The essential features embraced in this definition were categorised into two groups; the first, the functional characteristics, included "self-containment", "balance", "a sound economic base" and "sponsorship". The second, the physical characteristics, included "location" and "size".

Despite general agreement, in principle, between town planners that these characteristics are the ones which new towns should have, misunderstandings still remain in regard to their relative values. Therefore, it is deemed necessary to review past and current experience in the development of the new towns in the belief that this will provide lessons and convincing material knowledge so that the remaining misunderstandings can be overcome. This will be the subject matter of the next chapter.

## **Chapter 3**

### **The British new towns policy.**

#### **3-1 Introduction**

The translation of the new town concept into a public programme involves a number of complex legal, administrative, economic and political variables. The purpose of this chapter is to discuss the operational considerations as well as the mechanisms of the British new towns policy. This involves considering the historical background of the policy in terms of its origins and evolution. This is followed by examining the first practical steps in the development of new towns, that is the legal designation procedures. Then, the administrative and financial perspectives of the new towns development programmes are studied and analysed in some detail. The final section of the chapter is concerned with the achievements of the British new towns policy, in terms of their demographic and economic objectives and the functional characteristics a new town should have. These characteristics were identified in the previous chapter, as self-containment, balance, and a sound economic base. The lessons which might be drawn from the British experience will then be summarised.

#### **3-2 Historical background**

The need for establishing new towns in Britain was emphasised by the overcrowding and unhealthy living conditions in large cities in the nineteenth century, where the population rose from 20% to 80% of the national population between 1800 and 1900. The increase in urban population was attributed to the mass demand for labour caused by the industrial revolution, coupled with the changes in farming methods which induced more people to move to the cities.

The idea of creating new towns to improve living conditions was expressed at this time by many writers. For instance, a proposal was made in 1817 by Owen

for building small industrial towns in permanent contact with the countryside (Osborn, 1946). In 1849 James Silk Buckingham suggested the creation of an 'ideal' town to be called "Victoria", one mile square with not more than 10,000 inhabitants and surrounded by 10,000 acres of farmland. Another proposal was made by Richardson in 1875 for establishing "Hydra, the city of health" with a mixture of town and country and a population of 100,000 residents (Balchin, 1980).

Nevertheless, the idea of establishing new towns as entirely pre-planned environments came to the fore with the publication of Ebenezer Howard's book "Tomorrow: A peaceful path to real reform" in 1898. In his book Howard proposed the creation of a town in the country, in order to stem the flow of people going into over-crowded cities and to provide them with the advantages of the town-country combination. The town was to cover an area of 1,000 acres near the middle of a site of 6,000 acres, of which 5,000 were to be for agricultural purposes. He suggested that it should have 30,000 population within the town and about 2,000 in its agricultural estate. The town was to be, in a real sense, a complete entity by itself offering a variety of employment and social amenities (Howard, 1951). In order to convert his idea into reality, he formed, in 1903, a privately financed company to build Letchworth the first garden city, and a second company, in 1920, to establish Welwyn Garden City.

On the 8 July 1937 a Royal Commission was established, under the chairmanship of Sir Montague Barlow, to examine the distribution of industrial population. The terms of reference to the Commission appointment were:

" to inquire into the causes which have influenced the present geographical distribution of the industrial population of Great Britain and the probable direction of any change in the distribution in the future; to consider what social, economic or strategical disadvantages arise from the concentration of industries or of the industrial population in large



towns or in particular areas of the country; and to report what remedial measures if any should be taken in the national interest." ( Royal Commission on the distribution of the industrial population, 1940, p.1)

The main recommendations of the commission were in favour of a policy of population decentralisation from large cities (1) because of the social, economic and strategic disadvantages that arose from the concentration of industries and industrial population. The report also suggested the creation of a central planning body, to deal with the distribution of industry and the industrial population in the country as a whole (Barlow Commission, 1940). Simultaneously, a minority report was prepared by a group in the commission, supporting the development of self-supporting new communities as the main tool for the decentralisation policy suggested by the commission (Schaffer, 1972).

In 1942, when the Ministry of Town and Country Planning was established (2) , Professor Patrick Abercrombie was appointed to prepare a plan for the post-war redevelopment of the Greater London area. A draft of this Greater London plan was submitted to the Ministry in 1944. The main theme of the plan was the decentralisation of industry and population from overcrowded areas, taking into account the need for minimising travelling by arranging for a workplace near the place of residence. In his plan Professor Abercrombie proposed that London should be surrounded by a green belt, to prevent further suburban outward growth of the city as well as for recreational purposes, with only limited planned development to be allowed. Also, as a means of decentralising industries and population from London, eight new satellite towns were to be built about 20-25 miles from central

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(1) Although in its report the Commission had questioned the adequacy of " garden cities, satellite towns or trading estates in the vicinity of (congested) conurbation (in meeting) the needs", no mention was made, in its recommendations, for establishing them to assist decentralising industries and population.

(2) The new Ministry was charged with the duty of:

" securing consistency and continuity in the framing and execution of a national policy with respect to the use and development of land through England and Wales"(Town and Country Planning Act, 1943, p.1)

London to accommodate and provide local jobs for 380,000 people. For this purpose ten possible sites were suggested (Figure:3-1).

As the Ministry of Town and Country Planning had begun to give attention to the possible problems that would be involved in the planning and building of new towns, a group was set up in 1944 under the chairmanship of Pepler to look at the administrative and legislative procedures necessary for new town development. The group proposed the establishment of a joint body of the exporting and receiving authorities, the county council and the participating individuals. But, the idea of a joint body was seen as an inadequate solution, because with "already existing authorities already burdened with other responsibilities, there would be a risk of inadequate finance, unconcentrated effort and local jealousy "(Cullingworth, 1979, p.8). The Barlow report and Abercrombie's plan for London were the main basis for later work related to the post-war reconstruction (Gibberd, 1980).

After the war, the idea of new towns was adopted by the Labour government as the relevant answer to the post-war problems of reconstruction, as well as a means for a national decentralisation policy. It was suggested that the state adoption of a major programme of new towns construction was attributed to:

"... the experience of the depression and the 1930s and the adaptation of Keynesian economics as a basis for economic policy, which considers the state as the key social and economic regulator." (Hudson, 1976, p.9)

Consequently, on the 19 October 1946, an advisory committee under the chairmanship of Lord Reith was appointed by the Minister of Town and Country planning to:

"... consider the general questions of the establishment, development, organisation and administration that will arise in the promotion of new towns in furtherance of a policy of planned decentralisation from congested urban areas; and in accordance therewith to suggest guiding

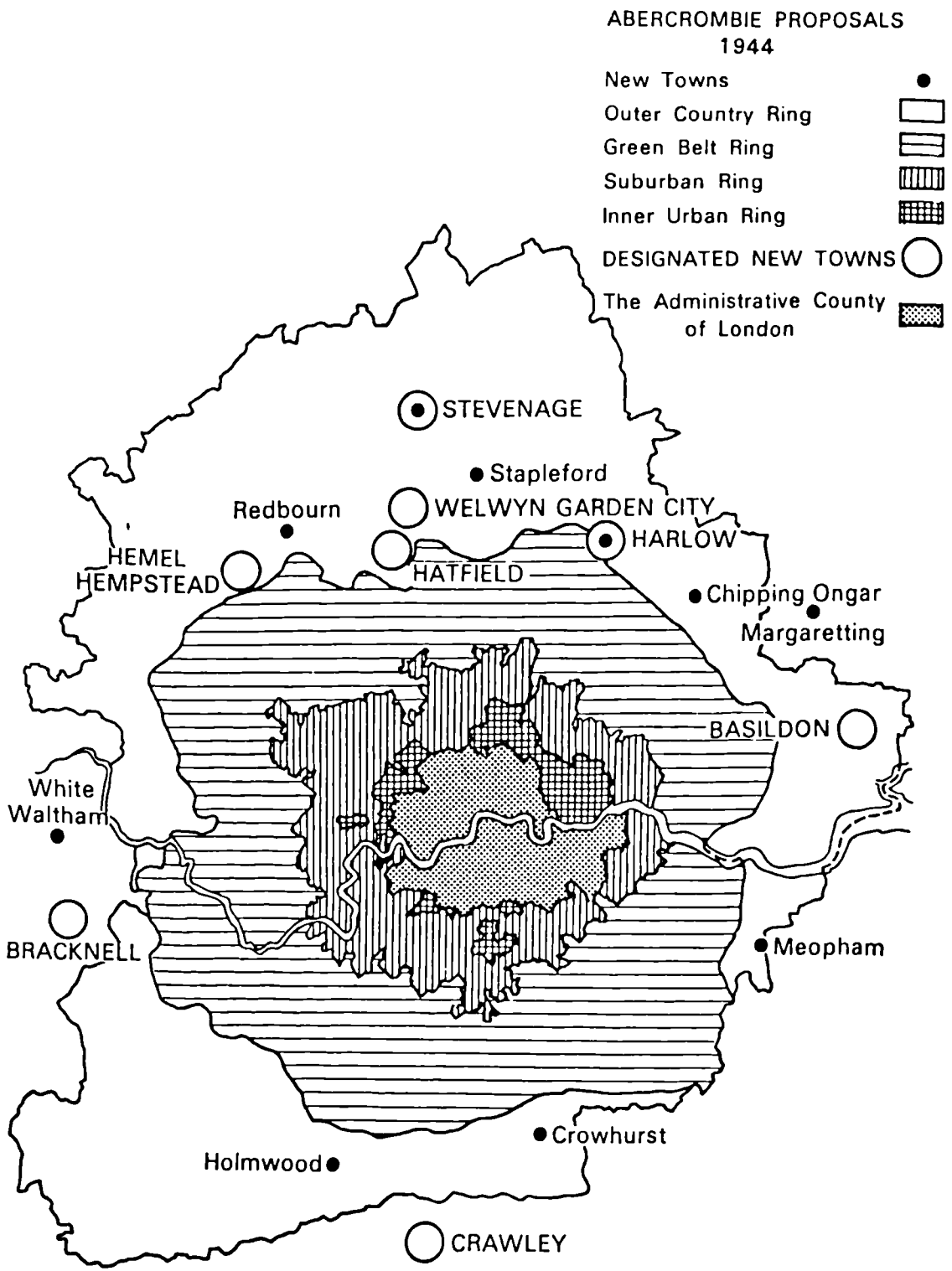


Figure 3-1: Designated new towns and the Abercrombie proposals.  
Source: Cullingworth, 1979.

principles on which towns should be established and developed as self-contained and balanced communities for work and living." (New Towns Committee, 1946 a, p.3)

In its three reports , which were presented in a period of 9 months, the Committee considered almost all the administrative, financial and planning prospects associated with the creation and development of the new towns. Although the New Towns Bill was introduced in Parliament on 19 April 1946 , before the submission of the Committee's report, the provisions of the Bill came quite close to the final recommendations of the Committee.

### **3-3 The new towns policy**

The new towns policy came to reality in 1947 very shortly after the parliamentary approval of the New Towns Act 1946, with the designation of Stevenage at one of the locations suggested by Abercrombie in his Greater London plan. During the following three years thirteen more new towns were planned, eight for London, two in Durham, one in the Midlands, one in South Wales and two in Scotland (Figure:3-2). They were intended to serve a variety of functions from absorbing overspill population, to relieving unemployment difficulties, and ensuring adequate balance between jobs and housing in areas of potential economic growth.

It was argued that despite the speed in the designation of the early new towns, their building rates were slow mainly because of the Development Corporations' (DCs) pre-occupation with their organisations, the preparation of plans and the development of their labour force and also local opposition to new towns establishment which led to court actions. Additionally, the development of the new towns in general and "overspill" new towns in particular suffered from shortages in finance, labour and building materials, which occurred just after the war and during the economic crisis in 1947. As the economic crises worsened an Investment Programme Committee was set up to reduce the overall level of

activity in the new towns and concentrate the investment in a smaller number of projects in order to promote rapid progress within an approved budget total. In its report, which was accepted by the government, the Committee argued that because "overspill" new towns required not only housing but also, additional water and sewerage services, roads, railways, and factories, their implementation should be retarded (3). In the case of "non-overspill" new towns, the Committee recommended that they should continue as they were intended to serve immediate industrial needs or new mining areas. Thereafter, as the economic conditions improved by 1950, the government restrictions on the building materials and labour were removed, the development of the new towns began to accelerate (Rodwin, 1956).

No more new towns were designated until 1955 when Cumbernauld was planned in Scotland to take overspill population from Glasgow. The stoppage in designating more new towns during the 1950s was attributed partly to the vast and increasing financial, labour and materials resources needed for new towns development, particularly with a feared probability of a loss rather than a profit at the end of the exercise (4). But the more difficult problem arose from the perception of threatened competition offered by the new towns to the Development Areas. Consequently, the Conservative government put all its strength behind a town development programme, instead of the new towns policy as the sole means of absorbing overspill population from overcrowded conurbations. The Town Development Act was approved in 1952. According to the Act, local authorities

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(3) During the economic crisis in 1948, most DCs were allowed to proceed with preliminary roads and sewerage services only, and to employ no more than 300 building workers (Schaffer, 1972).

(4) It was suggested that the government was looking for a less expensive way for attaining housing objectives than the new towns method. ( Cullingworth, 1979)

were to be given financial help from the central government (5) to carry out major town expansions to provide housing and employment for inhabitants of nearby overcrowded conurbations.

However, the town expansion schemes progressed at a very slow rate, and had a comparatively little impact on the problem of population overspill (6). Subsequently, by the early 1960s the priority which was given to such schemes was diverted once more to new towns development, particularly with the expectations of a massive population growth.

Consequently, by the early 1960s a second major wave of new towns was underway in parallel with the town development schemes. The designation of Skelmersdale was followed by thirteen further designations, most of them located within or near to the conurbations of Birmingham and Merseyside (7), as well as the north east and Scotland (8) (Figure:3-2).

With the designation of Milton Keynes and Peterborough in 1967 a number of fundamental changes in the new towns philosophy were introduced, for example in the target populations, the starting sizes and the functions of the new towns. For

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(5) The Act provided a framework for an agreement between importing and exporting authorities which, if approved by the Minister, permitted him to make grants toward the expenditure of the receiving authorities.

(6) It was argued that the disappointing progress of the town development scheme was attributed to the common hostility from possible importing authorities to the idea of being over-run by considerable numbers of inhabitants from nearby exporting counties, particularly as any change in the financial or industrial policies of the government could put the development schemes at risk. Exporting authorities which were concerned about losing their rateable value were anticipating more financial support than the Treasury was able to propose (Cullingworth, 1979).

(7) It was suggested that, while Liverpool and Birmingham were suffering severe problems of slum clearance with very little building land left inside the cities, the possibilities of any large expansion were halted by a green belt. This meant that their needs could only be met by additional substantial schemes; namely new towns. (Cullingworth, 1979)

(8) Because of the unemployment problem in the North-East and Scotland and the need for a long-term plan for the modernisation and rehabilitation of selected areas within them, priority was given to selected growth points namely; Washington and Irvine.



Figure 3-2: Map of Britain showing the new towns' locations.  
Source: Town and country planning, 1978.

instance, thirteen out of the first seventeen new towns had a relatively small population at designation with 15,000 inhabitants or less, while the population at designation in Basildon, Hemel Hempstead and Welwyn, were 25,000, 21,000 and 18,500 inhabitants respectively. However, the trend started to change with the designation of Milton Keynes with 40,000 people, Peterborough with a population of 80,000 inhabitants and more significantly as many as 234,500 residents in Central Lancashire.

Also, the target populations showed similar growth as they reached 250,000, 180,000 and as much as 420,000 inhabitants in Milton Keynes, Peterborough and Central Lancashire respectively, compared with population targets in the range of 25,000 to 80,000 inhabitants in the early new towns .(Table:3-1).

It could be argued that the changes in the starting size and target population could be traced to the early 1960s when a substantial increase in the national population was expected. Such an increase, it was suggested, would magnify overspill problems and significantly increase the demand for housing in the already overcrowded conurbations, particularly in the south east. This meant that schemes which could produce a substantial number of houses to meet the growing demand were urgently needed, particularly with the output of houses in the existing new towns running down as they neared completion. Such schemes, it was suggested, should be planned so as to derive the greatest possible benefits from existing and planned facilities, while producing substantial and immediate results. Consequently, the idea of designating new towns which would be based upon large existing communities, were conceived as a means for bigger and quicker results, compared with developing entirely new towns, which would need a number of years to reach a significant housing output.



New Towns	Date of designation	Area in Hectare	Purpose
Stevenage	Nov. 1946	2,532	Take overspill from London.
Crawley	Jan. 1947	2,396	Take overspill from London.
Hemel Hempstead	Feb. 1947	2,391	Take overspill from London.
Harlow	March 1947	2,588	Take overspill from London.
Aycliffe	April 1947	1,254	To serve the nearby industrial estate.
East Kilbride	May 1947	1,450	Overspill from Glasgow.
Peterlee	March 1948	1,205	To meet local housing needs and diversify industry.
Hatfield	May 1948	947	To serve the nearby aircraft industry, diversify employment and take overspill from London.
Welwyn	May 1948	1,747	Take overspill from London.
Glenrothes	June 1948	2,333	Formerly to house Coal-mining families, but now a growth point for diversified industry and overspill from Glasgow.
Basildon	Jan. 1949	3,165	Take overspill from London and redevelopment of dock area.
Bracknell	June 1949	1,337	Take overspill from London.
Cwmbran	Nov. 1949	1,420	To serve industry in East Monmouth Valley (Wales).
Corby	April 1950	1,791	To serve the steel works, diversify industry, later take overspill from London.
Cumbernauld	Dec. 1955	3,152	Take overspill from Glasgow.
Skelmersdale	Oct. 1961	1,670	Take overspill from North Merseyside Principally.
Livingston	April 1962	2,780	Take overspill from Glasgow and regional growth.
Redditch	April 1964	2,906	Take overspill from West Midlands.
Runcom	April 1964	2,930	To provide homes and jobs for the people in Merseyside.
Washington	July 1964	2,270	Tyneside and Wearside revival.
Irvine	Nov. 1966	5,022	To accelerate industrial development and take overspill from Glasgow.
M. Keynes	Jan. 1967	8,900	Take overspill from London and regional growth.
Peterborough	July 1967	6,451	Take overspill from London and regional growth.
Newtown	Dec. 1967	606	Mid-Wales revival.
Northampton	Feb. 1968	8,080	Take overspill from London and regional growth.
Warrington	April 1968	7,535	Originally to relieve overcrowding in Manchester Conurbation, now to serve as natural growth point.
Telford	Dec. 1968	7,790	Overspill from Birmingham and the Black Country.
C. Lancashire	March 1970	14,267	To generate growth on a sub-regional scale in Central Lancashire

Table 3-1: New Towns designation dates, areas and purposes.

Source: Town and Country Planning, 1987 and Schaffer, 1972

Additionally, all the new towns designated during the late 1960s, were to serve mainly as economic growth centres, in addition to relieving overcrowded conurbations. It was suggested that such growth centres could attract population from outside the region in which they were located. This emphasis on the role of new towns as growth centres could be attributed less to the need to relieve pressure on land for development in and around existing urban centres and more to the growing acceptance of the concept of economic growth points as a major element in regional planning and development.

In relation to the location of the new towns, major consideration was given to enabling the new towns to create and sustain economic growth for themselves and for the country as a whole. The radical new thoughts were in favour of designating new towns well away from existing substantial urban areas, within a wider and evolving regional strategy. For instance, Milton Keynes and Peterborough were located 45 and 72 miles away from the parent city (London) respectively compared with the range of 9-35 miles for the early new towns (Champion, 1977).

Despite the comparatively successful performance of the new towns in relation to their objectives, the policy was criticised on the ground that it was carried out without any long-term comprehensive perspectives, for instance, in regard to the number of new towns to be built or their locations (Rodwin, 1956). The only factor determining the magnitude of the implementation of the new towns policy was the amount of money allocated for their development. This amounted to £50 million in the New Towns Act, 1946 and increased several times to meet the growing financial needs of the new towns policy, until it reached £5,000 million in the New Towns Act, 1982. It could be argued that the absence of any long-term comprehensive planning had resulted in a neglect of the significant role of the new towns in regional and inter-regional development. Rather, the new towns, it was suggested, were considered largely as instruments for accommodating the growth of regions, which implied an acceptance of existing regional trends (Rodwin, 1970).

Also, it was argued that the links with existing cities were inadequate despite the collaboration between the DC's and the parent cities' authorities, for instance, to control the natural replacement process when overspill populations left the parent city to go to a new town. Additionally, the absence of any co-ordination between the new towns policy and other national policies created certain difficulties for the DCs in developing the new towns. This was emphasised by the structural organisation of the central government, which is based upon a rigid departmental basis without a parallel structure at regional level to cut through the barriers between the various Ministries concerned. For example, while the DCs tried to attract industry to the new towns, the policy of the Board of Trade was to attract and authorise the movement of industry only to the depressed areas (Rodwin, 1953).

During the 1970s the new towns policy was abandoned, as neither economic growth nor population growth materialised to the extent anticipated to justify further moves from the cities to the new towns (9). Also, more consideration was given to the inner city problems, which suffered from a marked decline in employment opportunities, physical decay and adverse social conditions (10). Now, the policy has been abandoned and the selling of the new towns assets is being undertaken by the New Towns Commission, encouraged by the Conservative

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(9) It was argued that during the 1960s the population was estimated to increase by twenty million people by the end of the century. Yet, population projections undertaken by the end of the 1960s and early 1970s suggested an increase of no more than seven millions by the year 2000 (Hall, D., 1973).

(10) In the autumn of 1972 the Department of the Environment initiated six studies to provide comprehensive guidance for local authorities in relation to the improvement of the environment. These studies were initiated in two types; the first "Inner Areas Studies" were conducted in Liverpool, Birmingham and Lambeth, to consider the particular problems in inner city areas. The second, "Urban Studies", were initiated in Oldham, Rotherham, and Sunderland, to consider the problems of improving the town as a whole. (Levin, 1976). After the completion of these studies a white paper for "The Inner Cities" was introduced underlining official concern about the inner city areas. Then, in 1978 the Inner Urban Areas Act was introduced in an attempt to deal with the problems of inner city areas. (for more details see Lawless, 1981)

government, but still without any clear regional planning policy framework.(Hall, 1985)

### **3-4 Designation procedures**

According to the New Towns Act 1946, as well as the subsequent Acts, the initiative of establishing a new town lay entirely in the hands of the Minister of Town and Country Planning( and his successors). Under the Act:

" . . if the Minister is satisfied, after consultation with any local authorities who appear to him to be concerned, that it is expedient and in the national interest that any area of land should be developed as a new town by a Corporation established under this act, he may make an order designating that area as the site of the proposed new town." ( New Towns Act, 1946, p.1)

Before such order the Minister had to publish a notice in the London Gazette and one or more of the newspapers circulated in the locality of the proposed new town. Such notices were to include a description of the designated area, a name of a place within the designated area where a draft order and a statement about it were to be displayed and a specific period of time within which objections to the proposed order were to be made. Then the Minister was to prepare:

"... a draft of the order, describing the area to be designated as the site of the proposed new town by reference to a map... together with such statement as the Minister considers necessary for indicating the size and general character of the proposed new town." ( New Towns Act, 1946, p.24)

If any objections were made and not withdrawn the Minister, before making the designation order, had to call for a public inquiry to be held, by an inspector who was responsible for submitting a report to the Minister about the inquiry. Such report was to include the objections and evidence submitted in the inquiry as well as the recommendations of the inspector (if any). This meant that when the

Minister came to take a decision as to the area to be covered by the designation order, he would have before him the report upon the public inquiry accompanied by the observations made by the Minister's officers on that report and their suggestions on the decision he should take.

Even after the confirmation of the designation order, objectors could apply to the Courts, or to Parliament if the objector were the local planning authorities, and this had to be made within forty sitting days. In most cases, the early new towns faced strong opposition leading to court actions causing delays in starting their development, such as in the cases of Stevenage, Crawley and Hemel Hempstead, and a considerable amount of uncertainty.(Schaffer, 1972)

The designation procedures were criticised by some planners because of the delay they could cause, particularly as the Minister had to stop any further progress in the project and the planning team had to wait until the final decision had been made before they could start the master plan (Schaffer, 1972). However, the length of the designation procedures was, to some extent, desirable for such projects in that it allowed for consultation between various authorities, organisations or individuals concerned with new towns development and their potentially serious impact on the demographic and economic conditions regionally and nationwide.

### **3-5 Administrative system**

The administrative system, as one of the most influential factors in the new towns development, was a major concern to the Reith Committee . In its attempt to define the most appropriate organisational and administrative framework, the Committee examined comprehensively all practical types of agency for new town development. It concluded that the establishment of a new town, which involves not only the creation of the physical environment, but also the development of a full social, industrial and commercial life, should be undertaken by a government

sponsored public corporation, to be created for this sole purpose (New Towns Committee, 1946 a).

### **3-5-1 The structure and powers of the Development Corporations**

Following the recommendations of the Reith committee, the New Towns Act 1946 granted authority for the planning and development of the new towns, for a certain period, to public corporations entirely financed by central government. A DC was to be created by the Minister of Town and Country Planning and his successors as a legal entity to secure the laying out and development of a new town. For this purpose each DC has had the power to:

"... acquire, hold, manage and dispose of land and other property, to carry out building and other operations, to provide water, electricity, gas, sewerage and other services, to carry on any business or undertaking in or for the purposes of the new town, and generally to do anything necessary or expedient for the purposes of the new town or for the purposes incidental thereto. " (New Towns Act, 1946, p.2)

Despite the crucial powers given to the DCs, it was argued that they were completely under the control of the Ministry of Town and Country Planning, as they could not enjoy these powers without the approval of the Minister. For instance, all the plans and major development proposals were to be approved by the Minister. Additionally, annual reports and audited statements of account were to be submitted to the Minister and subsequently laid before Parliament and published.(Aldridge, 1979)

A DC was to be ruled by a board appointed by the Minister. The board should not exceed, in addition to a chairman and a deputy chairman, seven part time paid members (increased to eleven members under the New Towns Act 1965), of which one or more should be resident in, or have special knowledge of, the new town locality (New Towns Act, 1946). Although the Minister had to consult the local authorities in relation to the appointment of the board, he was not obliged to follow

their suggestions. The Board, in turn, appointed a general manager and a team of chief officers to carry out the DCs duties. The general manager was to be responsible directly to the Board for the work of all the departments (McDougall, 1969). This simple structure, which was common to all the DCs in principle, was more the equivalent of a business organisation than an elected branch of local government (Figure:3-3) and promoted directness and rapidity in policy making, particularly with the appointment of a highly qualified professional and administrative team (Thomas, 1968).

### **3-5-2 Relations with central government**

Although the new towns programme was directed and supervised by the Ministry of Town and Country Planning, other central government departments were significantly involved in the new towns development, viz, the Treasury, Board of Trade, Ministry of Education, Ministry of Health and Ministry of Transport, in addition to the National Coal Board in some cases (Aldridge, 1979).

The Board of Trade, and its successors, was closely associated with the new towns policy as it controlled the movement of the industry all over the country through a set of positive incentives and negative controls, of which the Industrial Development Certificate was the most significant. As most of the new towns were located outside the depressed areas, the DCs confronted difficulties in attracting industry to the new towns mainly because of the obstacles created by the Board of Trade to the movement of the industry through the application of Industrial Development Certificate control. However, even in the cases where new towns were located in depressed areas, similar complaints about the problems in obtaining Industrial Development Certificates were reported by their DCs (Rodwin, 1956). These control measures have since been repealed.

Some DCs have complained to the Ministry of Health about the delay in hospital provision. For instance, Stevenage DC, eleven years after designation,

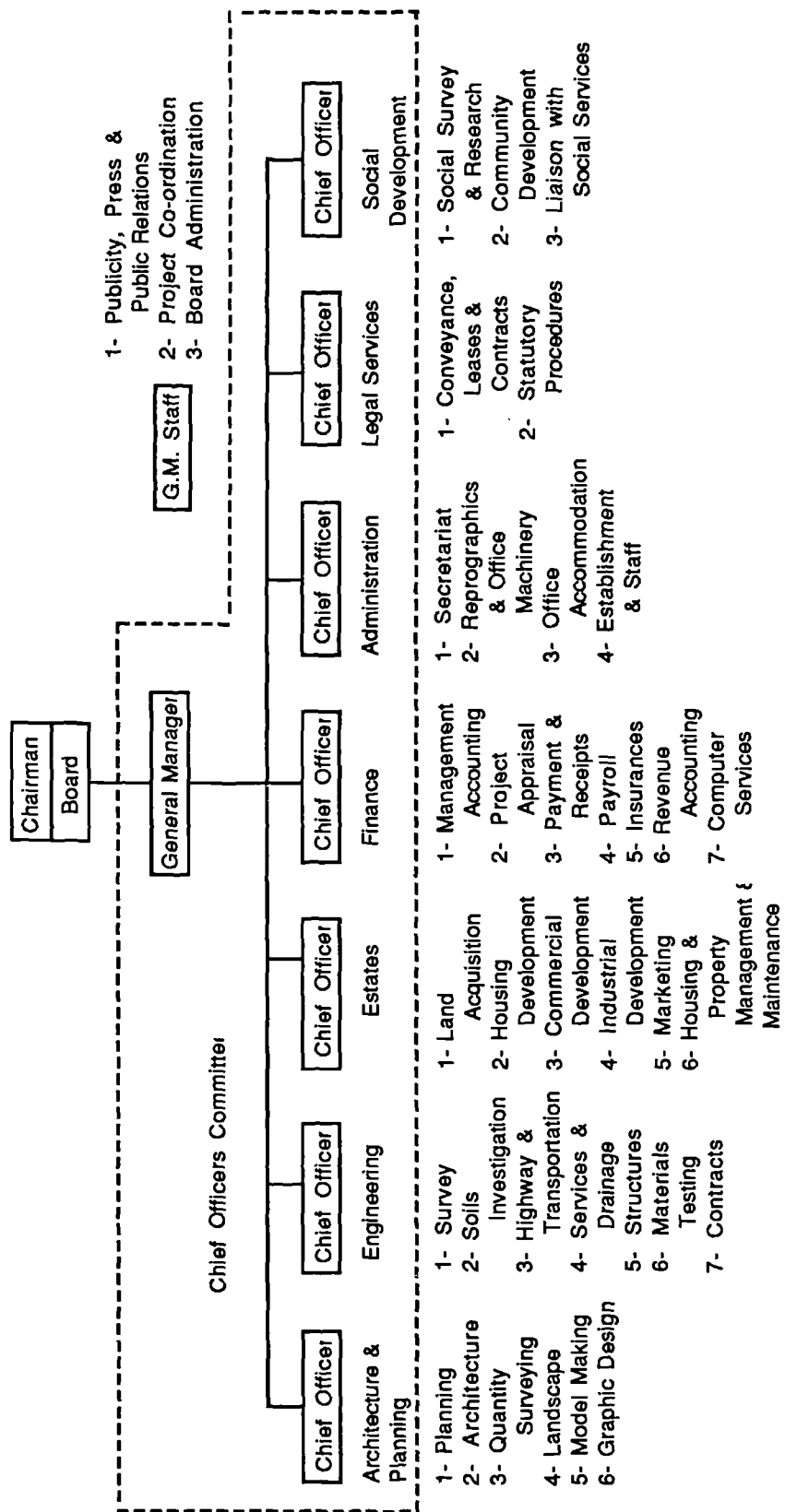


Figure 3-3: Organisation chart for a typical Development Corporation  
Source: Pavitt, 1974



complained about the absence of any in-patient treatment within the town and the nearest hospital was seven miles away (Stevenage DC, 1958). It was claimed that this delay was mainly attributed to the policy shift toward larger hospitals rather than small local ones (Aldridge, 1979).

Moreover, the lack of central commitment from the Ministry of Transport had appeared in the long negotiations undertaken by the DCs with the county councils over the appropriate proportions they should pay of the cost of the roads to be constructed to classified standards. As a result some roads were constructed to lower standards by the DC. Additionally, different road locations were chosen by the Ministry of Transport without considering their side-effects on new towns development. For instance, the M11 near Harlow was relocated on the opposite side of the town from the first proposal which had been taken into account when the town was designated (Harlow DC, 1953). However, the situation changed at the end of 1968 with the announcement of a separate programme, setting out the contributions by different bodies to the construction cost of roads for new and expanded towns.

In the cases of Peterlee and Glenrothes, major conflicts took place between their DCs and the National Coal Board. For instance, Peterlee's DC, in its reports in 1949, 1950, 1951 and 1952 referred to the problems created by the Board (Aldridge, 1979).

It can be argued that the difficulties confronting the DCs in their relations with the departments of central government were mainly as a result of the absence of any kind of formal mechanism for integrating the policies and financial plans of central government departments in relation to new towns development. This integration would have been facilitated by the creation of the central advisory commission recommended by the Reith Committee as an instrument to harmonise policy and practice and to act as a central source for information and experience.

### **3-5-3 Relations with local authorities**

There were two main issues in the relationship between the DCs and local authorities. On one hand, the DCs were to rely on the local authorities for the provision of social amenities and services. For instance, the county council would provide schools, police stations, classified roads and public libraries. The district council was responsible for maintaining and lighting the new streets, providing open space and in some events, for the provision of sewerage and sewage disposal systems (McDougall, 1969). On the other hand, the non-elected nature of the DCs' boards created, in most events, some rigidity between them and the local authorities as elected bodies (Aldridge, 1979).

According to the New Towns Act 1946, the DCs were permitted, with Ministerial approval, to contribute toward the costs of services provided by local authorities or statutory undertakers in relation to the new towns. Also, when a DC was authorised by the Minister to provide a service, instead of a local authority, it would receive some financial payments from the responsible local authority. However, there were no formal or fixed rules to be followed about the different bodies' shares in the provision of services and the cost of amenities. As a result, in most cases long negotiations took place in order to determine the appropriate shares of the cost, local authorities being unable or unwilling to contribute either because of the gap in time between the demand for the services and their returns, or the cuts in central government expenditure (Rodwin, 1953).

Nevertheless, in some cases, for example Peterlee and Corby, the DCs were welcomed by the local authorities because of the vital role they would play in meeting the needs of the residents of the area.

Despite the difficulties confronting the DCs in their relations with the local authorities, the Ministry refused any kind of formal representation of the councillors of the local authorities on the boards of the DCs. Consequently, informal

committees consisting of local authority councillors and members of the DCs were established in some cases, meeting regularly to discuss the issues and problems of mutual interest. In some cases, chairmen of DCs attended the meetings of the local authorities for similar purposes (Kirk, 1953).

By the late 1960s, where a new town was to be established in an area with a substantial population, the Ministry entered into a "partnership-agreement" with the local authorities concerned in regard to the political liabilities, combined actions, and payments for amenities and services. The same principal was extended to embody other public agencies, such as those responsible for electricity and health services. Nevertheless, in the new towns where the agreement was applied, no rules were laid down because of the complexity of the contribution toward the costs of local authorities (Aldridge, 1979).

### **3-6 Financial system**

Although the new towns were the creation of the central government, the development costs of the new towns were funded from many sources, but the DCs paid the largest sum through direct Exchequer grants. The DCs also had to contribute toward the cost burden on the local authorities or statutory undertakers in relation to the provision of amenities and services. In addition, large sums have been spent by local authorities, as each has contributed for the provision of amenities and public services they usually provide. The statutory undertakers have had the responsibility of producing services, such as gas, electricity and telephones (Osborn, 1977). In addition, private capital has invested in the industrial and commercial schemes and some housing, but without any fixed rules.

According to the New Towns Act 1946, the DCs had to depend entirely upon central government as the sole source for financing their expenditure. This meant that their financial ability, and consequently the completion of the new towns, would be considerably influenced by various controls dictated either by the national

economic conditions or political changes. For instance, the economic recession in 1966 resulted in expenditure cuts and modifications in land acquisition policy (Aldridge, 1979).

However, making the DCs rely upon central government funding was argued on the basis that during the early years there would be neither financial security nor attraction for private investors to take part in the development process. Nor had the DCs had any chargeable assets permitting them to borrow independently (Rawes, 1973).

In turn, the DCs had been subjected to all forms of financial controls by central government. Each DC had to submit an annual report to the Minister, in addition to audited accounts carried out by private firms of auditors, in which the expenditure of the DC was to be reviewed according to commercial practice and prudence (Schaffer, 1972). Afterwards, the accounts were to be laid before Parliament. Additionally, the DC had to hand over plans and estimates for the large projects they were to undertake. It should be made clear here that varying ratios are being used in this thesis, rather than the historic values wherever comparisons between different years are made, in order to overcome the effects of inflation on different costs and asset values.

### **3-6-1 Public advances**

For the purpose of enabling a DC to meet its expenses, advances have been made by the Minister. These sums were to be repaid, first, over a period of 60 years at varying interest rates linked to the prevailing Bank and Public Works Loan Board rate. This was replaced in September 1957 by the rate at which the government could obtain long-term loans in the market. This suggests that no burden would fall on the Treasury from making the advances, but rather the contrary, as the repayable capital would be available for re-lending at full interest rate (Schaffer, 1972).

The DCs complained frequently about the uncertainty and heavy burdens created by the conditions of the advances. They reported that the numerous fluctuations in interest rate restricted their financial planning capabilities. For example, between March and December 1957 the interest rate changed fourteen times (Rawes, 1957). Additionally, the DCs complained that the heavy financial burden affected their financial management, because of their inability to obtain loans for periods shorter than 60 years, and the progressive increase in the interest rate from 6 % to as much as 17.25% by 1979 (Figure:3-4). It was suggested that the high interest rates had particular effects on the new towns established in the 1960s, as they borrowed the bulk of their advances at excessive interest rates during the 1970s. For instance, by 1979 Washington and Milton Keynes had average interest rates on their advances of 12.11% and 12.87% respectively, compared with 7.02% and 7.21% for Harlow and Stevenage. However, it was argued that the high interest rates were offset by the high inflation rate experienced by the country as a whole (Morse, 1978), in that the value of the Sterling Pound was so much lower.

In addition to the repayable loans, grants were provided by the Minister to cover 50% of the first year deficit and 25% of the second year's. The remaining deficits were capitalised and charged to other expenditure accounts. Also, annual grants payable over sixty years were made by central government to the DCs in respect of their rented houses. But, in accordance with the New Towns Act 1946, the Minister had the power to reduce or withdraw these payments (Rodwin, 1967).

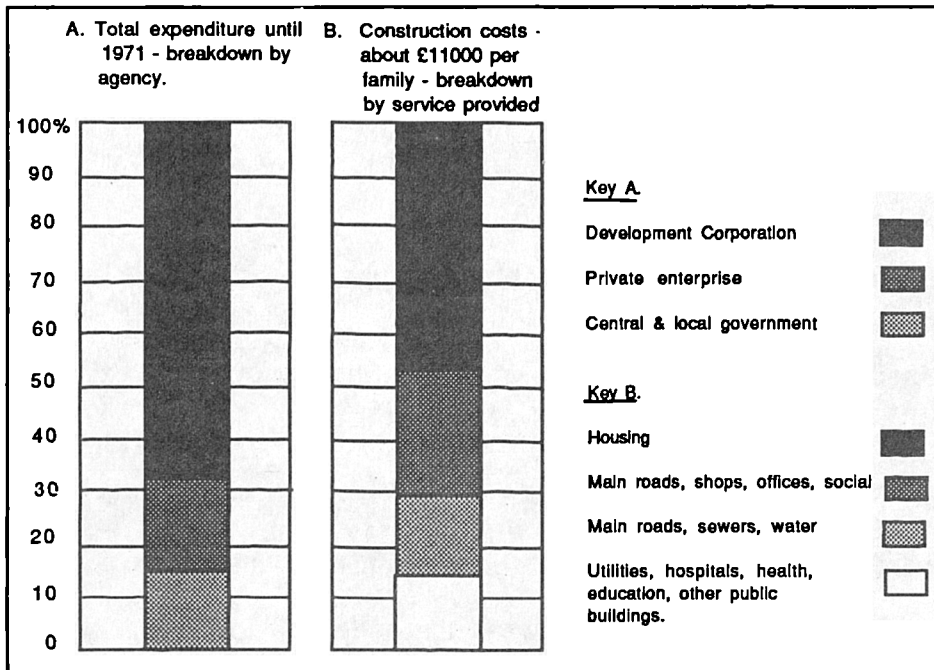
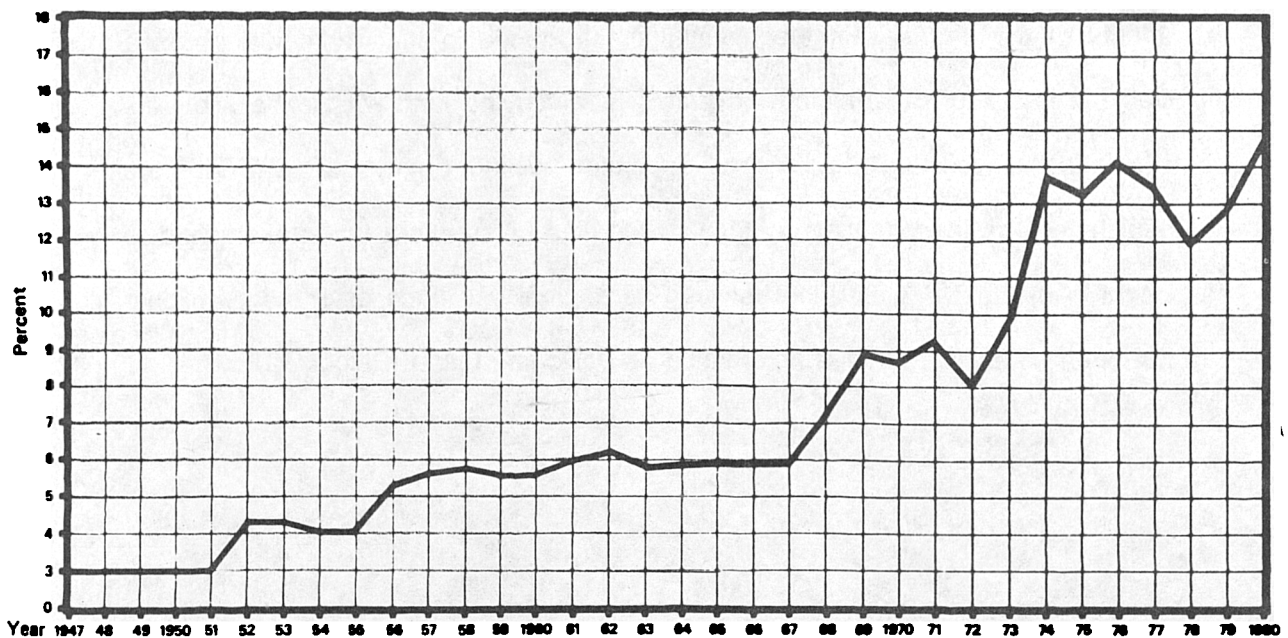


Figure 3-4: Total expenditure and constuction costs- breakdown by agency and services provided  
 Source: Balchin, 1980.



Borrowing rates often changed several times during the course of the year. In this chart the rate is shown only as obtaining on 31 March of each year and to that extent is misleadingly simple.

Figure 3-5: Rate of interest in capital advances 1947-1980.  
 Source: Balchin, 1980.

### **3-5-2 Expenditure**

The main items of capital expenditure by the DCs were on land acquisition and site development works, housing, amenities and public services and commercial and industrial development (Figure:3-5).

#### **a- Land acquisition and site development works**

During the early years of a new town, a large amount of capital expenditure by the DCs went on the acquisition of land and the provision of the necessary infrastructure, such as estate roads, gas, electricity, water and sewage (Morse, 1978). However, the relative financial burden of land acquisition and site development work has varied widely between the early new towns and the latest ones. For example, after five years of operation, this component amounted to about one-sixth of the total expenditure by the DCs for Harlow and Stevenage compared with about one-quarter for Washington and Milton Keynes. This increase was attributed to the rise in land acquisition costs because of monetary inflation, and the effects of the changes in the legislation introduced in the early 1960s which modified the basis for determining the prices at which the land was to be acquired, from "existing land value" to the "willing seller, willing buyer" price. Under the new legislation the land needed by local authorities or statutory undertakers had to be bought from the DC at a price between its original use price as if the new town had not been planned, and its market value as designated land (Balchin, 1980).

**b- Housing**

The cost of housing provision represents the greatest component in the capital expenditure of the DCs. As shown in Figure (3-5), it amounted to more than half the total cost burden.

From the start, the DCs aimed at balancing their housing accounts, bearing in mind the need to charge reasonable rents. However, they faced serious difficulties because of the steady rise in interest rates since the mid 1960s and the progressive increase in the construction and maintenance costs. They tried to modify housing layouts and evolve more economical designs in the later houses in order to reduce construction costs and stabilise rents (Schaffer, 1972). Nevertheless, several rises in the rent levels were unavoidable and proposals for rent increases covering all existing housing had to be submitted to the Minister for approval (for example see Harlow DC, 1969).

In the late 1960s the housing policy in the new towns changed dramatically with the introduction of a 50% owner-occupancy for residential units. This policy helped DCs financially because it enabled large yields to be made on the sale of land allocated for housing purposes and housing units constructed by the DCs.

**c- Amenities and services**

In order to spend upon, or contribute towards, the cost of the amenities and public services the DCs had two funds, the first of which stood at a total of £ 2,000 and the second at £4 per head of new population. The local authorities argued that the funds were inadequate, especially with the progressive increase in construction costs and maintenance charges. They urged the government to increase the funding to a more realistic level and to allow those DCs achieving surpluses to spend them for the welfare of the people in the new towns. But government approval was not forthcoming (Schaffer, 1972)



#### **d- Industrial and commercial development**

Industrial and commercial buildings were considered as the main profitable investment opportunities for the DCs. The returns from profitable sales and leases could help them offset the deficits incurred because of the heavy cost of the services provided during the early years of construction. Thus, most DCs carried out as many industrial and commercial buildings as possible, in order to secure optimum returns and accordingly increase their financial capabilities. Examples include the DCs of Harlow, Stevenage and Milton Keynes. In order to avoid any potential risks others pursued more prudent development policies by leasing the land for commercial and industrial purposes on ground-rents to private investors. Basildon is an example where the town centre site was let on ground leases to assure a share in the future increase in the rental values of the developed sites (Basildon DC, 1959). But it has been argued that those DCs which followed the leasehold method experienced low ratios of industrial and commercial revenues to expenditure (Litchfield, 1963).

#### **3-6-3 The disposal of the new towns assets:**

When the development of a new town is substantially completed and consequently the DC has achieved the purpose for which it was established , the Minister can by order, after consultation with the Treasury, provide for the dissolution and winding up of the DC (New Towns Act, 1946). The ultimate disposal of the assets created by the DCs has been one of the most controversial issues associated with the new towns programme. According to the New Towns Act 1946, the assets were to be transferred to the local authorities and statutory undertakers, but no basis for the transference was specified. It was argued that as the new towns were financed by tax-payers their profits must be given to the local residents, through the local authorities (Schaffer, 1972). Others argued that local authorities did not have the experience needed for taking responsibility for the new

towns assets, particularly with the commercial and industrial properties which were developed on a large scale in the new towns (Ireton, 1956).

A new act dealing with the assets transference issue was approved by Parliament in 1959. In accordance with the new act, the land, housing and commercial and industrial assets were to be transferred to a central commission (the New Towns Commission) to be created to take over, hold and manage these assets. The Commission could continue to develop the town only for the sake of maintaining and enhancing the value of the land it still held, taking into account the purpose for which the new town was established .

The Commission for the New Towns was to be run by a board of not more than 15 members appointed by the Secretary of the State, and was to be based in London. In turn, the Commission would appoint a local Committee for each new town entering under its jurisdiction. The local Committees were to be totally controlled by the board in all their activities (Aldridge, 1979).

The Commission came into being in 1961, and took charge of Hemel Hempstead and Crawley on April 1962, and of Welwyn and Hatfield in 1966.

No further changes were made until the New Towns Act 1976, which permitted the transference of

". . any dwellings of a new town and any of their associated property, rights, liabilities and obligations to the district council." (New Towns Act, 1976, p.12).

#### **3-6-4 Appreciation**

When the programme started in 1947, there was little concern about the new towns ultimate financial status, as no profits were expected from them. However, the potential for the new towns to earn substantial profits was recognised when some of them started showing small annual revenue surpluses after only 8 to 10 years. For example, Harlow in 1954, Crawley in 1955 and Stevenage in 1957. Subsequently, pressure was put on the DCs to maximise their profits. Advances were to be made only for projects expected to secure reasonable revenue and more emphasis was put on the sale of the new towns housing. Subsequently legislation has extended this practice to all public housing in the U.K.

#### **3-7 Achievements**

By 1987, twenty-eight new towns were designated in Britain (excluding four in Northern Ireland), of which thirteen could be regarded as complete, their DCs being dissolved and their assets transferred to the Commission for the New Towns. The rest were still underway. Over 92,324 new houses were built and more than 567,786 jobs created. Thousands of hectares of open space in addition to the amenities and services necessary for more than 2,000,000 population, were provided (T. & C. P., 1987).

In order to examine the achievements of the British new towns two sets of criteria are used, the first related to the objectives, either demographic or economical, which the new towns were established to satisfy, and the second, related to the functional characteristics which the new towns should have.

### **3-7-1 Population**

Between 1947 and 1987 the total population of the 28 new towns increased by 125%, reaching 2,124,312. The increase in their population was equally distributed over the period, with 345,040 during the 1950s, 321,172 in the 1960s, and 362,075 during the 1970s. However, the increase declined to 150,116 only between 1980-87 because of the economic slack in the country and little population movement at all in this period.

Before making any comparisons it should be mentioned that absolute numbers are used instead of percentages in order to avoid misleading trends, which could result from the variations in the original population of the new towns.

The first-generation new towns experienced their main growth phase during the 1950s, and continued in the 1960s but with a reduction in growth rates, except in the cases of East Kilbride, Welwyn and Glenrothes, where growth rates increased compared with the 1950s. The same trend could be seen with the second-generation new towns, which achieved an accelerated rate of growth during the 1960s and 1970s, and started to slow down during the 1980s.

Nevertheless, the pattern revealed by the figures in (Table:3-3), shows some variations between the new towns. Of the pre-1951 designated new towns, Harlow and Crawley recorded the highest growth rates, during the 1950s, reaching an average annual increase of 3,514 and 3,211 respectively. The high growth rates achieved by most of the first generation new towns caused their initial population targets to be increased. In some cases this occurred several times, as once the population started growing, it was found to be hard to stop the pressure; for instance, the target population for Harlow was increased on three successive occasions.

New Towns	Population at designation	Population in 1961	Population in 1971	Population in 1981	Population in 1987
Stevenage	6,700	42,984	67,078	74,365	75,700
Crawley	9,100	54,047	67,843	72,756	72,900
Hemel Hempstead	21,000	54,954	70,085	76,776	77,100
Harlow	4,500	53,701	78,092	79,276	78,000
Aycliffe	60	12,395	20,203	24,720	25,500
East Kilbride	2,400	31,970	64,118	71,316	69,700
Peterlee	200	13,331	21,846	22,756	25,000
Hatfield	8,500	20,516	25,359	25,160	25,200
Welwyn	18,500	35,179	40,448	40,496	40,500
Glenrothes	1,100	12,750	27,335	32,478	38,400
Basildon	25,000	53,780	77,287	94,277	103,000
Bracknell	5,149	20,533	34,067	48,752	50,800
Cwmbran	12,000	30,788	41,065	44,309	49,120
Corby	15,700	36,097	47,991	47,772	48,500
Cumbernauld	3,000	4,924	31,557	48,207	48,800
Skelmersdale	10,000	—	26,739	39,144	41,600
Livingston	2,100	—	13,567	36,510	40,500
Redditch	32,000	—	37,709	63,675	70,000
Runcom	28,500	—	35,921	64,106	68,100
Washington	20,000	—	25,267	49,860	61,580
Irvine	34,600	—	42,451	55,278	58,537
M. Keynes	40,000	—	46,499	96,130	133,000
Peterborough	81,000	—	87,568	114,108	132,475
Newtown	5,000	—	5,616	8,660	10,000
Northampton	133,000	—	133,673	156,853	170,000
Warrington	122,300	—	127,648	135,568	146,000
Telford	70,000	—	79,451	103,664	111,500
C. Lancashire	234,500	—	235,638	247,224	252,800
Total	945,909	477,949	1,612,121	1,974,196	2,124,312

Table 3-2: Population growth in the new towns.

Source: Town and country Planning, 1987.

Also, some differences are apparent between the new towns established during the 1960s. Surprisingly, the new towns established by the end of the 1960s (Warrington and Telford) exhibited the highest average annual growth with 5,345 and 3,150 respectively, whereas Newtown and Northampton experienced an average annual increase of just 152 and 224 representing the lowest trends. Skelmersdale, Irvine, Milton Keynes and Peterborough increased at moderate rates.

However, the most striking change in the new towns growth rates occurred during the 1980s, when the first-generation new towns were either static or exhibiting a slight decline in their populations, although they had not reached their ultimate targets. At this time, the second-generation new towns also experienced a large reduction in growth rates. It has been argued that the changes in the growth rates of the pre-1951 designated new towns could be attributed to the shortage in jobs and housing supply, causing the second generation of young people and particularly school leavers, to look elsewhere for employment and houses to start their own families.

This led to a net loss in the younger age groups. Additionally, a fall in housing occupancy rates paralleled a decline in the national fertility rates, suggesting that, despite the static or decreasing populations of the new towns, more houses had to be built just to maintain the present population levels, because of the change in pattern of household size (Champion, 1978).

The changes in the growth rates of the new towns, during the 1980s, created doubts about the new towns' capacity to reach their ultimate targets, especially with major cuts in public expenditure forming part of central government economic policy.

### 3-7-2 The impact of the new towns policy on the conurbations

One of the main objectives of the new towns in Britain was to assist in reducing the over-concentration of economic activities in the conurbations. This objective was accompanied, in the later new towns, with the objective of acting as regional growth centres. The DCs, in selecting the types of industries to be accommodated in the new towns, concentrated on attracting modern, clean, high-technology, mainly engineering, industries.

The new towns were to be major new centres for population and employment outside the conurbations. But a reasonable question that can be asked is to what extent the new towns programme diverted employment away from large cities, and how important was the loss in relation to the overall employment changes?

Fothergill et al (1983), in attempting to measure the impact of the new towns on the conurbations, assumed firstly that the policy effect on each new town was at the expense of the nearest conurbation. In calculating the impact of the new towns programme on manufacturing employment, they also assumed that in the absence of public policy which diverted jobs to the new, as well as expanded towns, employment opportunities would have remained in the cities. They suggested that the new towns programme probably had only a small impact upon employment in the conurbations because over the period as a whole, the total loss of manufacturing jobs from London and the other six conurbations has been great, accounting for as much as 1.2 million jobs, while the new and expanded towns programmes provided for little more than one-tenth of this number. It was argued that more than half of the jobs diverted by these programmes have been at the expense of London, but the overall loss of jobs there has been so large, nearly 570,000, that the decline remains enormous even after adding back the jobs lost to new and expanded towns. This conclusion is consistent with Dennis's (1978) finding

that between 1966-74 factory movement to the new and expanded towns accounted for no more than 7% of the decline in manufacturing employment in London.

Clydeside and the West Midland have lost some jobs to new and expanded towns, though again the number is small in relation to overall losses in these places. Mersyside and Manchester, on the other hand, do not appear to have lost jobs over that period despite the location of several new and expanded towns in surrounding areas, because in total the growth of these towns in North West England has been particularly disappointing. Tyneside, the smallest of the conurbations, is the only one where nearby new and expanded towns may have made much difference to the rate of decline. The planned decentralisation of jobs to new and expanded towns has therefore been only a small component of the overall decline of manufacturing employment in the conurbations.

### **3-7-3 Self-containment**

The British new towns policy aimed, from the very beginning, at establishing self-contained communities providing for most of the needs of everyday living including employment, shopping, health, education and other facilities. Such provision would create an environment for the life of a complete community and minimise daily in- and out-commuting. When the New Towns Committee was set up, in 1945, to prepare the ground for new towns development, it was asked to:

" . . suggest guiding principles on which such towns should be established and developed as self-contained and balanced communities for work and living".(New Towns Committee, 1946 a,p.3)

These objectives of self-containment and balance were, consequently, passed on to the DCs responsible for new towns development. It was suggested, nevertheless, that a DC could not guarantee self-containment, or any given degree



of it. Rather, it could only create the conditions that made it possible and likely, for instance, matching population and employments levels (Hall, P., 1973).

The DCs, in turn, attempted to provide a variety of services and facilities to meet most of the needs of the new towns' residents. Yet they faced difficulties, particularly in the early years of new towns development, in persuading responsible authorities to provide services and amenities in step with population increase. Similarly, they focused their attention on encouraging private enterprises to provide the type of facilities they could best provide, such as shopping facilities. Persuasion was necessary when the private sector considered the issue from the point of present day profitability rather than uncertain future demand. The DCs, still, did not have any direct influence on their inhabitants decision to commute to other places to satisfy their needs. Instead, they tried to influence the decision indirectly by providing the services and facilities at a satisfactory level, and left their residents to decide whether to use them or to commute to other places to satisfy such needs (Cresswell, 1973).

The new towns' sizes and the implicit limits on purchasing power, restricted the scale on which services and amenities could be provided, compared *with those firmly established in parent cities. Those new towns developed during the 1960s stood a better chance of providing a wider range of services and facilities for their residents, compared with the new towns designated earlier, because of both their relatively larger initial number of residents and ultimate population targets.*

In respect of employment provision, the DCs attempted not just to balance the total number of employment and the total housing in the new towns, but also to relate housing and jobs. They tried to achieve this by following a housing policy based on giving priorities to those who obtain jobs in the new towns. Such a policy was intended to ensure that the large majority of those with jobs in the new towns

lived within its boundaries, in order to minimise the cross movement, from or to them, to the minimum level essential for adjusting any imbalance between population and employment (Thomas, 1969).

In some cases the policy of homes-with-jobs was only partly adopted due to the particular purposes for which the new towns were established. For example, Hatfield and Corby were established mainly to accommodate the employees in existing industrial centres outside, but in close proximity to, their designated areas.

It has been suggested that the policy of homes-with-jobs has, overall, had significant impacts on the new towns' degree of self-containment and helped in creating well balanced towns in terms of employment and population compared with old towns in the same regions (Thomas, 1977),

It was found, however, that in and out commuting levels were greater than the amount needed to balance a shortage or surplus of jobs. For instance, in 1966 East Kilbride had daily out-commuting to Glasgow amounting to 5,000 workers against 6,000 in-commuting. The high level of cross movement from or to the new towns was attributed to the fact that the inter-relationship between employment and housing applied by the DCs were not perfect, as they did not have complete control over private sector housing in the new towns. Also, although having a job in the new towns was in most cases the main condition for getting a house, once the heads of households got housing in the town there was no obligation upon them to retain their jobs. Additionally, as no restrictions were applied on the other members of the family, they were free to choose to work either in or out of the new town (Thomas, 1969).

In a study of the degree of self-containment of London's new towns, it was found that during the 1950s they were relatively balanced in terms of population and employment and more self-contained as far as the journeys to work were

concerned, compared with older towns in the outer zone of the London region. However, once the basic social and industrial structure was established in the new towns, they experienced employment expansion in which new jobs were introduced considerably faster than new working populations, causing a lag in housing supply in relation to the growth of employment. In turn this created difficulties for the employers in recruiting employees, while long waiting lists for housing increased further (Thomas, 1977).

The achievement of self-containment in the new towns was affected, throughout the 1960s, by the growing propensity for people to travel to work outside the areas in which they lived. They were also encouraged to commute for longer distances and these changes were attributed to the huge increase in the number of cars per thousand head of population for the country as a whole and for the new towns in particular (Ogilvy, 1968). The new towns degree of self-containment was affected further by the difficulties confronting London's new towns when their second generation residents started to look for jobs in London, given its attractiveness in terms of the wide range of employment opportunities and the facilities provided. Furthermore by the end of 1960s, there were major changes in housing policy with the encouragement of the owner-occupancy approach, which reduced the availability of rented dwellings for the new employees in the new towns, and consequently had a significant impact on their degree of self-containment. The new towns, consequently, experienced increased cross-movements and became less self-contained and balanced in terms of population and employment levels than before.

Nevertheless, the new towns maintained a higher degree of self-containment compared with older towns, where changes in population and employment were generally imbalanced. This was attributed to the increase in the proportion of female employment, which tended to reduce the cross-movement in the new towns, as they were less mobile than men (Hall, P., 1973).

Although London's new towns were relatively well-balanced communities in regard to the levels of employment and residents in employment there were never any restrictions on any journeys to or from the new towns in order to achieve self- containment. Yet, the goal of self- containment was eliminated from the plans of the latest new towns, without any apparent scientific justification. Instead, more emphasis was put on opposite goals, such as "opportunity and freedom of choice" and "easy movement and access and good communications" (Milton Keynes DC, 1969).

#### **3-7-4 Demographic balance**

Balance in a new town is not just a question of the social composition of its population but also, a question of their age structure. These two issues are now discussed in further detail.

##### **a- Social balance**

Since Ebenezer Howard, social balance has been one of the characteristics to be attained by the British new towns. The desirability of social balance emerges from the need to avoid singularly working class communities in order to enrich social life in the town. A socially balanced new town is, it was argued, a community where all socio-economic classes are represented and therefore a socially diversified and balanced community should be developed from the very beginning. The declared policy of most DCs, therefore, was to attract different socio-economic groups to the new towns through the provision of appropriate housing and facilities for all income groups from the earliest stages.

It was found, however, that the new towns in general had a relatively higher proportion of skilled manual workers and were under-represented in the non-manual groups, compared to the national average. Yet, the ratios for unskilled and semi-skilled groups were similar to the national figures.

Apart from the over-representation of skilled manual workers and the under-representation of the non-manual groups, there were no social distribution patterns unique to the new towns (Figure:3-6). This suggests that the variety in the social structure of the new towns could be attributed to the differences between the regions in which the new towns are located and from which they have drawn their population.

The over-representation of skilled manual workers was attributed to the types of industry which moved to the new towns. They attracted the more mobile industries as well as new ventures with high growth prospects, which came to these towns to meet their needs for sufficient land for future expansion. They were light, modern technologies and engineering firms with a high proportion of skilled workers. The impact of the industrial structure of the towns was reinforced by the control exercised by the DCs over the types of industry they wanted to attract to the new towns. They were in favour of light and clean industries, overlooking the consequent socio- economic group structure that could be created by a preponderance of these types of industry (Cresswell, 1973).

The age imbalance contributed to the imbalanced social structure of the new towns. There was an over-representation of young population, who were, on average, more skilled and better qualified than the older people. Moreover, the employee selection process favoured highly qualified workers, as the employers were able to get better qualified employees in return for the housing and jobs package they could offer.

The shortfall in the non-manual workers category was attributed mainly to the lack of managerial and professional groups rather than the absence of the lower grade non-manual classes, as the former were more mobile than the latter(Champion, 1977) and could choose to live in more salubrious surroundings in nearby villages and rural settings.

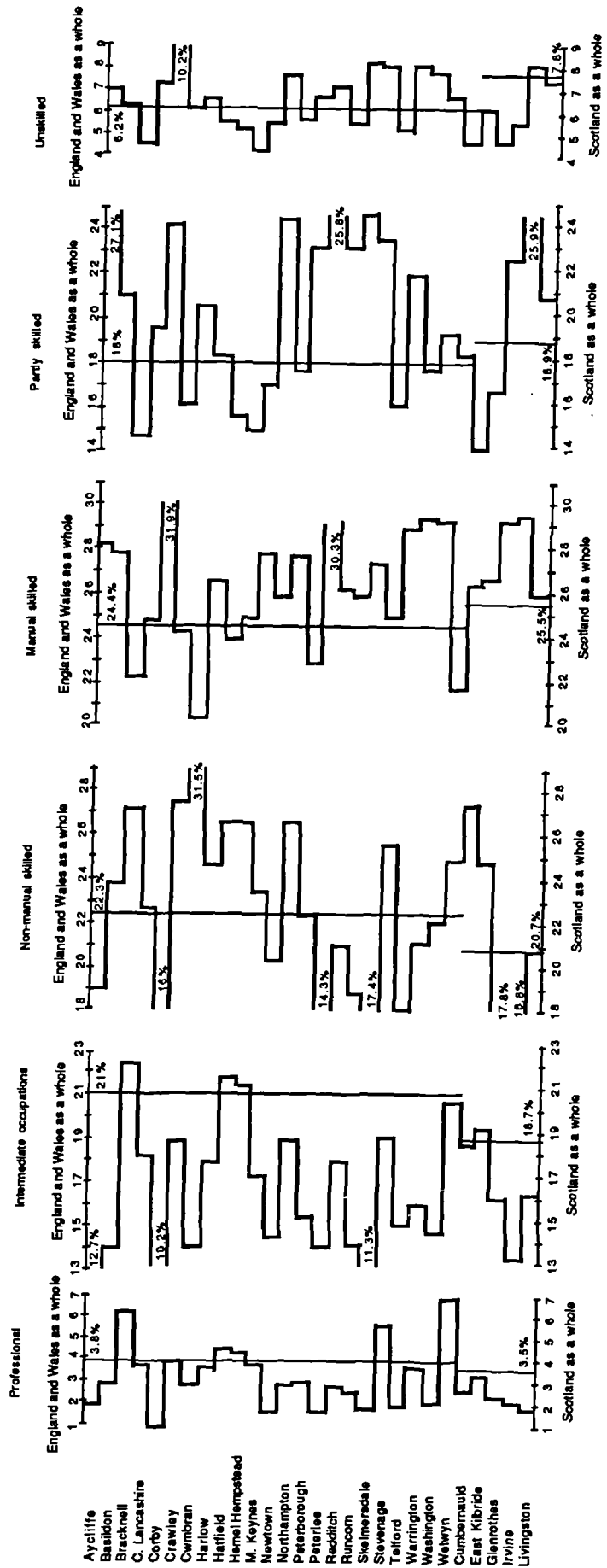


Figure 3-6: Socio-economic groups in the British new towns.  
Source: OPCS, 1981.

Corby new town was a striking exception in that in terms of social classes it had the highest proportion of non-manual skilled, manual skilled and semi-skilled workers and the lowest level of professional and intermediate workers. This imbalance could be attributed to its economic structure, which was dominated by the steel industry.

The Industrial Selection Scheme was designed to assist those in most housing need and who were interested in moving out of London to find jobs in the new or expanded towns. They would in the main have been drawn from the lower income groups, but the scheme proved to be a failure. Most people were unaware of the scheme's existence and the majority of the registrants who did know about it preferred making direct contacts with the employers in the new towns (Aldridge, 1979). Moreover, it was argued that another reason for the failure of the scheme was that the registrants lost interest in it because the pay offered was too low, while the rents in the new towns were higher than on average (Thomas, 1972).

#### **b- Age structure**

Age structure represents one of the most important elements that distinguished the new towns from the country as a whole. Almost all of them experienced imbalance in the age composition of their population over their initial growth stages. The age structure of the new towns has been considerably more youthful, with a strong representation of 25-44 and under 10 age groups and far fewer people of retirement age. For instance, by 1961 Stevenage and Corby had respectively about 25.8% and 24.0% of their population under the age of ten, compared with 14.9% in England and Wales. The 25-44 age group, moreover, represented 37.2% and 30.7% of their total population, compared with no more than 26.3% in England and Wales. The 55 and over age group, meanwhile, accounted for no more than 8.3% and 9.6% of the total population in Stevenage and Corby compared with as much as 21.5% in England and Wales (Figure:3-7).

By the early 1970s, the age structure of these two towns became dominated by the under twenty age group, representing 39.7% and 41.3% of the total population in Stevenage and Corby respectively compared with 30.5% in England and Wales. The gap between the comparative size of the 25-44 age group in the two towns began to diminish, with this age group representing 28.7% and 26.1% of the total population in Stevenage and Corby compared with 24.3% in England and Wales. The under-representation of the 55 and over age group continued with this age group accounting for no more than 12.3% and 13.6% of total population compared with 25.2% in England and Wales (Figure:3-8).

By 1981, the age structure of the early new towns population was roughly similar to that of England and Wales, except for the 55 and over age group. This age group was still under-represented with no more than 18.5% and 18.9% respectively of the total population in Stevenage and Corby compared with 26.1% in England and Wales (Figure: 3-9).

Similar features of age imbalance were experienced by Mark 2 new towns, but with some differences between individual new towns. For instance, by 1971 the age structure of Skelmersdale and Redditch was, dominated by the under 15 age group, which represented respectively 33.4% and 27.4% of the total population compared with 25% in England and Wales. The 25-44 age group at 26.7% and 26.6% in Skelmersdale and Redditch, was not significantly higher than the national average of 25.3%. As for the 55 and over age group these towns had a much lower percentage of no more than 12.6% and 18.6% respectively compared with the national average of 25.2%. By 1981, these new towns still had a higher proportion of their population under the age of 20 and a low proportion of the 55 and over age group. As for the comparative size of the 25-44 age group, these towns were roughly in line with the national average.



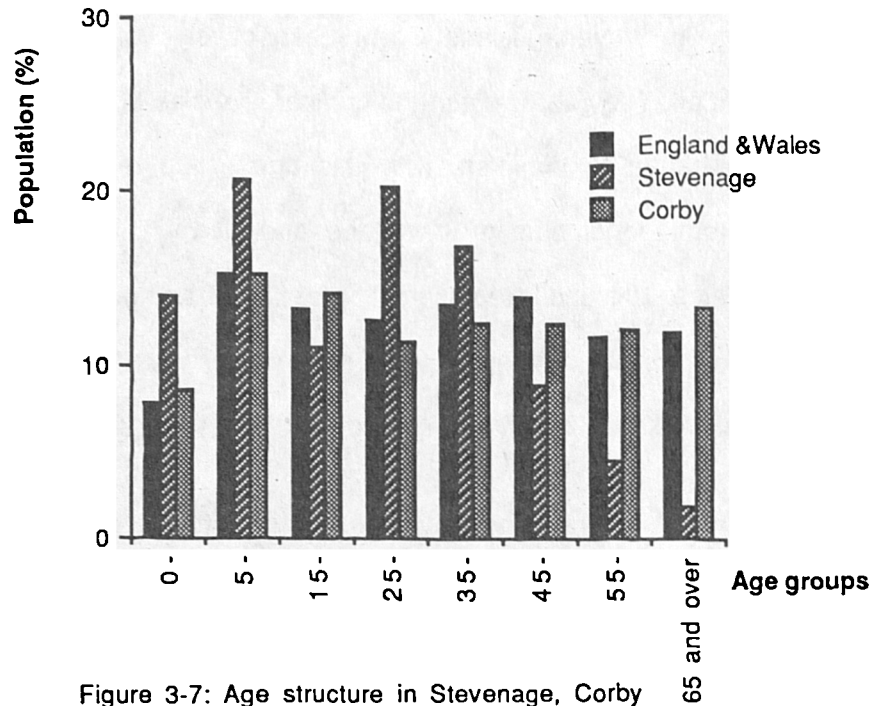


Figure 3-7: Age structure in Stevenage, Corby and England and Wales in 1961.  
 Source: Office of Population Censuses and Surveys, 1962.

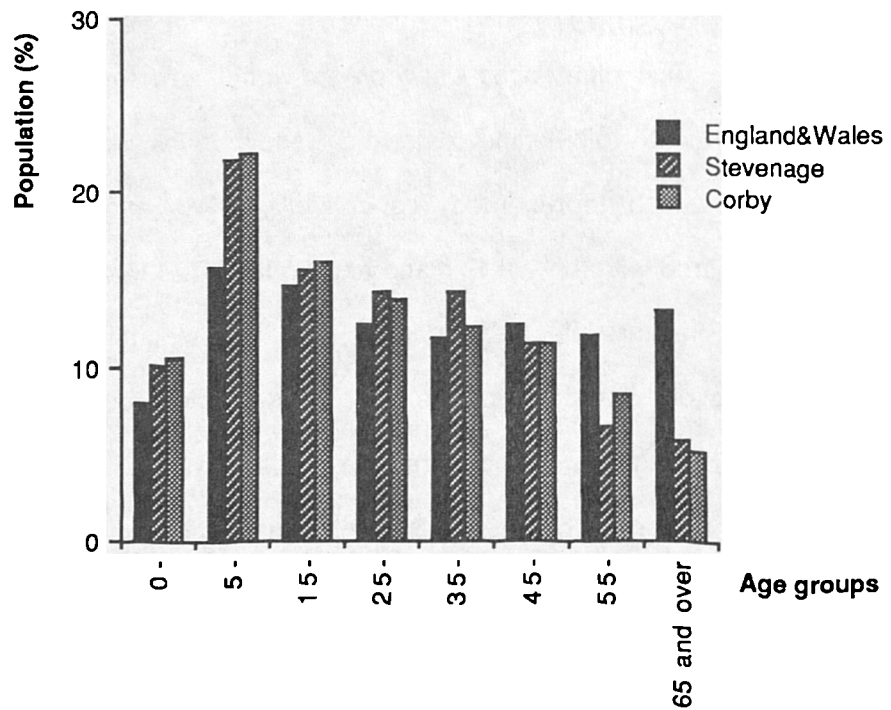


Figure 3-8: Age structure in Stevenage, Corby and England and Wales in 1971.  
 Source: OPCS, 1972.

The age structure of the population of Mark 3 new towns varied greatly from one town to another because of the significant differences in the size and composition of their population at designation and the differences in population increases they experienced. For instance, the population of Milton Keynes at designation was about 40,000 inhabitants and increased to about 95,811 inhabitants by 1981, an increase of 140%. Warrington at designation had about 122,300 inhabitants which increased to 133,996 persons by 1981, an increase of no more than 9.6%. This meant that Milton Keynes received more in-migration relative to its original population than Warrington and consequently the age structure of its population was more imbalanced than that of Warrington (Figure:3-10).

It has been argued that age structure imbalance in the new towns has been mainly attributed to two factors. The first, which had greater effects on the early new towns rather than the latest, was that the large majority of in-migrants were young families searching either for a convenient house or proper job, or both. They were mostly pressured by their inability to obtain suitable accommodation in their original areas (11). The second factor was the preference of most older employees not to move with their firms to a new town, perhaps because of established local ties (Aldridge, 1979). Moreover, the predominance of young married couples in the in-migration streams resulted in a high level of natural increase (Champion, 1977). For instance, by 1961 Harlow had about 20% of its total population under 5, and nearly 40% under 15, with a natural increase rate twice that of the national average (White, E., 1967).

Most DCs were concerned about the under-representation of elderly people in the new towns. They tried, therefore, to increase the number by allocating more

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(11) This was especially true in the early 1950s when the housing shortage in Britain was severe. So it has affected the early new towns more than the later. During the late 1950s and 1960s young couples were moving to the new towns after better housing and employment opportunities.

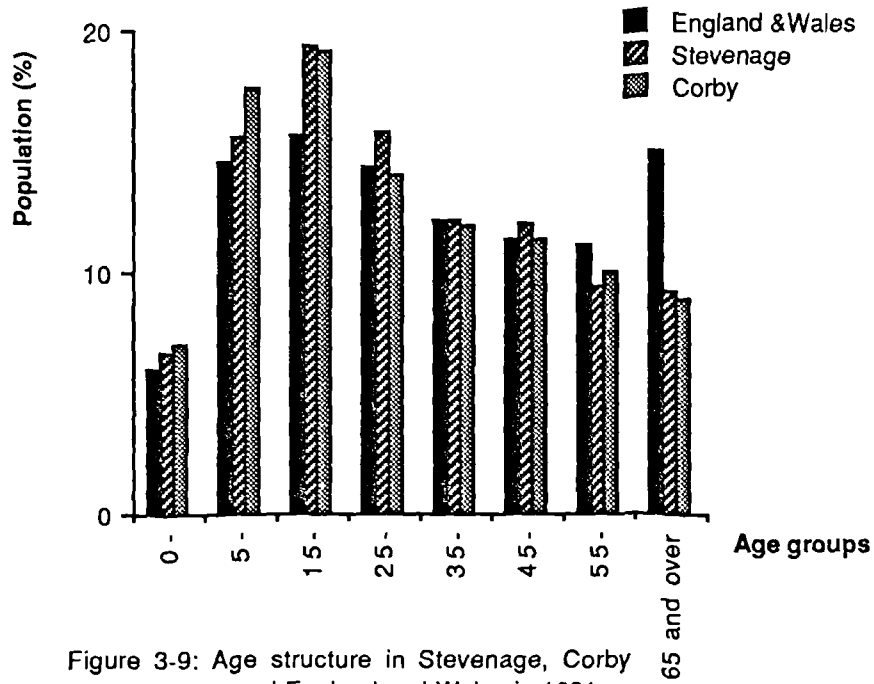


Figure 3-9: Age structure in Stevenage, Corby and England and Wales in 1981.  
Source: OPCS, 1982.

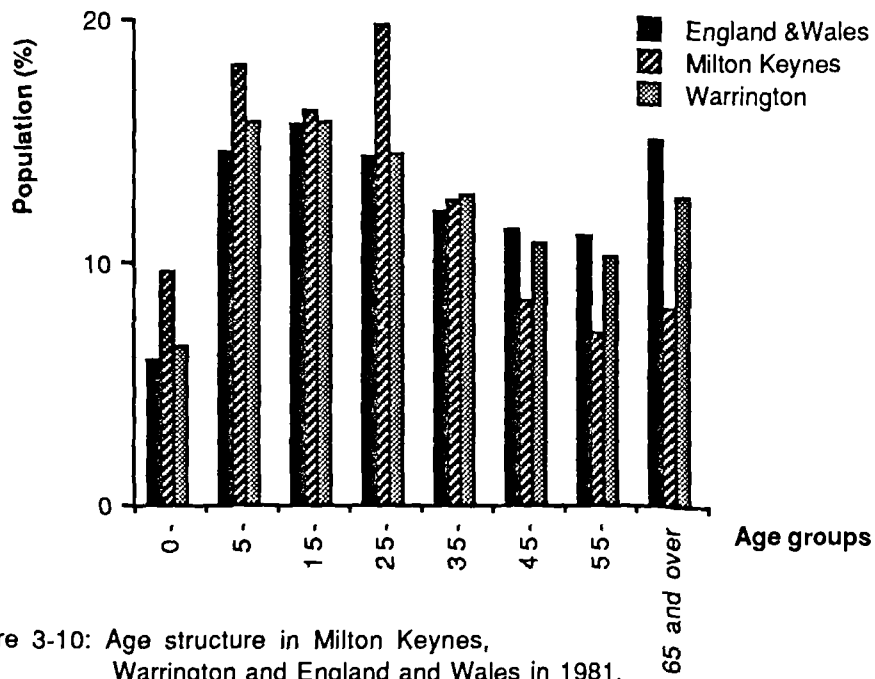


Figure 3-10: Age structure in Milton Keynes, Warrington and England and Wales in 1981.  
Source: OPCS, 1982.

dwellings for them (Harlow DC, 1964). Yet, the proportion of the elderly remained under the national average and the imbalance persisted.

The over-representation of the under-10 age group was attributable to the high birth rate experienced by the new towns in their early years of development. This resulted in a population bulge of teenagers some ten years after designation. The over-representation of the under-10 age group also created problems for the new towns in meeting the peaks in demand for age-specific facilities. For instance, in the early stages of the new towns development, there was a high demand for prenatal clinics and maternity beds. This was followed by a pressing need for play spaces and school places. Because of the fluctuating nature of the demand for these facilities, the DCs mostly met the demand peaks with temporary establishments. After about fifteen years there was still a large number of school leavers seeking employment and housing in order to build their own families, while their parents were far from retirement age (McDougall, 1969). In order to meet their needs, all efforts were made by the DCs to ensure that suitable employment and accommodation were available for the second generation, in order to prevent substantial out-migration and consequently towns predominantly peopled by the older age groups (Champion, 1977).

### **3-7-5 A sound economic base**

The achievement of a sound economic base in the new towns, as discussed in chapter 2, involves the provision of diversified economic activities so as to maintain economic stability. It also involves attracting economic activities with growth and linkages potential in order to enhance future development, both economically and socially. The intention in the remaining parts of this chapter is to examine the extent to which the British new towns managed to achieve these objectives, starting with economic diversification followed by the economic growth

they achieved. As for linkages, no documentation or records were available to enable the investigation of this aspect.

**a- Industrial diversification**

The argument for industrial diversification in the new towns, as well as in any region or urban area, arises from a variety of motives. On one hand, it is believed that diversification may reduce economic fluctuations over time. On the other hand, it has been argued that industrial diversification would, through the variety of employment opportunities it would provide, enable all sections of the labour force to be catered for, and consequently allow for some degree of social balance and self-containment.

The definition of diversification, it was pointed out, implies an increase in the number of "different" contributing or participating elements or a change in the distribution of a given number of elements in the direction of greater "differences" according to an appropriate criterion. Nevertheless, because of the variety of motives for which industrial diversification is desirable, any measure of industrial diversification should carefully specify the objectives behind the desirability for such diversification.

For the purpose of this study, diversification is required to reduce economic fluctuations over time, which means an interest in stabilising the level of aggregate income, employment or other regional economic characteristics. A number of alternative measures of industrial diversification, in the previous sense, has been offered over the last fifty years. These measures could be categorised into two different approaches. The first, which includes equal distribution, national average and minimum requirements methods, depends upon some form of industrial structure "norm" in measuring industrial diversification. The second approach, "the portfolio variance", deals with the industrial structure of a given area as a

"portfolio" of community investment, for which the community would expect a return in the form of income, employment, or prestige.

### 1- The national average approach

According to this approach, the national average employment in each sector is treated as the "norm". It is assumed that an area has a perfect industrial composition if it contains a duplication of the national average. But if an area contained substantially greater proportions of an industry than the national economy, it would be considered as specialised in this industry.

In general form, the national average measure may be written:

$$D = \sum (x_j - x_j^*)^\beta / x_j^*$$

Where:

$x_j$ : denotes the proportion of total regional income or employment in industry  $j$ ;

$x_j^*$ : denotes the national average proportion of income or employment in industry  $j$ ;

$\beta$ : denotes the power to which derivations would be raised ; and

$j$ : denotes the total number of industry groups (usually S.I.C.) into which the economy has been divided.

### 2- Equal distribution approach

Tress (1938) constructed an index of diversification by calculating deviations in each city from equal distribution across a specified set of 12 industry classes (essentially one-digit S.I.C.), thus expecting  $1/n = 8.3\%$  for each industry in each city for a perfectly balanced composition.

According to this approach, a meaningfully balanced or diversified regional economy will have equal percentages in each industrial group into which it is desegregated.

In general form, the "Ogive" index for industrial diversification, may be written:

$$D = \sum (x_j - x_j^{**}) / x_j^{**}$$

Where:

$x_j^{**}$ : denotes the proportion  $1/j$ , "the implicit ideal weight";

$x_j$ : denotes the proportion of total regional income or employment in industry  $j$ ; and

$j$ : denotes the total number of industry groups into which the economy has been divided.

Another index for measuring industrial diversification, which is based on the equal distribution principle has been suggested by Hackbart and Anderson. In their study they have applied the "entropy" measure to four river-basin regions as well as the state of Wyoming to measure the changes in their economic diversification between 1940 and 1960. They concluded that entropy measure provides a direct means of comparing diversity in different regions or changes in diversity over time. Nevertheless, they have pointed out that, " the measure does not answer the question of what constitutes an optimal diversification pattern, nor does it establish a casual relationship between economic diversification and economic development policy variables."

In general form the "entropy index" may be written:

$$D = c \sum -x_j \log x_j$$

Where the scale of measurement is determined by choice of  $c$ , an arbitrary constant.

$x_j$ : denotes the relative share of each sector of the total regional income or employment; and

$j$ : denotes the number of sectors in which the economy has been divided.

The maximum value of  $D$  is attainable when  $x_1 = x_2 = \dots = x_j = 1/j$  in such case

$$D = c \log j.$$

It was argued that both the national average norm and the equal distribution norm suffer from being biased in favour of large cities. Both measures give very heavy weight to the absence of a particular industry from a particular area. Given any specific number of industrial classification, the smaller the city the more likely it is that one or more industry groups will not be represented. These two approaches, it was argued, were to be ideal measures if S.I.C. groupings measured relevant differences with precision and in an equally-different fashion, a situation which is highly improbable (Conroy, 1974).

### 3- The minimum requirements approach

Ullman and Dacey (1960 and 1969) have approached economic diversification from satisfying local needs point of view. They defined "normal" employment in each (S.I.C.) category as that percent of labour force which would exactly satisfy local needs. They have calculated the minimum requirements norms from a cross-section regression analysis of the minimum percentage in each industry employed in cities of different size-classes, and used the "national



average" in the limiting cases where the minimum has been invariant with population size-classes. The employment in an area which is greater than the calculated minimum is called excess employment.

According to this technique the diversity index is computed by the following formula:

$$D = \sum \left[ \frac{(x_j - x_j^{\#})}{x_j^{\#}} \right]^2 / \left[ \frac{\sum x_j - \sum x_j^{\#}}{\sum x_j^{\#}} \right]$$

Where:

$x_j$ : denotes the percentage of local employment in the  $j^{\text{th}}$  industry class;

$x_j^{\#}$ : denotes the minimum requirements percent in the  $j^{\text{th}}$  industry class; and

$j$ : denotes the number of industry classes.

Ullman and Dacey (1960) have pointed out that, in terms of the variation in the minimum requirements in relation to the city size, the larger the city the larger the sum of the minima. This, they suggested, was consistent with theory since the larger the city the larger the number of specialities that could be sustained and the more self-contained the city can be. Bahl et al (1971) argued that the index of diversification suggested by Ullman and Dacey tends to be larger for larger cities, regardless of the nature of their employment diversity. Consequently, Bahl et al suggested an "adjusted index" which would overcome the population size bias suffered by the former formula. They computed the degree of diversification of an area using just the numerator of the former formula, as they pointed out that the denominator tends to decrease with the population size increase.

The adjusted index formula may be written:

$$D = \sum (x_j - x_j^{\#})^2 / x_j$$

This adjustment, Bahl et al suggested, reduced the simple correlation between population size and the index of industrial diversification from significantly positive (when the minimum requirements formula is used), to not significantly different from zero (when the adjusted minimum requirements index is used).

The minimum requirements measure was still criticised on the grounds that the minima varies depending on the degree of desegregation, which means the greater the degree of desegregation the lower the minima. But, Ullman and Dacey (1971) suggested that the analysis of material prepared in their earlier study indicated that little difference could result from changes in the degree of desegregation. Yet, they accepted the argument that the measure is heavily dependent on the degree of desegregation in the case of manufacturing employment, suggesting that the variance, in this case, may reach as much as 50%.

It was argued, moreover, that the minimum requirements measure could be applied only to industries for which the aerial extent of the market is no larger than the size of the region under consideration. This can be seen most clearly by noting that if an industry of one region could serve not only its own population but also some of that of any contiguous region, which means market area greater than the size of the region in which the producer is located, then it would be unreasonable to expect that both regions would have two identical quantities or any fixed quantity of that industry even if they had identical population size. But the industries with which one is most likely to be concerned, in terms of relative regional fluctuations, are those which can serve as a vehicle for inter-regional transmission of fluctuations and the industries with respect to which a region can

"specialise" are the "basic" or predominantly export-oriented industries with a market area larger than the region as a whole.

Furthermore, one can argue that calculating the minimum requirements of an area by its population size implicitly assumes similar patterns of demand "needs" for areas with similar population size, ignoring the effects of the differences in age-structure, socio-economic and income structures and demand patterns.

It was argued that assuming that every region should, in some normative sense, possess some sort of a "norm", either equal distribution, average national, or minimum requirements, implies that these approaches assume that the regions possess similar factor endowments and similar spatial relationship to markets. Further, these approaches could be criticised on the grounds that they, implicitly, assume that each sector in the region contributes independently to the aggregate fluctuations, which means they do not take into account the interrelationships between different industries within the region when calculating aggregate fluctuations.

#### 4- The industrial portfolio approach

Industrial diversification in the context of "industrial portfolios" refers to the explicit attempt to reduce fluctuations or instability in aggregate returns to the region from its portfolio of returns producing assets. This approach focuses upon not only the individual stability or instability of a specific industry but also its quantified interdependence with other industries in the portfolio. As variance provides an acceptable measure of fluctuations or "risks", then the portfolio variance provides an aggregate measure of such fluctuations (Conroy, 1974).

The portfolio variance may be defined as:

$$\sigma_p^2 = \sum_i \sum_j W_i W_j \sigma_{ij}$$

Where:

$W_i, W_j$ : denote the proportion of regional resources or other relative weights allocated to industries  $i$  and  $j$ ; and

$\sigma_{ij}$ : denotes the covariance of the predetermined returns criterion over time for industries  $i$  and  $j$ .

According to this approach each industry in a region is viewed, more realistically, as having definite interrelationships with other industries in the region. Therefore, the appropriate difference among such industries, it was suggested, are their independent tendencies to fluctuate over time as in previous approaches, but mitigated or amplified by their interrelationships with the other industries in the industry mix (Conroy, 1975).

It was argued that only in the context of this approach are the regions theoretically capable of diversifying their industrial structure to a level of fluctuations far less than that of the nation as a whole, and consequently, of reducing national levels of fluctuation. In other words the significance of such ability rests with the potential national impact of individual regions diversifying their respective industrial structures so as to reduce their theoretical level of fluctuations to an extent which could lead to a theoretical reduction in national instability.

#### Discussion:

Conroy (1972) suggested that an ideal measure of diversification would possess certain attributes. It would (1) reflect only the appropriate "differences"

among the elements to be combined in their industries; (2) indicate greater diversification through addition of a new element only to the extent that the new element was appropriately different; (3) be sensitive to changes in the distribution of elements in the direction of greater "differences"; and (4) be independent of other structural characteristics.

He argued that the portfolio variance concept seems to fulfil all these requirements, pointing out that:

" The portfolio variance is the weighted sum of all portfolio covariances. It multiplies the proportion of total resources employed in an industry times that industry's theoretical contribution to aggregate instability, that is, its variance plus the sum of its covariances with other existing industries, all appropriately weighted. The appropriate differences for diversification of the portfolio are precisely these individual contributions to the aggregate measure of instability. The addition of a new industry is measured by the addition of its variance to the sum of variances and the addition of its covariance to the portfolio covariances... (also) the portfolio variance, if well estimated, need reflect no other structural characteristics (other than industrial structure)"

(pp.91-92)

Finally, the explanatory power of various approaches, in three previous studies, were as follows:

Conroy (1975) found, in a study of the industrial structure of 52 United States metropolitan areas in each of 118 S.I.C. for a period of 120 months, that the portfolio variance explains 42.2% of the cross-section variation in observed instability. None of the alternative measures of diversification was capable of accounting for as much as 8.5% of the observed variation. Ogive gave 4.9% for adjusted data, but 8.5% for adjusted and deseasonalised data, while the national average 0.07% for adjusted and 3.5% for adjusted and deseasonalised data.

Kort (1981) used entropy, Ogive and the national average methods to

examine the extent to which industrial diversification affects regional economic instability. He concluded that the entropy measure performed better than alternative indices of diversification, in terms of statistical significance, and explained 64% of the observed instability, while, Ogive and the national average measures achieved an explanatory power of 62.1% and 61.8%, respectively.

Brewer and Moomaw (1986), nevertheless, argued that Kort misinterpreted the explanatory power of his Weighted Least Square model. They found, after adjusting the data he used for heteroscedasticity that entropy measure for diversification explained only 7.5% of the cross-sectional differences in regional instability, rather than the 64.2% suggested by Kort <sup>(12)</sup>. Similarly, the explanatory power of the Ogive model from 62.1% to 2.2% and the national average model from 61.8% to 1.4%. Further, they argued that Kort's assertion that if a region's employment was equally distributed then further diversification is by any definition impossible, is not true for the portfolio measure and concluded that the portfolio variance measure, suggested by Conroy, is the strongest measure of diversification, depending on reported explanatory power of 42.3%.

Initially it was decided, in accordance with the above theoretical discussion, that the Portfolio approach represented a more accurate approach to measure the degree of economic diversification achieved by the British new towns. This meant that the regression techniques were to be used to establish the best fitting functional form for the employment trends in each new town against time. In doing so, it was found however that the employment trends experienced by the British new towns, as well as Britain as a whole, were almost stable during the period between 1971 and 1978 (Figure:3-11). This meant that the only functional form that fitted with the employment trends was in the form of

$$Y_j^t = \beta$$

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(12) They argued that he did not adjust his data for heteroscedasticity sufficiently.

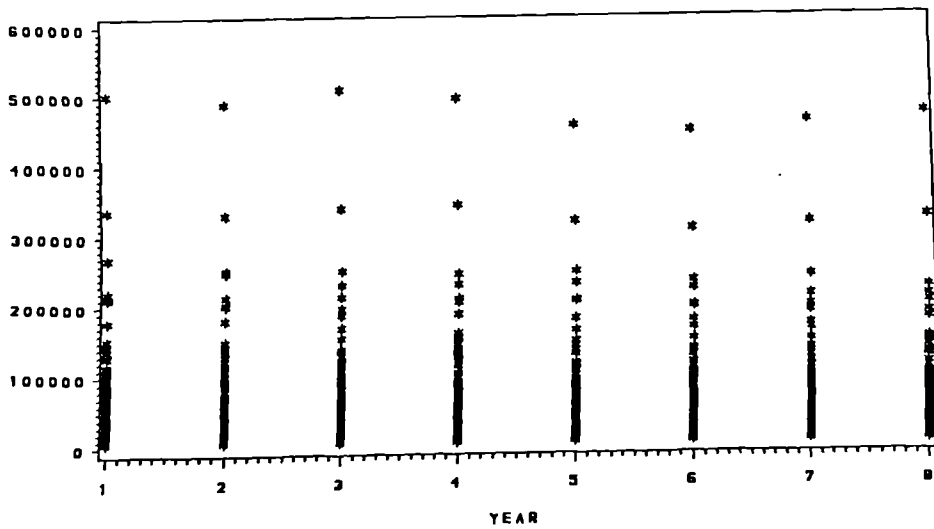
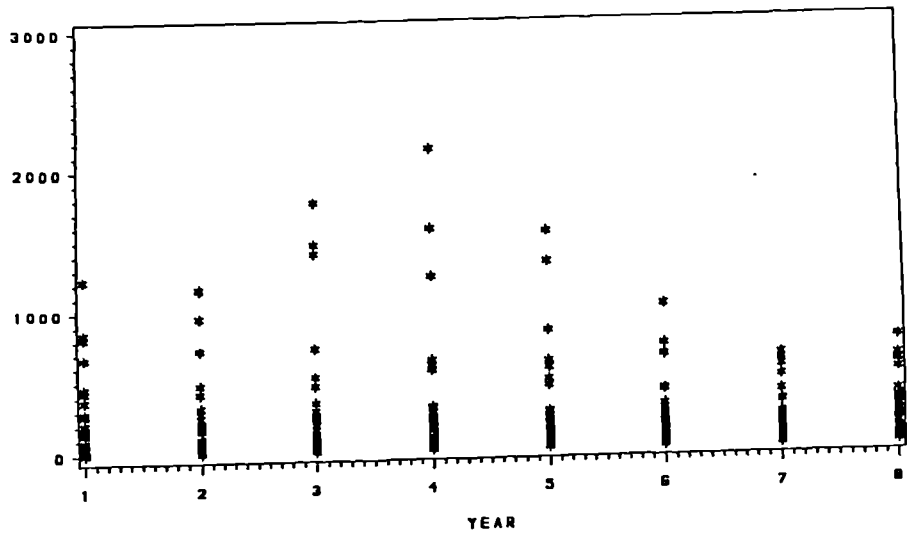
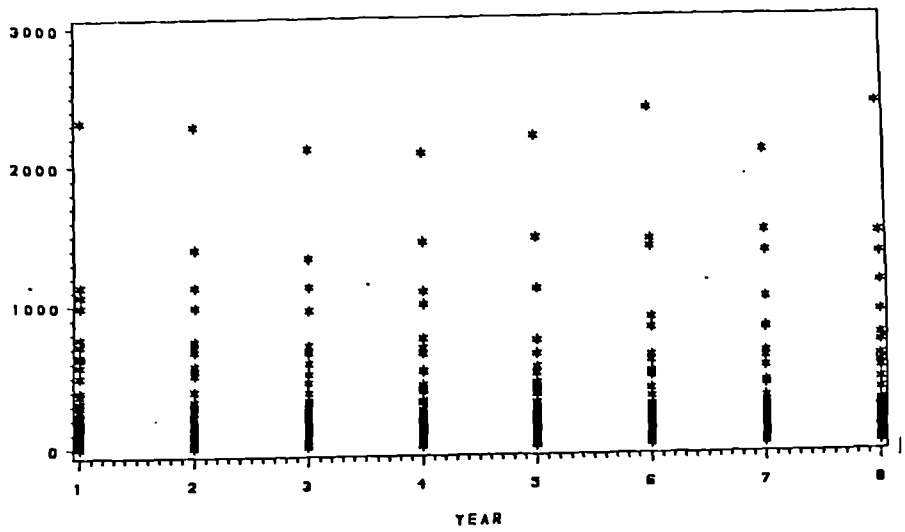


Figure3-11: Employment trends in Redditch, Milton Keynes and Britain between 1971-1978.  
 Source: Department of Employment.

Where  $i$ : denotes the vector ( $t=1, 2, 3, \dots, 8$ ) for new town  $j$ ; and

$\beta$ : denotes the medium of  $y$  over that period i.e.  $\beta=Y$ .

Using this functional form to calculate the matrix of variance-covariance necessary for the derivation of the Portfolio measure, was found to be impossible because the variance always equaled 0 with the nominator  $(Y_j - Y)^2 = (Y_j - Y)^2 = 0$ . This meant that the use of the Portfolio measure, despite its advantages compared with other diversification measures, could not be used for the case in the hand. It was decided therefore to use the equal distribution and national approaches measures instead. These two measures, in a study published in 1979, were used by Gratton to calculate economic diversification in the British new towns. In this study data on the distribution of employees over the 27 orders of the Standard Industrial Classification (ISC) was used to calculate the indices described above for the 28 new towns in Britain, and the results are reported in Table:3-4. Using the correlations techniques to find out about the relationship between the Gini coefficient and the Florence index for each case indicated little agreement between the two indices <sup>(13)</sup>. This meant that for the new towns, the definition of diversification employed was crucial to its measurement.

Despite this, certain overall results were clear. For instance, Milton Keynes and Warrington were in the most diversified group of towns for both indices. They were found not only to have a reasonable spread of employment over the 27 SIC orders but also the distribution was closer to the national distribution than most of the other towns. Harlow and Northampton also fit into this category. At the other extreme, Aycliff was consistently in the least diversified group because of

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(13) Two other measures, the entropy and the Herfindahl measures were used initially. Both of them use a similar definition of diversification to the Gini coefficient but measure it differently. Both indices gave results that were virtually identical to those for the Gini coefficient, and therefore only the latter was employed since it was the most familiar of the three.



New Towns	Gini Coeff.	Florence Coeff
Stevenage	0.630 (14)	0.368 (19)
Crawley	0.586 (7)	0.293 (11)
Hemel Hempstead	0.612 (10)	0.270 (5)
Harlow	0.509 (1)	0.285 (9)
Aycliffe	0.671 (24)	0.432 (25)
East Kilbride	0.634 (16)	0.321 (13)
Peterlee	0.645 (19)	0.345 (17)
Hatfield	0.657 (21)	0.271 (6)
Welwyn	0.643 (18)	0.378 (22)
Glenrothes	0.627 (13)	0.353 (18)
Basildon	0.589 (8)	0.373 (21)
Bracknell	0.675 (25)	0.344 (16)
Cwmbran	0.659 (22)	0.436 (28)
Corby	0.641 (17)	0.286 (10)
Cumbernauld	0.710 (27)	0.344 (15)
Skelmersdale	0.614 (15)	0.435 (27)
Livingston	0.621 (12)	0.415 (23)
Redditch	0.660 (23)	0.425 (24)
Runcorn	0.726 (28)	0.432 (26)
Washington	0.543 (4)	0.370 (20)
Irvine	0.568 (5)	0.304 (12)
M. Keynes	0.515 (2)	0.234 (3)
Peterborough	0.647 (20)	0.273 (7)
Newtown	0.696 (26)	0.275 (8)
Northampton	0.571 (6)	0.207 (1)
Warrington	0.531 (3)	0.239 (4)
Telford	0.620 (11)	0.327 (14)
C. Lancashire	0.593 (9)	0.214 (2)

(Numbers in parentheses are the ranking of towns in descending order of diversification.)

Table 3-3: The indices of diversification achieved by the British new towns  
Source, Gratton, 1979.

heavy specialisation in electrical engineering and in transport and communication.

Other towns that showed a low degree of diversification were Runcorn, Redditch and Cwmbran. For certain towns there are striking contrasts between the results for the two indices. For instance, Skelmersdale was in the middle of the distribution when measured by the Gini coefficient, but one of the least diversified towns according to the Florence index. Also Central Lancashire appeared as one of the top two diversified towns on the Florence measure but also had a much lower ranking on the Gini coefficient because its employment distribution was very similar to the national distribution except for some specialisation in the vehicles industry. Still, as such a distribution was not close to an equal distribution over industries, its ranking on the Gini coefficient was lower. Skelmersdale did not seem to have a very specialised structure, though not particularly unequal, it was imbalanced by national standards.

These features, as illustrated in (Table:3-3) meant different success rates achieved by the different new towns in achieving their aim of industrial diversification. Gratton (1979), attempting to identify those factors that were important in aiding diversification, constructed a regression model to explain the variation in diversification over the 28 new towns. The explanatory variables he used were; the size of total employment, the proportion of the workforce engaged in services industries as a measure of the degree of maturity of the town and the proportion of employment in engineering industries, which he suggested, was particularly important in the new towns as they have tended to attract engineering industries, which were especially mobile. Specialisation in this area, he argued, could explain why they experience a low degree of diversification.

The study indicated that increasing size could lead to increasing diversification whichever measure is used. This factor, it was found, had a major influence on diversification in the new towns. Gratton consequently concluded that

to ensure economic and social balance, and as a protection against severe fluctuation in economic activity, employment growth has to be maintained and warned against the shift of emphasis from the new towns policy to the regeneration of inner cities (as occurred during the 1970s), as many new towns were a long way off achieving their ambition of a diversified industrial structure. For these towns loss of their special development status and the drying up of funds, at this time reduced their chances of ever achieving their objectives of a balanced, self-contained community, and heavy, long-term unemployment was considered as a distinct possibility.

#### **b- Growth potential**

Between 1960 and 1978, manufacturing employment in the new towns rose by more than 80,000 to over 400,000 in total. This increase was proportionally large with a rise of over 25%, particularly in the context of an 11.5% fall in national manufacturing employment during the same period. All of the increases occurred before 1974, however, and since then these towns have fallen into line with national trends. Furthermore, it was found that most of the increase occurred in the early 1960s.

Indeed, a study published in 1977 showed that the overall performance of new towns' engineering firms was higher than that of firms located elsewhere. This improved performance, it was suggested, was associated with lower labour costs in relation to output, better labour productivity and better utilisation of plant. Additionally, with regard to returns on assets the new towns firms were more profitable in that they showed a significantly greater return than firms located elsewhere, when returns were calculated on the basis of the replacement cost of fixed assets, with depreciation charged accordingly (CIFC, 1976).

Between 1974 and 1978 it was found not only that manufacturing employment began to decline, but also that new towns no longer fared much better

than the national average. The new towns gained no more than 2,300 jobs a year over this period, which was about one-fifth of the average relative growth in earlier years. It has been constantly argued that the failure of the policy to maintain rapid industrial growth in new towns could be attributed to the depressed state of the national economy, rather than any inefficiency on the part of the DCs.

Generally, over the whole period the growth of the manufacturing employment in the new towns remains impressive. By 1978, these towns had nearly 121,000 more manufacturing jobs than they would have had if they had grown at the national rate <sup>(14)</sup>.

Fothergill et al (1983) attempted to estimate the impact of the new towns programme on manufacturing employment in these towns. They argued that the policy diverted between 56,000 and 65,000 manufacturing jobs into the new towns between 1960-1978 <sup>(15)</sup>. The impact of the policy, relative to the initial employment, accounted for a 17-20% increase in manufacturing jobs in the new towns.

The most important point to emerge from their estimates, however, is that policy effect is equal to only half of the 121,000 jobs, which is the difference between national trends and employment growth in these towns. This could mean that the other half of the relative growth of employment in these towns could be attributed to intra-urban shifts, and not the new towns policy. They therefore suggested that the new towns success in increasing their employment was, to a large extent, due to the shift of manufacturing jobs toward small towns and rural areas throughout the country.

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(14) The growth of manufacturing jobs in the new towns, it was argued, accounted for as much as half the total estimated impact of regional economic policy on the assisted areas of the UK during roughly the same period (Fothergill, 1983)

(15) These figures, however, exclude the rapid growth of some new towns during the 1950s.

The impact of the policy over time was found to be more complex. The impact, it was argued, declined sharply from around 50,000 new jobs between 1960-7 to nothing at all after 1974. It was suggested that the lack of discernible policy effects since 1974 demonstrated that the manufacturing employment growth in the new towns as a whole has been only equal to, or worse than, the growth in the towns of similar size which have not had new towns status. It was argued that the decline in the impact of the policy was not unique. Regional policy also appeared to have little effect on the location of manufacturing jobs in the middle and second half of the 1970s. In both cases the decline can be attributed to the lower priority which politicians have attached to these policies and much of the reduced impact of the new towns programme can be attributed to the reduced supply of potential investment, as capital investment has been curtailed nationally in depressed economic conditions.

The policy effect on manufacturing employment in the new towns differed according to their date of designation. For instance, the Mark 1 new towns (those designated in the late 1940s) benefited substantially in the early 1960s, and probably in the 1950s too, but from 1967 onwards these towns actually experienced poorer growth than other towns of similar size, so there is a discernible policy effect. The Mark 2 new towns benefited most from policy during the second period, 1967-74, but not to the same extent as the Mark 1 new towns had done in earlier years, and thereafter policy again had little effect. In contrast, hardly any policy effect is discernible in the Mark 3 new towns throughout the period of their designation. This was at least partly due, it was suggested, to the decline in manufacturing employment in Warrington and Central Lancashire, which has offset the manufacturing employment growth in Milton Keynes and to a lesser extent in Peterborough and Northampton.

Similarly, the new towns policy effect on manufacturing employment varied according to their locations. The policy, up to 1967, diverted a large number of

manufacturing jobs into the " London" new towns, but in later years there is no noticeable policy effect there. This may be due to the strict application of Industrial Development Certificate control in these towns in the second half of the 1960s as part of government policy diverted mobile investment to the assisted areas in the North, Scotland and Wales. Indeed throughout the 1960s and early 1970s the impact of the new towns programme in the development areas was substantial, reflecting the popularity of these towns as destinations for inwardly mobile branch plants and, over the 1960-78 period as a whole, the development area new towns have benefited most from the new towns policy. In the remaining new towns the impact of the policy has been negligible.

### **3-8 Summary**

The DCs were established to develop the new towns and were given the powers necessary to achieve rapid development in the new towns. They had simple and efficient organisational structures and were adequately staffed by experts. Their success led the British government to set up urban development corporations to undertake the tasks of tackling the inner cities problems. Nevertheless, the DCs still had difficulties dealing with various Ministries and local authorities associated with new towns development because of the absence of a formal approach for such dealings.

The development of the new towns undertaken by the DCs was financed by central government mainly through long-term loans at current interest rates. There were also limited public grants advanced to the DCs when undertaking certain activities, such as road construction. At the beginning the new towns were not expected to generate any significant financial profits, but as development progressed this idea changed, particularly with the government deciding that it could not sustain the cash flow they needed on its own. The financial accounts of the DCs were closely monitored through Auditors Offices and through the annual

reports they were required to produce about their expenditures and revenues as well as their current financial position.

When the new towns were completed, the assets developed by the DCs were transferred to the New Towns Commission which was established to manage and sell these assets. The Commission was also to pursue the concluding schemes seen necessary for the new towns in general and the selling process in particular. At later stages the government decided to transfer housing and dwelling units to local authorities, with the New Towns Commission concentrating on industrial and commercial assets. The pursuance of the new towns policy in Britain was successful financially, not only repaying the loans borrowed from the Treasury but also generating significant profits from the selling of the assets developed. The tight and efficient financial system adopted in the British new towns is seen as one of the main factors that enabled them to achieve their individual objectives.

In order to achieve self-containment, most DCs associated jobs with a housing allocation in their new town. This, however, did not prevent people from acquiring jobs and housing in new town and then changing their work and commuting to work outside the new town. Still, the new towns achieved a relatively higher degree of self-containment compared with other towns of similar size.

During the early stages of new towns development the age structure of the new towns was dominated by large number of young couples and young children and the under-representation of elderly people. This pressured the DCs to take extra measures by providing additional nurseries, schools and mothercare facilities. In the later stages, the DCs were confronted with the task of providing housing and jobs for the large number of teenagers leaving school over a short period of time. The DCs, still attempting to maintain some form of age structure balance, tried to attract older generations to move to the new towns, but with little success.

The new towns managed to achieve rapid rates of population growth, particularly during the 1950s and 1960s. Still, the changes in the growth rates of the 1980s created doubts about reaching their ultimate targets. In terms of attracting over-concentrated economic activities from nearby conurbations, the new towns policy contribution was quite limited.

Concerning the development of a sound economic basis, the British new towns managed to achieve different degrees of economic diversity and consequently economic stability, with the main factor affecting the individual degree being the scale of the town's overall employment numbers. But, with the emphasis shifting during the 1970s from the development of new towns to tackling the inner cities problems, the new towns faced the danger of never achieving balanced and self-contained communities, and the possibility of heavy unemployment in the long-term.

In regard to economic growth, the new towns managed to achieve rapid rates of growth during the 1960s and early 1970s. But between 1974 and 1978, the new towns fell into line with national trends. The later decline in the growth rates achieved by the new towns could have been due to the depressed state of the national economy.



## Chapter 4

### The new towns policy in Egypt

#### 4-1 Introduction

By the mid 1970s, the need for new towns to be created in Egypt was recognised as a means of reducing the over-crowded population in urban centres, re-distributing the over-concentrated industrial activities outside the traditional urban areas and creating a more favourable environment for local and foreign investment. The new towns programme was introduced as a national policy , to be followed parallel to the national economic and social development plans. Since then a number of new towns have been designated and are under construction; others are still in the planning stage .

This chapter considers the new towns programme in Egypt , starting by looking into the different motivations which have led to the adoption of the new towns policy. This is followed by an investigation of the origins, the objectives and the implementation steps of the policy. Finally, the designation procedures and the management system, in terms of decision making, are discussed briefly in relation to their possible effects on resources utilisation.

#### 4-2 The motivations for establishing new towns in Egypt

The geographical imbalance in the distribution of the population is one of the main features of Egypt. The problems and risks associated with population mal-distribution are complicated further not only by the rapid growth rates of the population and the huge internal migration movements from rural to urban areas, but also, by the over-concentration of economic activities in large cities on one hand and the extreme scarcity of cultivated land relative to the people, on the other. All these factors have contributed to a number of problems from which Egypt suffers and which need to be confronted and solved, as they have started to

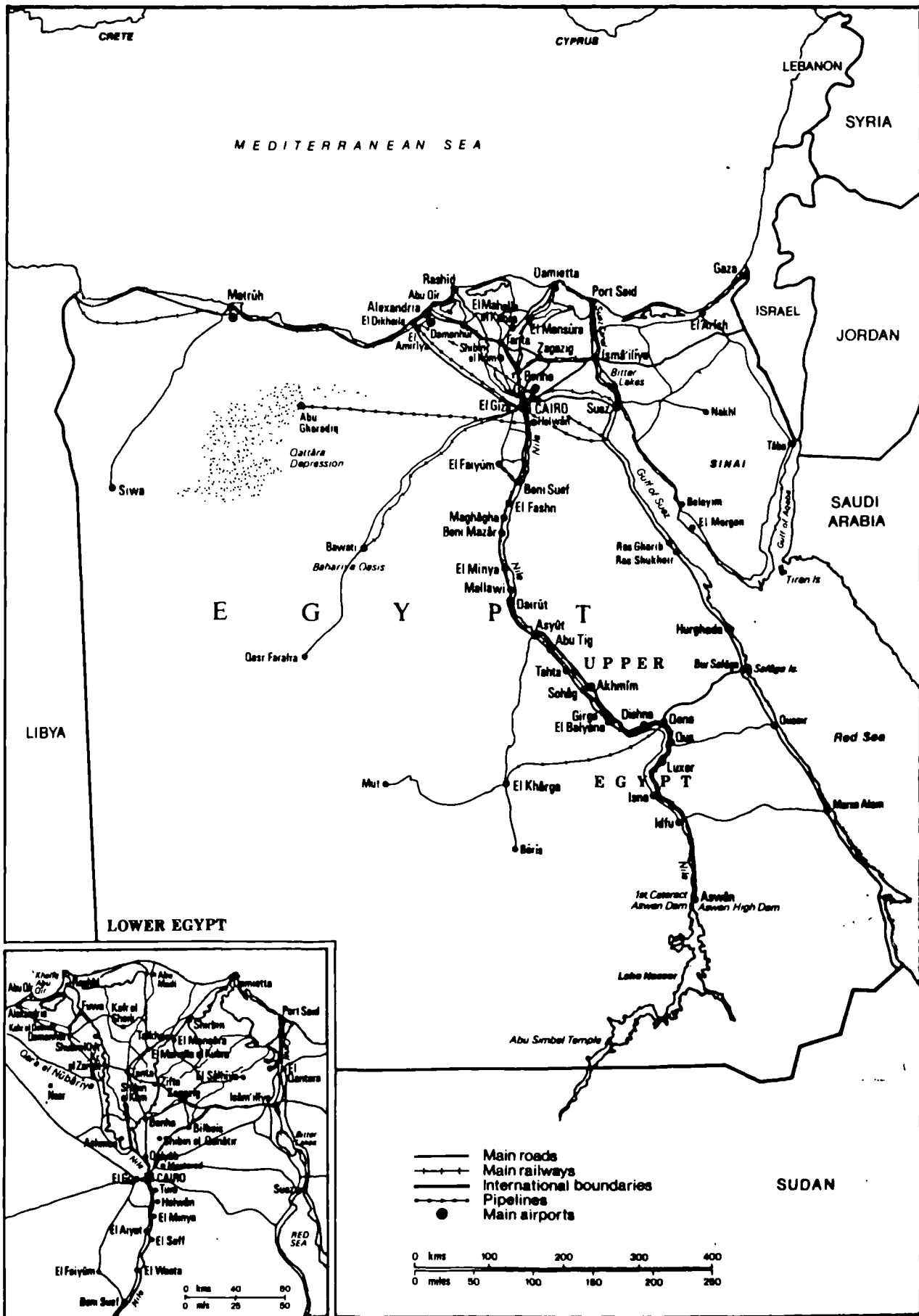


Figure 4-1: Map of Egypt showing main settlements.

threaten the stability and prospects for life in Egypt. The features and the elements of the problems, which motivated the decision to follow a national new towns policy can be demonstrated as follows.

#### **4-2-1 The geographical distribution of the population**

The spatial geographical patterns of the Egyptian population represent one of the most extreme cases of demographic mal-distribution. About 97% of its 38.2 million inhabitants live on less than 4% of the country's total area of one million square kilometres. The remaining 3% of the population are scattered over more than 960,000 square kilometres of predominantly uninhabited desert. This concentration of population, mainly in the Nile Valley and its Delta, gave Egypt an overall population density of 37 persons per sq.km in 1976. Yet, with a total settled area of 52,651 sq.km., of which about 33,700 sq.km. are either occupied by the Nile course and its lakes or cultivated land, the effective population density exceeded 2,000 persons per sq.km.

A closer analysis of the population distribution within the inhabited area reveals further unbalanced patterns. For instance, about 13% of Egypt's population, according to the 1976 census, lived in Cairo governorate, which occupies an area of 214.2 sq.km. This has resulted in an average population density of about 23,688 persons per sq.km., with the population density in some districts reaching as high as 100,000 persons per sq.km.. Giza and Kalyubia governorates, which in addition to Cairo represent Greater Cairo Region, had a population of about 2.4 and 1.9 million inhabitants, respectively. Compared with Cairo they have nevertheless a relatively low population density of about 2,284 and 1,679 persons per sq.km., respectively. This bring the total population of Greater Cairo Region to about a quarter of Egypt's population, with an overall average population density of about 4,034.1 persons per sq.km ( Table:4-1).

Governorate	Population (000')	Area (sq.km)	Density (person/sq.km)
<b>Greater Cairo Region:</b>			
Cairo	5,074	214.2	23688.2
Giza	2,417	1058.2	2283.7
Kalyubia	1,681	1001.1	1679.0
<b>Alexandria Region:</b>			
Alexandria	2,318	314.4	7371.8
Behera	2,464	4589.5	537.0
<b>The Delta Region:</b>			
Menuofia	1,711	1532.1	1116.7
Gharbia	2,293	1942.2	1180.7
Kafr-el-Sheikh	1,407	3437.1	409.4
Damietta	676	589.2	978.2
Dakahlia	2,737	3470.9	788.6
<b>The Canal Region:</b>			
Port Said	263	72.1	3644.4
Ismailia	354	1441.6	245.5
Suez	194	306.9	632.0
Sharkia	2,618	4179.5	626.4
<b>North Upper-Egypt:</b>			
Beni-Suef	1,110	1321.7	839.9
Fayum	1,142	1827.2	624.9
Menia	2,054	2261.7	908.2
<b>South Upper-Egypt:</b>			
Suhug	1,925	1547.2	1244.1
Qena	1,709	1850.7	923.6
Aswan	619	678.5	911.6
<b>Asyut Region:</b>			
Asyut	1,697	1553.0	1093.0
<b>Frontier Governorates:</b>			
Sinai	10	60714.0	2.6
Red Sea	55	203685.0	0.3
Matrouh	113	212112.0	0.5
New Valley	85	376505.0	0.2
<b>Total</b>	<b>36,626</b>	<b>888205</b>	<b>49.5</b>

Table 4-1: Population geographical distribution and density, 1986.  
Source: CAMPS, 1988.

Alexandria is the second largest city in Egypt as well as its main port and with a population of about 2.3 million inhabitants had an average population density of more than 7,300 persons per sq.km.. The governorates of the Delta Region (1), which covers an area of about 10,971.5 km., have about 8.7 million inhabitants, representing 22.7% of the total population of Egypt. These governorates have a population density ranging between 1,180 and 1,117 persons per sq.km. in Gharbia and Menuofia governorates, respectively, and as low as 409 persons per sq.km. in Kafr-EI-Sheikh.

*The three regions, namely Greater Cairo, Alexandria and the Delta, which cover a total area of 18,149 sq.km., had a total population of about 22.6 million inhabitants. This means that about two-thirds of the total population of Egypt were living on about 1.8% of the total area of Egypt.*

The remaining regions, namely North-Upper Egypt, South-Upper Egypt, the Canal and Asyut, which cover a total area of 17,040.1 sq.km. have about 13.7 million inhabitants. Their overall average population density was about 803 persons per sq.km. and the population density of their regions have ranged between 1,244 persons per sq.km. in Suhug and 632, 627, and 625 persons per sq.km. in Suez, Sharkia, and Fayum, respectively. Port Said and Ismaillia governorates have a population density of 3,644 and 246 persons per sq.km. respectively.

In 27 of the 38 largest cities in Egypt (over 500,000 inhabitants), the population density exceeded 10,000 persons/ sq. km. , and in 8 cities it was over 20,000 persons/ sq. km.. 3 of these cities had a population density of more than 30,000 persons/ sq. km (Nassef, undated). It is the stark contrast between these figures and those of the rural areas which makes the equitable and adequate distribution of all social services so difficult.

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(1) The Delta Region has the richest cultivated land in the country as well as a number of important industrial centres, depending mostly on processing the agricultural products of the region.

#### **4-2-2 Population growth**

The population of Egypt has increased from about 15.9 million inhabitants in 1937, to 26.1 million in 1960 and a total of 38.2 million by 1976. This is an increase of 10.2 and 12.1 million inhabitants between 1937 and 1960 and 1960 and 1976. This meant a relatively high annual rate of population growth of 1.9% between 1937 and 1947 and 2.9% between 1947 and 1960. Thereafter the annual rate of population growth declined to 2.5% between 1966 and 1966, but it increased once more to about 2.7% between 1966 and 1976. This means that the population of Egypt has increased by 140%, between 1937 and 1976. The annual overall average rate of population growth during that period has been 3.6% (Table:4-2 a).

Compared with the country as a whole, the urban areas, meanwhile, have experienced a more significant population increase. Urban populations increased from 3.98 million in 1937 to 9.8 million by 1960 and then reached 16.8 million by 1976. The annual rate of urban population increase has, consequently, been 4.8% between 1937 and 1947, 5.2% between 1947 and 1960, 4.2% between 1960 and 1966, and then 3.7% between 1966 and 1976. This shows that the annual rate of urban population increase has followed the same trend as the national population growth rate but in a more sharply defined fashion.

The rural areas have experienced a far smaller rate of population increase, with the rural population increasing from 11.9 million inhabitants in 1937 to about 21.4 million in 1976. Yet, the annual rate of rural population increase has experienced some changes during that period, accounting for 1.0% between 1937 and 1947, 1.9% between 1947 and 1960, then 1.5% between 1960 and 1966, and 2.0% between 1966 and 1976. This means that the overall annual growth rate of rural population between 1937 and 1976 has been 2.0%, compared with an overall annual rate of urban population increase of 8.3% (Table:4-2 b).

Year	1937	1947	1960	1966	1976
Total Population (000,)	15,921	18,967	26,085	30,076	38,198
Annual growth Rate	--	1.9	2.9	2.5	2.7

Table 4-2 a: Population Growth between 1937-1976.  
Source: CAMPS, 1981.

Year		1937	1947	1960	1966	1976
Urban	no.	3,980	5,880	9,834	12,331	16,845
	Population %	25.0	31.0	37.7	41.0	44.1
Rural	no.	11,911	13,087	16,251	17,745	21,353
	Population %	75.0	69.0	62.3	59.0	55.9
Total		15,921	18,967	26,085	30,076	38,198

Table 4-2 b: Urban-Rural Population Increase between 1937-1976.  
Source: CAMPS, 1981.

It has been argued that the huge differences between the three-fold urban population increase between 1937 and 1976, and a rural population increase of a mere 79% during the same period, can be largely attributed to the rapid natural growth rates of urban populations, which accounted for about 78% of the total urban population increase during that period. Changes in the statistical categorisation of certain units from rural to urban or vice versa, and the adjustments of the existing urban centres' boundaries for economic, demographic, administrative, or security reasons have affected census totals. For instance, the net effects of these changes has amounted to about 611,000 persons being added to the urban population and this represents 9.8% of the total urban population growth between 1960 and 1976. Nevertheless, the census does indicate that internal migration from rural to urban areas has had significant effects, amounting to 12.3% of the total growth in the urban population during the same period.

In terms of population prediction there have been many attempts to estimate the likely level of Egypt's population by the end of this century. For instance, it was argued by PADCO (1980) that the urban population would reach between 34.2 and 37.2 million persons, that is an increase ranging between 18.2 and 21.2 million persons, representing about 113% and 132% of the urban population in the 1976 census. The rural population would, during the same period, increase to about 30.5 and 33.1 million inhabitants, that is an increase of between 9.9 to 12.5 million inhabitants. Other estimations suggested that the rural population would grow to 30 million persons and the urban population to between 37 and 40 million inhabitants (Nassef, undated). But, whatever the precise population size would be by the year 2000, almost all the population predictions have agreed that Egypt's population would grow rapidly, at least at the present rates, and that the trend toward urbanisation would continue at its present level, if not higher.



#### 4-2-3 Internal migration

Internal migration movements, particularly from rural to urban areas, have represented one of the factors affecting the rates of population increase in different areas in Egypt and consequently its population distribution. According to the 1976 census, over 3.8 million persons, representing 9.4% of 1976 total population, have been identified as emigrants during some period of their life. About 1.348 million persons, accounting for 35.5% of total migration, have drifted to the four urban governorates, namely Cairo, Alexandria, Port Said, and Suez. Cairo governorate has had a dominant share, with 998,500 persons as net in-migration, representing about 74.1% of the total net in-migration to the urban governorates. The net in-migration to the other three urban governorates was 349,100 persons, of which 330,700 drifted to Alexandria governorate.

In addition to these urban governorates, only Kalyubia, Giza and Ismaillia governorates have experienced net in-migration, with 74,200, 456,200 and 31,400 persons, respectively. This means a total net in-migration of 561,800 persons, representing 32.4% of total migration. It was suggested, in the case of Kalyubia and Giza, that the net in-migration reflects the urban growth of these governorates in general and the growth of those of their urban areas located within the administrative boundaries of Greater Cairo Region in particular. The net in-migration experienced by Ismaillia governorate has been attributed to its urban growth potential as an ex-urban governorate <sup>(2)</sup> (Figure:4-2).

It was suggested that the main attractions for the majority of male emigrants to urban areas have been employment and education, whereas the majority of female emigrants have been to accompany others. It could be,

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(2) The amount of net in-migration to Ismaillia, Suez and Port Said governorates has been, it was suggested, less than expected because of the large waves of out-migration during that period because of the 1967 and 1973 wars (Nassef, undated).

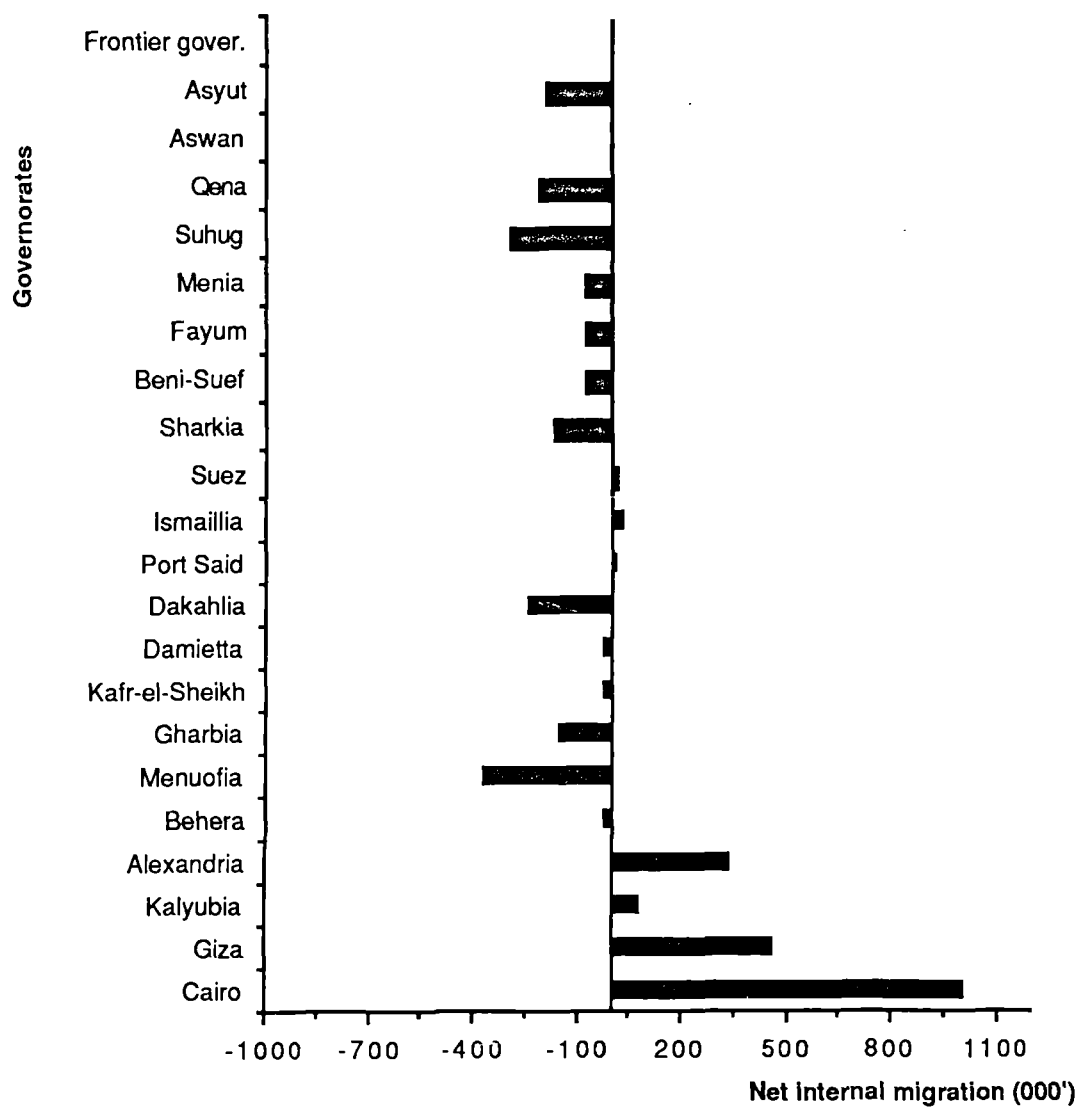


Figure 4-2: Net internal migration between 1960 and 1976  
- breakdown by governorate.

Source: Nassef, undated.

moreover, that the wide range of services and facilities provided in urban areas in general, and in large cities in particular, have acted as another motive for emigrating to these areas.

All the remaining governorates have experienced net out-migration movements, yet with a significant diversity in their magnitude. These governorates can be classified, according to the relative significance of their net out-migration, into three groups. The first group, which represents the governorates that have experienced significant net out-migration relative to their population, includes Menuofia, Suhug, Qena, and Asyut. Their losses have been running between as much as 21.6% in Menuofia and about 10.8% in Asyut, with Suhug and Qena at 15.2% and 12.2% of their total population, respectively.

The second group, which includes Gharbia Damietta Dakahlia, Sharkia, Beni-Suef, Fayum and Menia, have experienced a medium level of net out-migration movements. These have ranged between 8.9% and 7% in Dakahlia and Beni-Suef, and 3.8% and 3.5% in Menia and Damietta, respectively. The third group, which includes Behera, Kafr-El-Sheikh, Aswan and the Frontier governorates, have experienced a relatively slight net out-migration ranging between 1.5%, 1.0% and 1.0% in Kafr-El-Sheikh and the Frontier governorates respectively and 0.05% in Aswan.

It was argued that the increasing population pressure on the limited cultivated land as well as the deteriorating economic and social conditions in rural areas have induced out-migration movements to urban areas.

#### 4-2-4 Housing

Egypt, as with most of the third world countries, suffers from an acute shortage in housing. This shortage has been caused by rapid population growth combined with rapid urbanisation, internal migration and inappropriate housing programmes. It was calculated that by 1986 the need for housing reached as much as 13.3 million units. The actual housing supply was about 9.35 million units, leaving an unfulfilled need for about 4 million housing units.

Furthermore, all the governorates in the country were experiencing housing shortages, but of different magnitudes. It was found, for instance, that by 1986 the need for housing in Cairo reached about 2 million units compared with an actual housing supply of 1.44 million units, a gap of about 560,000 units, representing 13.8% of the housing gap nationwide<sup>(3)</sup> (Figure:4-3). It was followed by Dakahlia and Behera governorates, which had a housing gap of about 318,000 and 294,000 units, accounting for 7.9% and 7.2% respectively of the national gap. Alexandria, Giza and Kalyubia governorates experienced housing gaps of 264,000, 244,000 and 207,000 units, representing 6.5%, 6.0% and 5.1% respectively of the total gap. This means that the housing gap experienced by the Greater Cairo region reached a total of 998,000 units, accounting for 24.7% of the national figure. It was followed by the Delta region with a housing gap of about 1.0 million units, accounting for 24.8% of the national total, and the Alexandria region with a gap of about 558,000 units, representing 13.8% of the national total. This means that these three regions suffered from a housing shortage of about 2.561 million units, accounting for about two-thirds of the nationwide shortage.

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(3) The acute shortage of housing in Cairo forced some people to live in shanty towns, or cemetery areas. It was found, in the 1976 census, that as many as 145,000 persons were living in cemetery areas, representing about 2.9% of the total population of Cairo. Of these some 18,000 persons were living inside cemetery buildings.

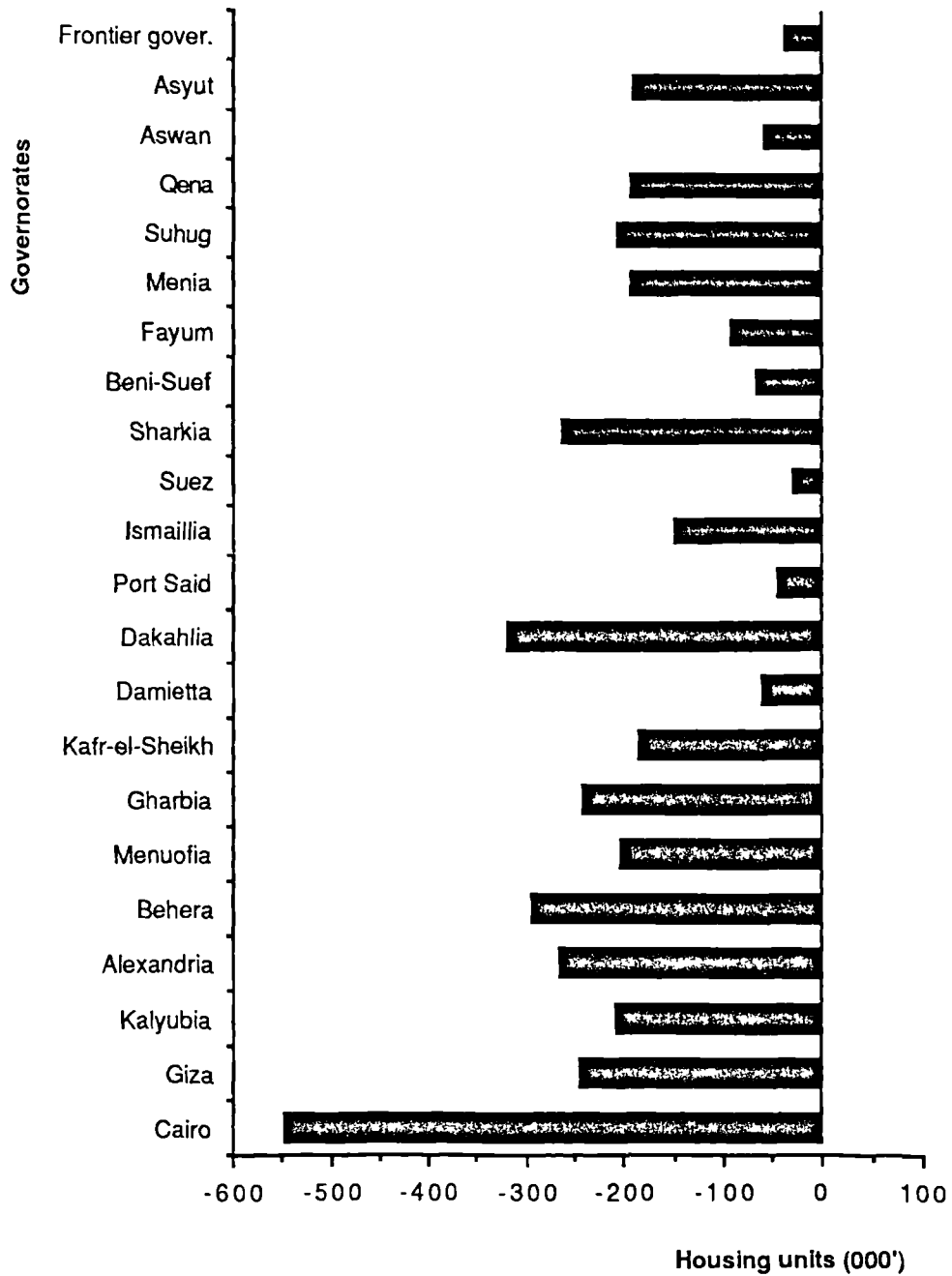


Figure 4-3: Housing deficit- breakdown by governorate.  
Source: Soliman, 1988.

In the remaining governorates the shortage varied widely in its significance from one governorate to another. For instance, it was significantly high in Sharkia, Suhug, Menia, Qena and Asyut, at about 258,000, 201,000, 190,000, 189,000 and 186,000 units respectively. But it was not so acute in other governorates, ranging between 89,000 units in Fayum and as little as 27,000 units in Suez. The Frontier governorates had a shortage of about 35,000 units, representing only 0.9% of the total housing gap.

The overall housing shortage is expected to increase in the near future, with the continuously persisting trends of population growth and urban drift. Meeting the huge need for housing without encroaching on the agricultural land surrounding existing cities and towns means that housing units need to be constructed well outside such existing urban areas.

#### **4-2-5 Industrial activities geographical distribution**

The geographical distribution of the industrial sector in Egypt displays a pattern of over-concentration in particular regions. By 1977 Cairo governorate, for instance, had about 1962 industrial firms, representing 32.6% of the total number of firms operational in the country<sup>(4)</sup>. The production value of the industrial sector in Cairo was about £.E. 928.3 million, accounting for as much as 28.2% of the production value of the industrial sector nationwide. It was followed, but with a significant margin, by Alexandria governorate which had 908 industrial firms, representing 15.1% of the national total. These firms had a production value of about £.E. 558.6 million, accounting for 16.9% of the total for the national industrial sector.

Giza and Kalyubia governorates had 412 and 363 industrial firms, representing 6.9% and 6.0% respectively of the total in the country and had

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(4) These are the industrial firms which employ 10 workers or more.

respective production values of about £.E. 376.1 and 327.2 million, accounting for 11.4% and 9.9% respectively of the total for the industrial sector. This means that the Greater Cairo region, which includes Cairo, Giza and Kalyubia governorates, had 2737 industrial firms, representing 45.5% of the national total. This shows that almost half the industrial firms in Egypt were located in an area of 2273.5 sq.km, which accounts for no more than 0.2% of the total area of Egypt.

The Delta region, which includes Menuofia, Gharbia, Kafr-El-Sheikh, Damietta and Dakahlia, came second with 1086 industrial firms, representing 18.1% of the national total. The production of these firms reached a value of £.E. 380.6 million, accounting for 28.3% of the national total. The Alexandria region had 916 industrial firms, representing 15.2%, while the production value of these firms amounted to £.E.701 million, representing 21.2% . This means that the three regions, Greater Cairo, Alexandria and the Delta, which cover an area of 18148.9 sq.km. accommodated 4904 industrial firms, representing 81.6% of the national total. They also had a production value of £.E. 2713.3 million, accounting for as much as 82.3% of the production value of the country as a whole.

The remaining 1107 industrial firms, representing less than 20% of the total in the country, were distributed amongst 15 governorates, ranging between 142 and 130 industrial firms in Sharkia and Menia and 9, 4 and 3 firms in Port Said, Suez and Ismaillia respectively.

The Frontier governorates, which cover a total area of 853,016 sq.km., had no more than 14 industrial firms, of which 8 were located in the Red Sea governorate. The remaining 6 industrial firms were shared between Matrouh governorate with 4 firms and Sinai with 2. The New Valley governorate did not have any industrial firms employing 10 workers or more (Table:4-3).

The over-concentration of industrial investment in certain areas has led to the over-concentration of industrial manpower in those areas. For instance, Cairo

governorate accommodated about 368,200 industrial employees, representing 28% of the total industrial manpower in the country (5). It was followed by Alexandria governorate with 199,400 workers, accounting for 15.1% of the total and in third place came Giza governorate with 110,200 workers, representing 8.4% of the total. Kalyubia and Behera governorates had 92,300 and 60,200 workers, representing 7.0% and 4.6% of the total. This meant that Greater Cairo and Alexandria regions had about 830,300 industrial workers, accounting for as much as 63% of the total industrial manpower.

Of the Delta region's 266,600 workers, 107,600 were in Gharbia governorate alone, and the Delta region's relative share of industrial manpower was about 20.2% of the total. The three regions, Greater Cairo, Alexandria and the Delta, had, therefore, as many as 1096,900 workers, accounting for 83.3% of total national industrial manpower. The remaining 220,000 industrial workers, representing 16.7% of the total, were shared between 11 governorates, ranging between 43,000 and 32,600 workers in Sharkia and Qena respectively and 7,900 and 4,700 workers in Port Said and Ismaillia respectively (see Table:4-3 above).

A study of the geographical distribution of high pollution industries suggested that these were highly concentrated in certain areas. For instance, it was suggested that by 1981 as much as 42.5% of the output of such industries (iron and steel, cement and coal) was produced in Cairo governorate. The high pollution industries located in Alexandria governorate (paper products, petrol refining, cement, copper works and nitric fertilizers industries) accounted for 21.4% of the total. Kalyubia governorate was in third place with an 11.13% share of high pollution industries (phosphatic fertilizers, petrol refining, metallic and chemical industries). In fourth place came Qena governorate which had about 7.1%, mainly represented by the aluminium industry. It was followed by Giza, Behera and

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(5) This figure did not include the industrial manpower in the Frontier governorates.



Governorates	Industrial Firms		Production Value		Manpower	
	no.	%	(£.E.000')	%	no.(000')	%
Cairo	1962	32.6	928.3	28.2	368.2	28.0
Giza	412	6.9	376.1	11.4	110.2	8.4
Kalyubia	363	6.0	327.2	9.9	92.3	7.0
Alexandria	908	15.1	558.6	16.9	199.4	15.1
Behera	178	3.0	142.5	4.3	60.2	4.5
Menuofia	153	2.5	43.3	1.3	36.3	2.7
Gharbia	456	7.6	210.5	6.4	107.6	8.2
Kafr-el-Sheikh	135	2.3	21.3	0.6	21.2	1.6
Damietta	80	1.3	38.8	1.2	38.7	2.9
Dakahlia	257	4.3	66.7	2.0	62.5	4.7
Port Said	34	0.6	10.7	0.3	8.1	0.6
Ismailia	66	1.1	11.9	0.4	4.9	0.3
Suez	42	0.7	19.5	0.6	10.1	0.8
Sharkia	173	2.9	44.9	1.4	50.0	3.8
Beni-Suef	91	1.5	13.5	0.4	14.9	1.1
Fayum	127	2.1	17.4	0.5	21.6	1.6
Menia	167	2.8	27.8	0.8	26.5	2.0
Suhug	81	1.3	18.7	0.6	22.2	1.7
Qena	157	2.6	101.5	3.1	32.6	2.4
Aswan	22	0.4	35.4	1.1	14.5	1.1
Asyut	133	2.2	19.3	0.6	22.0	1.6
Frontier Governorates	14	0.2	14	8.0	n. a.	n.a.
Total	6011	100	2397.4	100	1317	100

Table 4-3: The Geographical distribution of industrial firms, production value and industrial manpower, 1977

Source: Abdel-Maksoud, (1986,b & c).

Gharbia governorates with 4.5%, 3% and 3% of the high pollution industries and Dakahlia, Suez and Aswan governorates with 2.8%, 1.73% and 1.1% respectively. The remaining governorates had no more than 1% each (Table:4-4).

The regional distribution of the high pollution industries showed that Greater Cairo region had 58% of the national total, followed by Alexandria region with 24%, giving these two regions a dominant share of 82% (6). The Delta region, which specialises mainly in food processing and textile production, had no more than 6.69%. The high pollution industries were even more concentrated than the industrial sector as a whole.

The causes of industrial concentration can be traced back to the late 1950s when the government adopted a national planning system in order to achieve economic and social development and to assist in reducing the economic and social gap between various regions in the country. Nevertheless, the outcome has been the over-concentration of industrial investment in a few governorates, Cairo and Alexandria being the main beneficiaries. For instance, the First Industrial Programme 1957-1960 allocated about £.E. 78.6 and £.E. 22.7 million, which accounted for 37.8% and 10.9% of the total funds for industrial development to Cairo and Alexandria respectively. Similarly, the First Five Year Plan 1960-1965 allocated £.E. 110.4 and £.E. 81.0 million, representing 24.8% and 18.2% of the total funds allocated for national industrial development to Cairo and Alexandria respectively. This meant that these two governorates, which by 1960 had no more than 18.7% of Egypt's population, received a total amount of

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(6) The concentration of high pollution industries in Greater Cairo and Alexandria regions has led to dangerous levels of pollution. For instance, it was found in Helwan district in Cairo, that the average rate of dust falling tripled between 1967 and 1974, from 106 tones per sq. mile to 371 tones per sq.mile. This is compared with the limits set by the Egyptian government of 20 tones per sq. mile for residential areas and 40 tones per sq. mile. Similarly, it was found, in certain districts of Alexandria, that the average rate of dust concentration in the air reached, by 1976, 219.4 microgram per Q.m. which was triple the government limit of 75 microgram per Q.m. (Fahmi, 1988)

Governorates	High Pollution Industries %
Cairo	41.2
Giza	4.7
Kalyubia	10.3
Alexandria	21.9
Behera	3.3
Menuofia	0.8
Gharbia	3.0
Kafr-el-Sheikh	0.11
Damietta	0.04
Dakahlia	2.9
Port Said	0.02
Ismailia	0.3
Suez	1.9
Sharkia	0.2
Beni-Suef	0.02
Fayum	0.1
Menia	0.02
Suhug	0.0
Qena	7.6
Aswan	1.2
Asyut	0.5
Frontier Governorates	n.a.
Total	100

Table 4-4 The Geographical distribution of high pollution industries, 1981.

Source: Fahmi (1988)

£.E. 292.7 million between 1957 and 1965, accounting for 44.8% of the total funds invested in the industrial sector during this period.

According to the First Industrial Programme and the First National Development Plan, of the others only Aswan and Suez governorates received substantial funds for industrial development purposes. They were allocated £.E. 69.1 and £.E. 91.4 million, representing 10.6% and 14.0% of the total funds for 1957 to 1965. The allocation for Aswan was mainly to finance the High Dam project and related schemes, and for the Suez governorate the funds were mainly allocated for oil exploration in the Suez Gulf and related petro-chemical projects. This meant that the four governorates, Cairo, Alexandria, Suez and Aswan, which had no more than 21% of Egypt's population, received over two-thirds of the total funds invested in the industrial sector between 1957 and 1965 (Table:4-5).

The remaining £.E. 211.6 million, that is 32.4% of the total were distributed between the remaining 21 governorates. This meant that certain industrial centres had little funds to invest. For instance, between 1957 and 1965 Gharbia governorate, which represents one of the main centres for the textile industry in Egypt was allocated no more than £.E. 14.9 million, representing only 2.3% of the total funds invested in the industrial sector nationwide.

The relative funds allocated to other governorates were insignificant. For instance, Giza and Damietta governorates received no more than 0.5% each of the total industrial funds and Kafr-El-Skeikh, Ismailia and Suhug have been allocated no more than 0.3%, 0.2% and 0.1% respectively. Beni-Suef, Fayum, Menuofia and the Frontier governorates were not allocated any funds in the First Industrial Programme. Their overall shares of the funds allocated for industrial development between 1957 and 1965 were in the range of 0.3% in Beni-Suef and Fayum and 0.6% in Menuofia. The Frontier governorates, meanwhile, were allocated £.E. 70.8

Governorate	Public Industrial Investment					
	1957-1960		1960-1965		1975-1977	
	(£.E.million)	%	(£.E.million)	%	(£.E.million)	%
Cairo	7.8	37.8	110.4	24.8	213.8	38.4
Giza	0.2	0.1	3.1	0.7	57.5	10.0
Kalyubia	7.3	3.5	22.7	5.1	17.3	3.1
Alexandria	22.7	10.9	81.0	18.2	62.8	11.3
Behera	5.2	2.5	10.7	2.4	24.3	4.4
Menuofia	0.0	0.0	4.0	0.9	3.6	0.7
Gharbia	9.6	4.6	5.3	1.2	15.0	2.7
Kafr-el-Sheikh	0.2	0.1	1.8	0.4	4.2	0.7
Damietta	0.8	0.4	2.2	0.5	2.9	0.5
Dakahlia	2.1	1.0	4.0	0.9	25.7	4.6
Port Said	1.5	0.70	5.8	1.3	6.4	1.1
Ismailia	0.4	0.2	0.9	0.2	4.0	0.7
Suez	36.2	17.4	55.2	12.4	8.5	1.5
Sharkia	3.5	1.7	2.2	0.5	6.9	1.2
Beni-Suef	0.0	0.0	1.8	0.4	1.5	0.3
Fayum	0.0	0.0	2.2	0.5	1.5	0.3
Menia	1.5	0.7	4.5	1.0	3.9	0.7
Suhug	0.2	0.1	0.5	0.1	1.5	0.3
Qena	7.9	3.8	9.3	2.1	51.1	9.1
Aswan	26.6	12.8	42.5	9.5	21.0	3.8
Asyut	1.5	0.7	4.5	1.0	3.9	0.7
Frontier						
Governorates	0.0	0.0	70.8	15.9	19.7	3.6
Total	208	100	445	100	557.0	100

Table 4-5: The Geographical distribution of industrial investment in 1957-1960, 1960-1965 and 1975-1977.

Source: Abdel-Maksoud, (1986,a).

million in the First National Development Plan, which represents 10.8% of the total funds allocated nationwide between 1957 and 1965.

When the national planning system was re-introduced in 1975, the same trend continued. In the annual plans between 1975-1977 Cairo and Alexandria governorates were allocated £.E. 213.8 and £.E. 62.8 million for industrial development, which represented 38.4% and 11.3% of the total industrial investment. Aswan and Suez governorates were allocated £.E. 21.0 and £.E. 8.5 million, accounting for only 3.8% and 1.5%. Menuofia, Damietta, Ismaillia governorates received 0.7%, 0.5% and 0.7% respectively during the same period. Other than that continuing pattern there were no other apparent trends in the distribution of industrial development funds (see Table:4-5 above).

The different elements of the Egyptian problems have caused the population of Egypt's big cities to suffer many problems, such as severe traffic congestion, services facilities inadequacy, over-loaded infrastructure, a very high level of pollution, the sprawl of slums on the peripheries of the urban areas, and worst of all, an annual loss of about 16,800 to 26,880 hectares of agricultural land because of urban expansion. The situation was exacerbated by the need to provide a large number of dwelling units to solve the existing housing shortage which is expected to worsen with the expected population growth, to reach 2.5 million units by the end of this century (Abdel-Maksoud, 1986 a). It was argued, therefore, that the only way to meet the demand for urban development without encroaching on the agricultural land , is the development of new settlements outside the Nile valley and the Delta , that is in the desert region .

#### 4-3 The new towns programme

The idea of establishing new towns outside the traditional urban areas could be traced back to the late 1960s. The Greater Cairo Planning Authority proposed, in its 1968 Regional Plan, the creation of four new towns around Cairo. They were to be located on the roads connecting the city with Alexandria to the north, Fayum to the south, Suez to the east, and finally, with Qena to the north-east. By 1990, these four towns were to accommodate about one quarter of a million inhabitants each. This plan was never implemented (Ibrahim, 1980).

The idea of creating new towns outside traditional urban areas emerged again during the second half of the 1970s, but as a national policy. The first real step for such a national policy was the Republic Decree no. 249, June 1977. The Decree allocated the area between km. 48 and km. 68 from Cairo on the Cairo - Ismaillia desert road, for the creation of "the Tenth of Ramadan" as the first new town to be established in Egypt. The town was planned to cover an area of 56 sq. km. , and expected to accommodate 500,000 inhabitants by the year 2000. Although no formal legislation had yet been enacted to allow and organise the creation of the new towns, a second new town "Sadat City" was designated in 1978. The town is located about 90 km. from Cairo on the Cairo- Alexandria desert road. It was created to absorb part of the over-crowded population and over-concentrated industries mainly from Cairo, Alexandria , and the Delta regions.

The New Towns Act was eventually introduced in 1979. The Act deals, though very vaguely, with different planning, economic and administrative aspects associated with the creation of new towns. The Act, for instance, determines the basic structure of the administrative system to be adopted in undertaking the new towns programme, but without elaboration. It also introduces economic incentives, such as tax allowances and more relaxed controls on foreign capital investment and re-export, in order to encourage local and foreign entrepreneurs to invest in the

new towns. The Act, nevertheless, was not based on any technical preparatory work on the nature of the new towns to be developed. The Act consequently presented a set of confining legal regulations that cannot be considered as an appropriate set of guidelines for a "new towns" programme.

The New Towns Act 1979 was followed by the creation of two more new towns, namely, "New Ameryiah City" located 55 km. to the west of Alexandria and "the Sixth of October" situated some 30 km. from Cairo. New Ameryiah City was designated to attract overspill population from Alexandria and to assist in decentralising industry. The Sixth of October was designated to attract overspill population from Cairo and Giza as well as enhancing tourism. It is also to attract light industries from the over-concentrated industrial areas in Cairo and Giza.

Further new towns were proposed during the 1980s, starting with the designation of New Damietta, which is dependent on the new port established on the Mediterranean. In 1982, a second new town, New Sallehia, was created in accordance with the Republic Decree no. 1237, in the eastern part of Sharkia governorate. Three more new towns were designated in 1986. They are New Noubaria, New Menia and New Beni-Suef. New Noubaria town is situated to the west of the Cairo-Alexandria desert road some 78 km. away from Alexandria. New Menia and New Beni-Suef are located on the eastern bank of the Nile, opposite Menia and Beni-Suef cities, respectively. In 1988 another new town, New Asyut, was designated on the eastern bank of the Nile, opposite Asyut city. This brings the total of new towns proposed under the New Towns Act 1979 to ten (Figure:4-4). The development of the first four is well underway, whereas the other seven towns are in the very early stages of development. The first four new towns, which together cover an area of 19,580 hectares, have an ultimate population target of 1.86 million inhabitants by the year 2000. Additionally, they are expected to create 570,000 job opportunities, that is employment prospects for about 30.6% of their population, on average.



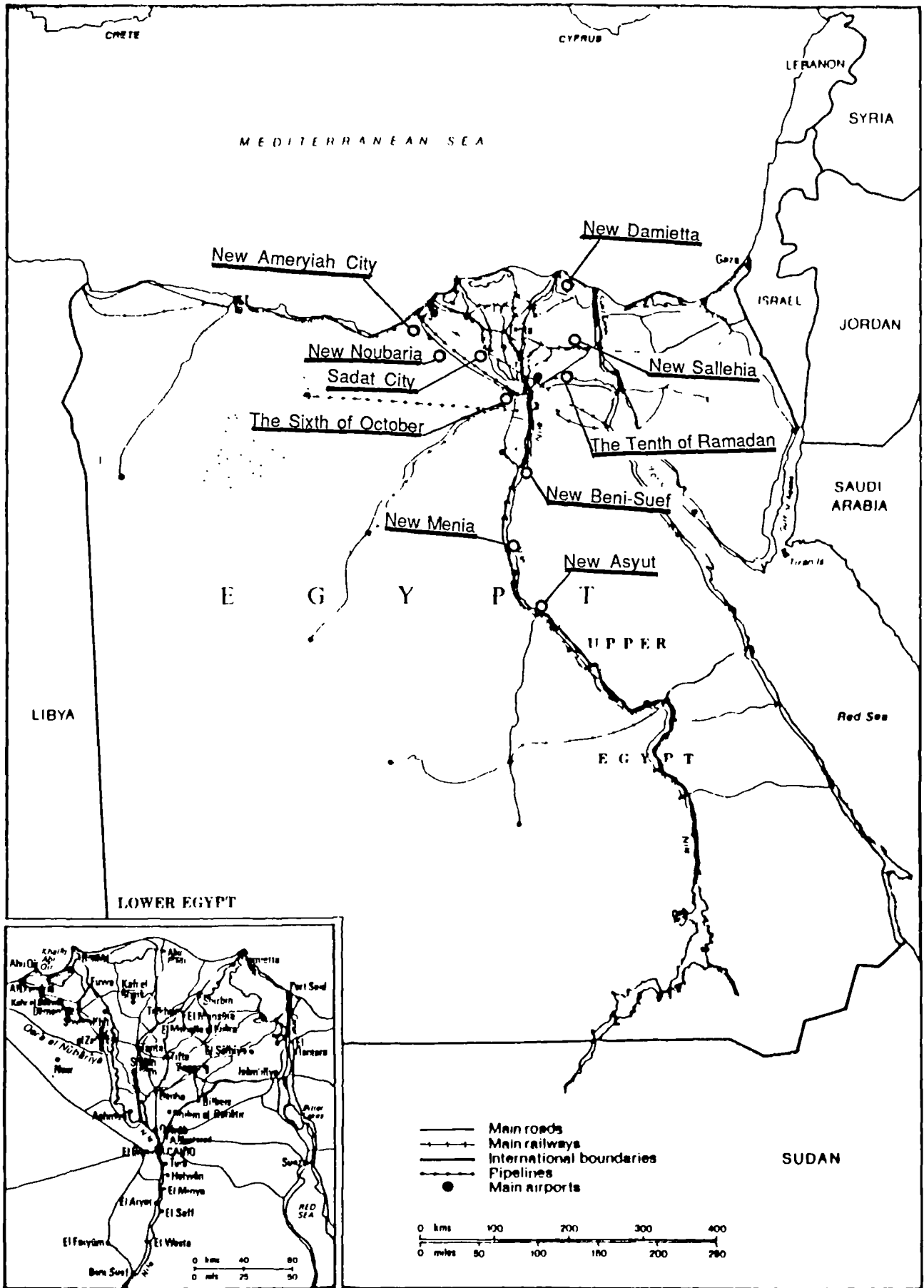


Figure 4-4: Map of Egypt showing the new towns' locations.

In an attempt to provide a foundation for the new towns policy, the Regional Development Strategy 1978- 82 looked into the broad objectives of the policy. It argued that the programme should aim at attaining the following objectives:-

- 1- Increasing regional and national income and expanding the economic base of Egypt , as these towns are to be new, productive communities ;
- 2- Reducing the population pressures within the big cities ; and
- 3- Creating job opportunities as a means of attracting people to the new towns and consequently assisting the growth of these towns .

*According to the National Economic and Social Plan 1978-82, the population of Egypt was expected to increase by about 28 million persons by the end of the century and the Plan suggests that 18 million people are to be accommodated in the new towns to be established around Cairo and Alexandria. The 10 million remaining could be accommodated in the different land reclamation projects.*

The objectives of the Reconstruction and New Towns Policy were considered more comprehensively in the framework of the Economic and Social Development Plan (1982/3- 1986/7). The plan suggested that the main objectives of the new towns programme should be to:-

- 1- Reduce massive population density in large cities , and traditional urban areas , in order to relieve part of their burdens .
- 2- Create new urban communities, equipped with all the utilities and services needed by their inhabitants , to absorb over-crowded population and to re-direct the internal migration waves to the new towns , in order to change the demographic map of Egypt.
- 3- Develop the natural resources available in the desert and on the coasts of Egypt .

- 4- Introduce radical changes in the economic and urban structure of Egypt, concentrating on easing the bottle-necks from which the Egyptian economy suffers.
- 5- Establish the new towns in accordance with the regional planning system, but within an overall national planning framework .
- 6- Allocate the industrial projects, jointly in certain areas, instead of allowing their unbalanced distribution , in order to achieve wider external economies.
- 7- Create incentives for private sector investors in order to attract them to invest in the country in general and the new towns in particular , by creating the appropriate conditions necessary for the success of the industrial and service projects (Ministry of Planning, 1982).

The objective measures introduced to achieve radical changes in the economic and urban structures of Egypt (and so easing of the bottle-necks from which the economy suffers), are long term ones that cannot be fairly judged or critically evaluated after only fourteen years of questionable new towns development. The fifth objective, concerning the development of the new towns according to a regional planning system, actually reflects the need to establish a strategy in regard to administrative and organisational approaches that should be adopted to rationalise the programme for new towns in Egypt, rather than a direct physical planning objective. The remaining objectives that the new towns should achieve and which should be monitored in the short, medium as well as the long-term, are<sup>(7)</sup> :

- 1- Reducing massive population density in large cities, and traditional urban areas, in order to relieve part of their burdens .
- 2- Developing the natural resources available in the desert and the coasts of Egypt.

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(7) These objectives are considered in detail in chapter 7.

- 3- Attracting over-concentrated economic activities from traditional urban areas.
- 4- Creating incentives for entrepreneurs to invest in the new towns.
- 5- Creating employment opportunities and speeding economic development.

In order to encourage entrepreneurs to invest in the new towns, the New Towns Act 1979 introduced a number of financial incentives. For instance, it offers a ten- year tax exemption, both on revenues and dividends paid, to the persons or firms investing in land reclamation, industry, tourism and housing in the new towns. It also permits foreign entrepreneurs investing in the new towns to transfer their capital, as well as net revenues earned, outside the country. The Act, by offering such incentives indiscriminately to all investors in the new towns, has failed to employ them so as to encourage investors to invest in certain economic activities, for instance those which are labour-intensive or those with a high value-added component.

Although the new towns policy aims at reducing the over-concentration of industrial activities within existing cities, no measures of control were introduced to guarantee that the sites and premises previously occupied by industrial activities moving to the new towns would not be occupied by similar or alternative industrial activities. The introduction of such measures, through such means as industrial permissions, would reduce the industrial activities in existing cities and thus reduce the pressure on the services and infrastructure in these areas.

The new towns programme also aims at closing the gap between the developed and under- developed regions , by enhancing the economic potentials of the latter to achieve a more rapid growth rate. This means that the development of new towns in Egypt is a two dimensional programme. On the national level, the new towns policy aims at re-structuring the geographical distribution of the population and at accelerating national economic development by attracting more local, as well

as foreign investment to the country. On the regional level, each new town aims at absorbing overspill population and over-concentrated economic activities from its parent city (Ibrahim, 1980). This distinction is not drawn in, nor addressed by, any development plan or any other study.

In addition to the new towns planned and developed outside the existing inhabited areas, a number of satellite towns were designated around Cairo as a means of stopping the random urban expansion of the city. In 1978, the first satellite town, the Fifteenth of May, was designated within the administrative boundaries of Cairo to provide accommodation and services for the workers employed in the Helwan industrial zone. The town is to accommodate some 195,000 inhabitants. Thereafter, Al-O'bour and Badr towns were proposed, in 1982 and 1983 respectively, to be developed as satellite towns. Al-O'bour is located about 30 km. from Cairo, on the Cairo-Belbeis desert road and is to accommodate 350,000 inhabitants. Badr town, meanwhile, is situated 41 km. from Cairo, on the Cairo-Suez desert road and has an ultimate population target of 60,000 persons.

A further ten satellite towns were proposed within the administrative boundaries of the Greater Cairo Region. The planning and development of these towns was to start by 1985 and to be completed by the year 2000. The time needed to complete the last town was estimated to be about five years. This meant that a new satellite town needed to be created every year between 1985 and 1995 in order to comply with the time table set for their development. However, by 1989, none of these towns was actually under construction. The preparation of the master plans for the first and the fifth towns were completed and the planning of the sixth and the seventh towns were underway. As for the remaining towns, no progress has so far been made either in terms of planning or development.(Rabbei, 1988)

The development of satellite towns would provide accommodation, services and facilities for their inhabitants and would consequently assist in reducing the high population density in Cairo. They would, however, depend upon Cairo for the provision of employment opportunities for their inhabitants. It can be argued that the development of satellite towns within the administrative boundaries of Greater Cairo Region, together with the rapid urban expansion experienced by the region, might transform these towns into suburbs of Cairo. Additionally, these towns, when developed, would put more pressure on Cairo in terms of employment provision and therefore could lead to more concentration of economic activities in the region. This would put more pressure on the infrastructure of Cairo generally and on transport network in particular, with the inhabitants of these towns having to travel to their work in Cairo on daily basis. These towns could, moreover, be considered by many as a more attractive alternative, located nearby existing cities, compared to the new towns developed in the desert region away from these cities. This could lead to less people choosing to move to the new towns. The possible consequences of developing satellite towns show that there could be a contradiction between the objectives of the new towns policy and the development of satellite towns. It can be argued, therefore, that the designation of additional satellite towns around Cairo should be stopped, particularly since the limited construction capabilities of the country are already stretched to cope with the needs of the new towns.

According to the lowest official estimates, Egypt's population would reach some 63 million persons by year 2000, an increase of 21 million people between 1980-2000. According to their target figures the new towns would accommodate about two million inhabitants by year 2000. If these figures were achieved the new towns would provide accommodation and workplaces for less than 10% of the population growth. About 19 million people would have no alternative other than living in the already over-crowded cities, causing more pressures on services and

utilities, traffic problems and pollution. This fact is emphasised by the very slow progress in the new towns development. By 1986 they had a total population of no more than 10,982 inhabitants, compared with a target of about 500,000. There were about 8,855 housing units in the new towns and about 340 operational factories, providing 27716 job opportunities, and a further 595 factories were under construction. Such conditions emphasise the need for pursuing a rural development programme as well as an urban renewal policy parallel to the new towns policy. These additional policies can, through both improving the facilities and services and re-structuring the economic basis of rural areas and small towns, reduce out-migration movements from these areas to overcrowded main cities.

#### **4-4 Designation procedures**

The New Towns Act 1979 did not specify any particular procedures to be followed in designating a new town. The absence of such procedures reduced the possibility of examining in detail the case for the designation of any new town, particularly as all new towns are proposed in desert regions with no population. This lack of specific procedures for designating new towns is emphasised by the absence of a comprehensive study or theory that can provide guidelines concerning the number, locations and the functions of the new towns to be designated. This meant that the designation of a new town was dominated by bureaucratic dealing between various government ministries, authorities and agencies.

The most obvious case is El O'bour which was proposed at the end of 1978. This proposal was discussed with the Physical Planning Authority, the German Ministry for Technical Economic Cooperation and the German Technical Cooperation Agency. By the end of 1981 and after consultation with the Ministry of Defence the location was agreed on the grounds that the New Communities Development Authority (NCDA) would pay compensation for disruption of the military camps in the

area.<sup>(8)</sup> The German government agreed to provide technical assistance as well as a soft loan of D.M. 20 million to provide accommodation for low-income groups in the town. Also, after considering the feasibility of the project, the World Bank agreed to provide a loan of \$ 300 million, which represented half the costs of the infrastructure construction in the town.

Following this, the New Communities Development Authority (NCDA) commissioned an Egyptian consultant to prepare the master plan for the town. Then at the end of 1982, soon after the completion of the master plan and other studies, the Prime Minister issued the designation order for the town, which allocated 4,200 hectares for its development.

Although the designation order specified the boundaries of the town, the NCDA agreed to shift the town boundaries so as not to overrun the land allocated for a Cooperative Society, as well the site allocated for a military factory. But in 1986 the Ministry of Defence proposed a new site for the town, with a total area of about 2,100 hectares, or half the original designated area. For strategic reasons it also set limits on the height of buildings in the town for the NCDA to follow. The NCDA accepted the new location, but the situation worsened as the Cooperative Society, with the support of the Ministry of Agriculture, took over about 1,050 hectares of the 2,100 hectares allocated for the town development and refused to move out. So the only option left for the NCDA was to get a court order allowing the New Town Development Authority (NTDA) of El O'bour to take over the whole site. The Minister for Housing and New Communities took the case to the Policies Committee, and after consultation with the Committee he ordered the Cooperative Society to move off the site and to demolish all its establishments in the area <sup>(9)</sup>.

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(8) The NCDA was also asked to pay the whole cost of a complete land mines scanning of the whole area to be carried out by the military.

(9) It was suggested that the Minister reacted after the publication of an article about the problem in El Ahram El Ektisadi. He issued his order on the 2 July 1986 just after the publication of the article.



Although the problem was eventually solved there were huge losses in terms of the withdrawal of the German side after spending D.M. 7 million, as well as the possibility of the cancellation of the loans that were to be provided by the World Bank and the German Bank for Foreign Cooperation. But most of all, such serious delay meant that the government had to meet huge increases in the town development costs. Such grave consequences highlight the need for setting up specific procedures to be followed, and adhered to, in designating new towns. The procedures should take into consideration the need for the involvement of the public and outside experts, as well as the staff of the NTDA's who are to be responsible for the development of such towns.

#### 4-5 The management system (decision making)

The management and decision making system developed for the implementation of Egyptian new towns policy is divided into four levels. The highest level is referred to as "the Visionary Management level", representing the president of the A.R.E., the Prime Minister and the Minister of Development, New Communities, Housing and Public Utilities, who acts as the chairman of the NCDA. At this level the decision to promote new towns is made, the course of the new towns policy is drawn, and their destiny will ultimately to be worked out. This highlights the fact that the Egyptian new towns are controlled by and are under the threat of, political decisions (Figure:4-5).

The second level of the administrative system, which includes the chairman of the NCDA, his vice- chairmen and the chairmen of the NTDA's, is the "Strategic level". This is the level where the plans and policies of the new towns are developed and the means and guide-lines of various schemes and projects are decided. Despite the presence of the chairmen of the NTDA's at this level, they are actually functioning only as links between the strategic level and the administrative level, rather than contributors to the decision making process in their own right.

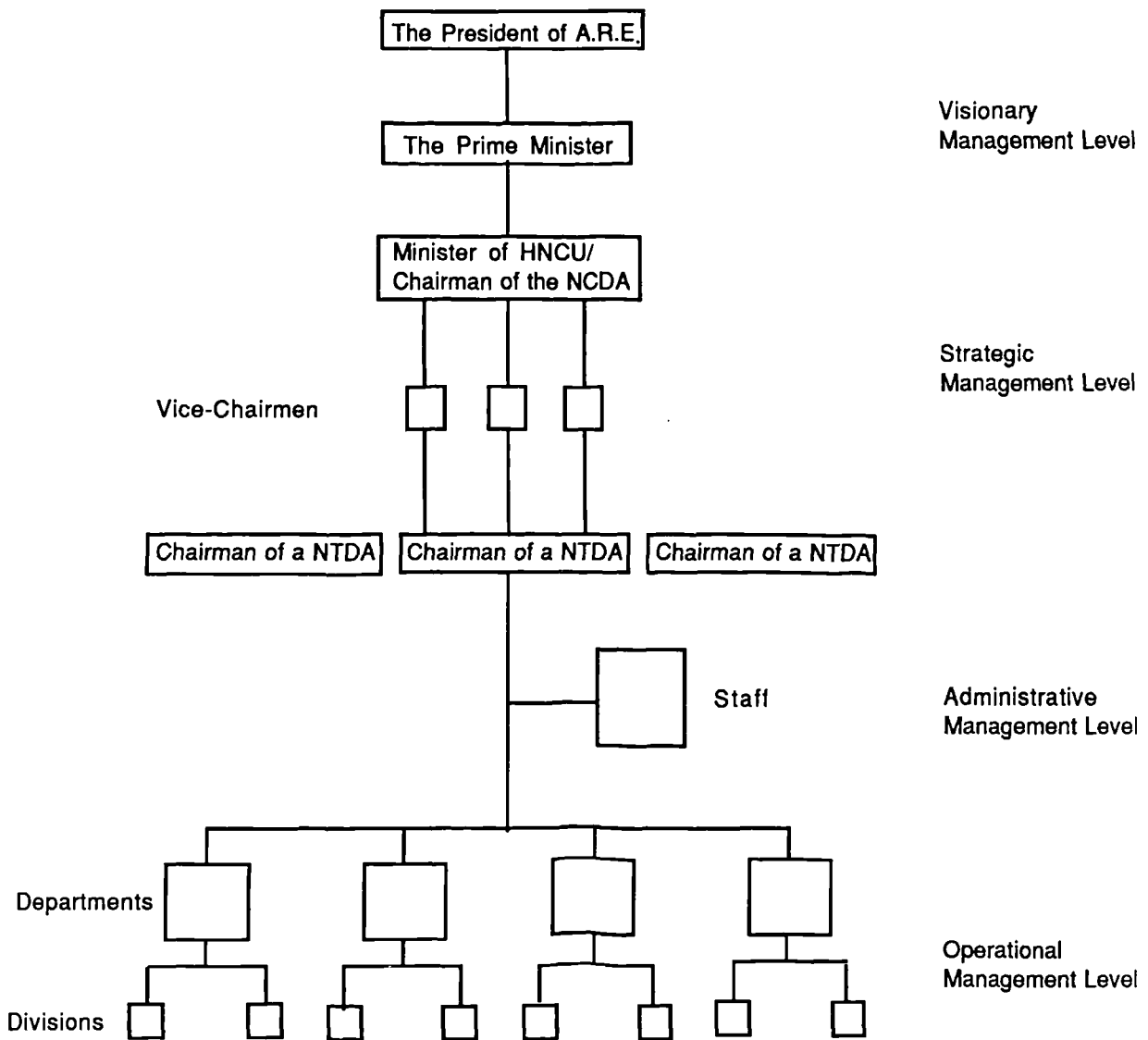


Figure 4-5: Decision making levels in the Egyptian new towns.  
 Source: Sweco, 1982.

The third level is the "Administrative Level" where, it was claimed, the planning, execution, co-ordination and supervisory functions of the respective new towns, are carried out. Nevertheless, although this level supervises the development of the new towns, it is entirely restricted by the guide-lines and limitations drawn up at the higher levels. The heads of the departments form the link with the lower, and not upper, level.

At the "Operational Level", day-to-day work is carried out within the various departments and divisions (Sweco, 1982).

#### **4.6 Summary**

The new towns policy was adopted in Egypt to reduce the massive population density in large cities as well as to decentralise the economic activities concentrated in traditional urban areas. It was found, nevertheless, that there were no restrictions or control on the economic or industrial growth in existing cities. The policy was also initiated to encourage local and foreign entrepreneurs to invest in Egypt, and consequently accelerate national and regional economic and social development.

By 1990 there were ten new towns designated in various regions of Egypt. It was found that the policy was initiated without any guidelines concerning the number or the locations of the new towns to be developed. There is a need, therefore, for a comprehensive study to determine the future number, locations, sizes and functions of the new towns to be created. Such a study should take into consideration, in addition to various needs of the nation, the financial and economic capabilities of the economy to develop these new towns. The guidelines to be recommended by such study should be discussed by the Policies Committee and be agreed upon by all the Ministries and Authorities involved in the new towns policy.

There were also 13 satellite towns proposed around Cairo to stop uncontrolled urban expansion, of which only the Fifteen of May has managed to achieve some progress. Designating these satellite towns, it can be argued, would put more pressure on the already over-pressured services and infrastructure in existing cities, particularly with the rapid urban growth that can turn these towns into extensions of their parent cities.

There is a need for national comprehensive plans for rural development, as well as urban renewal to be undertaken parallel to the new towns policy. Such policies could, either by improving the provision of the facilities and services or restructuring their economic basis, reduce out-migration movements from rural to urban areas, and increase the role of rural areas in the national economic and social development.

## **Chapter 5**

### **Planning and conducting the field Survey**

#### **5-1 Introduction**

The undertaking of this research necessitated the acquisition of a wide range of information. Different official as well as scientific institutions, seen as possible sources for such information, were contacted and when possible the information available was obtained. But, certain information needed for this study was found to be absent from all these sources. Therefore, to achieve the objectives of the research of the actual economic progress and achievements of the Egyptian new towns a field study was conducted adopting techniques appropriate to the particular Egyptian circumstances. To implement the field survey successfully, and thus meet the objectives of the research, it was essential to design the field survey methodically.

The purpose of this chapter is to provide an outline of that process. It begins by explaining the rationale behind a field survey, followed by considerations of the design of the survey, the questionnaire and the sampling procedure. A discussion of the field trip and the main findings of the survey is followed by the chapter summary.

#### **5-2 Rationale for field survey**

To meet the objectives of this research, it was necessary to collect data on a wide range of issues. In order to find out about the availability of such information a review of the available literature was necessary. This involved inspecting official documents produced by various ministries and government authorities expected to have the relevant information. It also meant visiting those ministries and government authorities as well as carrying out discussions and talks with the officials in these agencies. The process of inspecting the available

literature was undertaken through two field visits to Egypt; one in April/May 1988 for about six weeks and the other in December 1988 for about four weeks. The government agencies included:

- 1- The Ministry of Housing, New Communities and Utilities;
- 2- The Ministry of Planning;
- 3- The New Communities Development Authority;
- 4- The New Town Development Authorities for the Tenth of Ramadan, the Sixth of October, New Ameryiah City and Sadat City;
- 5- The Central Agency for Public Mobilisation and Statistics; and
- 6- The Central Agency for Auditing.

Another source inspected was the non-official sphere, which included all possible research institutions that were expected to have the relevant information or were involved in the subject. These institutions included:

- 1- The Physical Planning Institute;
- 2- The Building Materials Research Institute;
- 3- The Economics and Political Sciences Faculty; and
- 4- The National Planning Institute.

These visits were undertaken, when possible, through contacts in these agencies so as to increase the chances of getting access to the materials available. But the outcome, if any, from most of these visits was limited because of a lack of any systematically documented information about the new towns, and also the intense secrecy which surrounded new towns information even when it was

available. Another side of the problem was that some of the information needed, such as the attractions of the new towns for investors and the problems they confronted in establishing their firms there, was not readily obtainable through documentary sources. Direct contacts with the firms located in the new towns became necessary and this meant that a field survey had to be conducted.

### **5-3 Survey design**

Once a decision to conduct a survey was taken, the survey planning process began by exploring various lines of approach, by looking at reference books and previous work on the subject and through talks and discussions with those familiar with the subject. From this exploratory process a number of important considerations in regard to the shape and overall scope of the survey were defined. These basic considerations, according to which the field survey was planned, included:

- 1- the objectives of the survey,
- 2- the choice of a target population,
- 3- the selection of variables and characteristics to be measured,
- 4- the selection of the sample,
- 5- the method by which the survey was to be conducted,
- 6- the design of the instruments for the survey,
- 7- the organisation of procedures for the conduct of the survey(Bracken, 1981).

Accordingly, the objective of the field survey was defined as obtaining information from industrial firms located in the new towns mainly about the conditions in the new towns and the attractions and difficulties they confronted when operating there. It was thought that by obtaining such information, which was

not available from any secondary data sources, a better understanding of the performance and achievements of the new towns could be gained. As industry was the only form of economic activity so far present in the new towns, the target population to be covered by the survey was all the operational industrial firms located there. These firms, it was decided, were to be contacted directly, as a postal survey was considered impractical because the rate of response was expected to be marginal, and the sometimes sensitive commercial information required was to be obtained through an interview to be conducted with the owner, manager or a senior member of the managerial staff with reasonable knowledge about the firm covered.

#### **5-4 Designing the questionnaire**

Designing the questionnaire is considered to be the most vital part of the whole survey. In it the research objectives, interviewing procedure, different types of questions and question wording and the possibilities for analysis of the eventual findings are brought together (Hoinville & Jowell, 1977). Also at this stage the work moves from a general framework of information needed to a more specific structure that embodies questioning approaches relevant to each item of information required.

The starting point of the questionnaire construction was reached after the preliminary design work to identify the coverage and general contents had been concluded. The process of questionnaire design involved reviewing a number of reference works dealing with questionnaire design and attitude measurements principles (for instance, Oppenheim (1966), de Vaus (1986) and Fowler (1978)). Also, a number of questionnaire forms were reviewed so as to glean ideas about how specific questions could be phrased, how to generate standardised questions and how to format questionnaires.



Overall, the process of questionnaire design was undertaken with three essential aspects being borne in mind; the specification of the questions, the layout of the questionnaire and the measurement and scaling methods. Each of these aspects is considered, in the context of the particular survey, in the following three sub-sections.

#### **5-4-1 Specification of the questions**

When the questions were specified, it was taken into account that they should be easy for respondents to understand and to answer accurately and clearly. Open ended questions, as opposed to close ended questions, were kept at a minimum, because of the difficulties surrounding classifying and coding them. Additionally, the questions were specified so as to meet four practical standards to ensure their validity, as suggested by Fowler (1984). The practical standards that all questions should meet are:

- 1- Is this a question that can be asked exactly the way it is written?
- 2- Is this a question that will mean the same thing to everyone?
- 3- Is this a question that people can answer?
- 4- Is this a question that people will be willing to answer, given the data collection procedures?

It was borne in mind, when translating the original questions from the English to the Arabic language, that the vocabulary used was comprehensible to all respondents. It should be mentioned that a great deal of benefit was gained from a prior discussion group held with some colleagues in Alexandria University, in order to ensure that the wording and question format used in the Arabic language format was understandable, simple and clear. Yet, it is worth pointing out that when the actual survey was undertaken, some of the questions were found to be over-

detailed and in the event most respondents just gave overall figures, which nevertheless was still quite useful (that was the case with questions 7,10, 27 and 29) (see Appendix 2).

#### **5-4-2 Layout of the questionnaire**

Once a set of questions was nearly ready, they were put into a form that facilitated interviews. This involved, as a first step, ordering the questions, starting with relatively easy, straightforward questions to help "get the respondent into" the survey. The questions requiring a good deal of thought, or those considered to be sensitive, were reserved for the middle or later sections of the questionnaire.

The flow of the questionnaire dictated some ordering, mainly in the cases where prior answers were needed in order to know if other questions applied. This was the case with question 11 and section 4 of the questionnaire (see appendix 2). As for the instructions written for the interviewer to follow, they were made visually clear by using an underlined, different style of writing compared with the style used for writing the questions. The instructions were also keyed to a particular response and told the interviewer where to go to ask the next question.

#### **5-4-3 Measurement and scaling methods**

Scales vary in types, but they basically set out to get the respondent to indicate his/her attitude by choosing from two opposites, or to demonstrate the strength of his/her attitude or opinion concerning a particular issue (Phillips, 1980). In the present survey, nominal, ordinal and interval/ratio scales of measurements were employed.

A nominal variable is defined as one where a distinction can be drawn between categories of a variable but cannot rank the categories in any order (de Vaus, 1986). For example, question 5 about the type of industrial activities, or

question 13 concerning the reasons for moving to the new towns. The values given to various categories, in the case of a nominal variable, are mere identifiers, on which none of the properties of numbers, such as addition or multiplication, can be applied.

An ordinal variable is one where it is meaningful to rank the categories, but it is not possible to quantify precisely how much difference there is between the categories (de Vaus, 1986), for instance question 31 asking for the general opinions about the facilities and services provided in the new towns.

An interval/ratio variable is one which the categories have a natural ranking and it is possible to quantify precisely the difference between the categories. For instance, question 29 concerning the amounts and directions of marketing.

Scales, however, could be interpreted differently by people and represent the danger of automatic answering of the same category for a series of questions. It also assumes a relatively high level of mental ability on the part of the respondents (Phillips, 1980). Therefore, scales were kept as simple as possible, along the lines of providing alternative clear and distinct answers.

### **5-5 Sampling procedures**

Usually in any social research, a whole population cannot be investigated and complete coverage of a population can be a waste of time, money and effort, because comparable and accurate results can be obtained by using a sample. Sampling theory is concerned with the development of ways in which partial information may be acquired efficiently and with validity. Sampling methods, therefore, should be used:

1- to ensure individual cases a chance for inclusion in the sample,

2- to designate each case a known chance of selection (Phillips, 1980).

How well a sample represents a population depends on the sample size and the specific design of the selection procedure. These two factors are therefore dealt with in the next two sub-sections.

#### **5-5-1 Sample size**

Sampling is a matter of compromise, there are no hard and fast rules. On one side, there is a need for the sample to be representative and free of bias and on the other, the problems and resource limitation, such as time, money and efforts, for conducting the survey (Phillips, 1980). Generally, the sample size decision, it was suggested, should be taken on a case-by-case basis, taking into consideration various aspects of the research design, for instance the variety of goals to be achieved by a particular study (Fowler, 1984).

To keep the final sample size within manageable limits a sample of 20 firms from each new town was selected, to bring the total size of the sample to 80 firms. The sampling ratio was, consequently, variable from one new town to another, ranging between 5.2% in the Tenth of Ramadan and 48.8% in New Ameryiah City (Table:5-1). It should be mentioned, nevertheless, that the selection of a fixed sample from new towns with a different a number of firms, meant a favourable tendency towards towns with a smaller number of firms. Yet, if the sample was proportional to the population size it could have meant a favourable tendency towards large towns. It was decided, taking into consideration time and money limitations, that the former approach could provide a better chance of representing the conditions and problems confronting the new towns, which was the prime interest of the survey.

New Towns	Cases covered	None co-operative cases	No reply cases	Sample size	Total firms in the new towns	Sample (% of total firms)
The Tenth of Ramadan	14	4	2	20	382	5.2
The Sixth of October	16	3	1	20	142	14.1
New Ameryiah City	14	5	1	20	41	48.8
Sadat City	12	5	3	20	67	29.9
Total	56	17	7	80	632	12.7

Table 5-1: The number and proportion of the industrial firms surveyed.

### 5-5-2 Sampling method used

There are a variety of ways of choosing a sample. They all rely on different applications of sampling principles, such as randomness and representativeness, as well as practical considerations. The method to be adopted also depends on the target population, the ease with which its members can be identified, and whether a suitable sampling frame is available (Phillips, 1980).

The overall aim of this research is to evaluate the performance of the new towns in Egypt. It was therefore essential that different new towns, with different functional and physical features, performances and achievements, should be surveyed. This meant selecting the new towns which were experiencing a degree of development progress and were accommodating a range of industrial firms that could be investigated. These new towns were the Tenth of Ramadan, the Sixth of October, New Ameryiah City and Sadat City. The only other town that had industrial firms within it was New Sallehia, with only seven firms.

In order to have a relative balance of each type of the industries developed in the new towns, the "disproportionate stratified" approach was adopted. According to this approach the target group should be divided into layers, or strata, according to some characteristics related to the research objectives.

Accordingly, the industrial sector in the new towns was divided into ten classes. Such classification was employed so that the information collected could be systematically comparable with the data obtained from the Ministry of Housing, New Communities and Utilities about the industrial activities in the new towns, which were provided according to the same ten industrial categories.

#### **5-6 The field trip**

During the second field visit undertaken in December 1988, the Central Agency for Public Mobilisation and Statistics was contacted in order to obtain permission to conduct the survey planned. Despite the fact that issuing permission would normally take about eight weeks, by the use of some contacts the procedures were speeded up and the whole process was almost complete in three weeks. Still, in the final stage the Agency asked for the payment of £.E. 1,400 as a charge for issuing the permission. It was decided, considering the large sum required, to conduct the survey unofficially. Meanwhile, the time spent on pursuing the process of obtaining permission meant that no time was left to conduct a pilot survey during that visit.

Another field trip was consequently made in December 1989. This trip was only of about four weeks duration, because of the need to be in Liverpool by mid January to attend certain other courses. It was important therefore to tailor the survey objectives according to the time available.

The survey was conducted by a team of 4 persons, including the researcher himself. Two of the others were members of staff of Alexandria University, and one was a graduate from the Economics Department in the University. As all the new towns surveyed are located some distance from Alexandria, extending in the case of the Tenth of Ramadan to some 260 km., transport arrangements had to be made for each field trip. The timing of these trips was arranged so that the University staff members were available to travel very early in the morning to be

in the new towns considered by about 9:00 or 10:00 am so as to have some time to carry out the survey as most firms were closing by 3:00 pm.

The members of the survey teams were briefed about the questionnaire form and its various sections before each visit to a new town, and the types of industry each interviewer was to cover were pre-determined in order to avoid any duplication. All the interviews, it should be mentioned, were conducted in Arabic and the responses were recorded in Arabic on the translated questionnaire form, and in some cases remarks and discussions were recorded after the interview so as not to restrict the interviewee from disclosing any information. Each firm was visited by an investigator during the interview survey. At the end of a day's survey, all the team members met together and all the comments and reactions about the day's work were disclosed and recorded. After finishing most of the survey, the answers were classified and translated into English and then coded.

### **5-7 Main findings**

The questionnaire survey was intended to obtain information about the climate surrounding industrial investment undertaken in the new towns. This meant obtaining information about the conditions associated with different investment decision taken. It also meant collecting information about employment prospects in the new towns concerning employment structures and the commuting behaviour revealing their and the factors leading to such behaviour.

The information collected through the questionnaire survey can be categorised into five groups. The first concerns the characteristics of the firms covered, such as types, dates of becoming operational, their sizes both in terms of total employment as well as capital investment. The second group deals with employment aspects in regard to the firms surveyed, both in terms of their socio-economic structure and commuting movements. The third group describes the movement of firms from existing cities to new towns and various aspects

associated with such movements. The fourth group covers the attractions and the disadvantageous conditions prevailing in the new towns from the entrepreneurs' perspective. The fifth group concerns goods movements generated by the firms operating in the new towns in terms of obtaining raw material and marketing and considers the difficulties associated with such transactions.

### 5-7-1 The sample

As illustrated in Table 5-2 all the industrial activities operating in the new towns were present in the sample of firms interviewed, with an overall average of 8.9% of total firms in the four new towns covered. This ensured that, so far as could be foreseen, every possible aspect related to any particular type of industry in the new towns was covered, again as far as practical constraints permitted.

Industry	Total firms	Firms interviewed	
		No.	%
Food	70	6	8.6
Wood-working	48	5	10.4
Plastics	57	8	14.0
Paper products	26	2	7.7
Textile	74	6	8.1
Elec. & Eng.	49	7	14.3
Mechanical eng.	31	5	16.1
Building mat.	102	7	6.9
Chemicals	60	6	10.0
Miscellaneous	112	4	3.6
Total	629	56	8.9

Table 5-2: Type of industrial firms surveyed and sample rate.

Concerning the characteristics of the firms covered, the period for which the firms surveyed were operational in the new towns covered a period from about a year or less up to 4 years and over. Of the fifty six firms covered by the survey twenty two, or 39.3%, had been operational for at least four years, thirteen, or



23.3%, for about three years. The remaining twenty one firms had been operational for two years or less, with eight starting production within a year.

In regard to the employment sizes of the industrial firms covered by the questionnaire survey, of the fifty six firms interviewed thirty, or 53.6%, had employment sizes ranging between 0 and 49 workers and twelve, or 21.4%, had employment sizes between 50 and 99 workers. The sample covered also included five firms, or 8.9%, firms with employment sizes ranging between 100 and 149 workers and two, or 3.6%, with sizes between 150 and 199 and seven, or 12.5%, with sizes of 200 workers and over.

Concerning the amount of capital invested by the firms interviewed, about 14.3% of the firms refused to state their investment, and the other forty eight firms were hesitant but agreed to provide the figures. Of these forty eight firms, fourteen or 29.2%, invested less than £.E. 500,000 and six firms or 12.5% invested between £.E. 500,000 and less than £.E. 1000,000. The remaining thirty four firms invested over £.E. 1000,000, with thirteen or 27.1%, investing more than £.E. 5000,000. However in the absence of any records or official documentation giving the sizes of the firms in the new towns it was not possible to compare the structure of the sample with the actual existing structure in the new towns.

### **5-7-2 Employment**

In the questionnaire survey the intention was to obtain as much information as possible about various employment aspects in the firms surveyed. However, the confusion surrounding socio-economic categorisation in Egypt, particularly between unskilled, semi- and skilled workers, meant that there was little usable data that could be obtained in regard to that aspect. But, the main outcome from the question about employment structure was an indication of relatively small numbers of administrative staff compared with that of other workers. Only 355 employees, or

7.8% of the total employment in these firms (which were more like industrial plants) were administrative staff, while the remaining 4192 employees were workers involved, directly or indirectly, in the production processes.

Concerning commuting movements, it was found that out of 4456 workers, employed in the firms interviewed, only 564 workers, or 12.4%, were resident in the respective new towns. The remaining 3993 workers, or 87.6%, were commuting daily from outside these towns to their work place. It was also found that the average percentage of the female workers commuters was higher than the overall average, reaching 91.3% of female workers, whereas the rate of male workers commuting daily was about 87%. Moreover the main areas from which workers commuted was dominated by Cairo, as the source of 52% of the total workers employed in the new towns, followed by Alexandria with about 30% of the workers in the new towns, while, Sharkia and Behira governorates providing about 11.3% and 6.6% of the new towns workers, respectively. Almost all the firms interviewed provided transportation means for their commuting workers, with fifty one out of the fifty-six firms doing so (for more details see section 8-2).

### **5-7-3 Re-located firms**

Out of the fifty-six firms interviewed only seven, or 12.5% of the sample, moved from other urban areas to the new towns. Of these, six firms moved from Cairo and one from Sharkia. Three of the firms which moved from Cairo were re-located in Sadat City, two in the Sixth of October and one in the Tenth of Ramadan. Two firms stated that they decided to move to the new towns because of the lack of space for expansion in their original locations, one argued that they moved because of the unsuitability of original premises for the production process and the inconveniences caused by being located within a residential area. Another firm attributed the move to the high rents they had to pay for the original premises and the lack of services and amenities. Other reasons for moving to the new towns

included the unsuitability of the premises, the lack of services and amenities, and the lack of space for expansion. Regarding the current uses of the original, vacated premises, three premises were again used for industrial activities, two for storage purposes and two were either given back to landlords or left closed (see section 7-2-2).

#### **5-7-4 Attractions and disadvantageous conditions in the new towns**

The main factor that attracted entrepreneurs to invest in the new towns, as suggested by forty-two firms, was the availability of cheap land. The availability of tax reliefs was stated by thirty-seven firms as one of the factors which encouraged them to locate in the new towns and the availability of land for future expansion plus the availability of sufficient infrastructure and services were indicated by twenty-six and twenty-one firms, respectively, as partly responsible for attracting them to the new towns. It was also found that about thirty-four firms, or 61%, decided to invest directly in the new towns without considering the possibilities of other locations.

Out of the fifty-six firms interviewed forty-five learnt about the possibilities of investing in the new towns from the media and no more than four firms knew from the NTDA's. This means that the media is playing the most vital role in informing people about the investment possibilities in the new towns and the NTDA's either are not trying or are failing in their promotional efforts.

Out of the fifty-six firms surveyed about thirty-seven firms, or 66.1%, were not working to capacity. Of those firms eleven suggested that being in a trial period was the only reason for this, while three firms suggested it was due to shortages in the supply of their raw material inputs. One firm cited that their main problem is the low quality of the local supply of its inputs. Other problems included difficulties in both the importation of inputs and marketing problems and that the

electricity capacity needed could not be obtained. The current economic recession was also having an effect on marketing and hence planned output levels.

The majority of firms interviewed suggested that they had confronted problems while starting their activities in the new towns, with only eleven of the fifty-six firms not having any difficulties. The remaining forty-five firms, or 80.4% of those interviewed, faced different types of problems while starting up, including the large number of official permissions to be obtained before production could start, shortages of skilled workers in the new towns, lack of cooperation by the NTDA and the lack of maintenance services in the towns (see section 7-2-3).

#### **5-7-5 Obtaining raw material and marketing**

Concerning obtaining raw material inputs and marketing, many of the firms operating in the new towns were found to be dealing not only in their immediate area or regions, but covered the whole country with some involved in exporting and importing activities. But, transactions and connections between the firms surveyed within the new towns were found to be quite limited, involving mainly sales of final products by the building materials and food production industries.

The firms were found to be troubled by a variety of factors, which included having to deal with governmental bureaucracy, shortage in and unreliable supply of raw material inputs locally and their high prices, the last being quoted by half the firms interviewed. About one-third of the firms complained that having to import cheaper raw materials meant having to import inputs and having to deal with the problems surrounding this process, for example, obtaining the permissions necessary, dealing in uncertain conditions because of international price fluctuations and changing exchange rates. Other marketing problems included statements by twenty-seven firms that they were troubled by the availability of a wide range of alternative products given that theirs were new to the market. They

also found that having to defray high transportation costs and problems of quality and prices were obstructing their exporting opportunities.

### **5-8 Summary**

The non-availability, from both official and non-official sources, of certain information that was considered important for the undertaking of the present research meant that conducting a field survey was essential. Accordingly, a survey covering the industrial firms in the new towns was planned and a questionnaire was designed methodically. This was followed by a field trip to Egypt which was undertaken in December 1989, during which the survey was conducted satisfactorily.

After returning from the field trip, the initial task was to prepare the information for analysis. This involved classifying and coding the data and it was decided to use the SPSS<sup>X</sup> software for analysis. The results and findings from the analysis were discussed in this chapter with the intention of thoroughly analysing them in the following chapters.

## Chapter 6

### The financial system

#### 6-1 Introduction

The development of Egyptian new towns involves the investment of huge sums of money in many projects and schemes. It is important for the continuing development of new towns, therefore, that the flow of financial resources should be equally continuous and secure. Funds must be used efficiently and the allocations should incorporate sufficient flexibility to cope with the changing priorities and needs involved in different stages of a new town's development. This involves the establishment of a systematic means of allocation and of a set of criteria that could assist in determining the priorities according to which funds could be allocated. Furthermore, the system should include an efficient monitoring system to supervise timely allocations and subsequent spending levels.

The development of the Egyptian new towns is to be financed both by the New Town Development Authorities (NTDAs) and the private sector. The NTDAs are to undertake infrastructure, services and housing provision. The private sector is expected to carry out industrial and commercial development as well as housing provision. But, when taking investment decisions the private sector measures the *benefits to be obtained against the costs involved and this chapter therefore concentrates on an evaluation of the financial system adopted in Egyptian new towns.* It begins by considering various financial sources available to the NTDAs from an overall point of view as well as in terms of fund allocations to each of the four new towns investigated, the Tenth of Ramadan, the Sixth of October, New Ameryiah City and Sadat City. Then the attention turns to the investigation of the overall expenditure patterns of the Egyptian new towns development programmes in terms of different cost elements, e.g. infrastructure, housing, services and plan preparation.

The examination of spending on each item of new towns development involves an evaluation of the sums spent and the benefits obtained, concentrating on the same four towns. It was decided initially that the evaluation approach to be employed in this chapter was to be based upon "Cost-Benefit Analysis" as a possible technique that can be utilised to assist with decisions about the use of societies' scarce resources. It helps in its *ex-ante* perspectives (1) to address questions such as: Is a project or programme worthwhile? What is its optimal scale of operation? What is the optimal timing of its initiation? What are the relative merits of different projects or programmes?

Cost-benefit analysis goes beyond mere financial appraisal to include evaluation from the wider point of view of the economy or society in general (2) . Schofield (1987) suggests that in this context two broad objectives could be considered; economic efficiency in the use of resources available to society or its economic growth, and equity in the distribution of welfare between different groups, either income groups, regions or generations, within society. The economic efficiency effects consist of positive and negative impacts on the production and consumption opportunities, and hence utility or welfare level, of society. Social analysis, meanwhile, addresses the issue of distribution as well as economic efficiency. At one level, this consists of the display of results on a desegregated basis according to welfare impacts on different groups within society. At another level, social analysis extends the principle of shadow pricing to social pricing (3) .

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(1) While *ex-ante* perspective is commonly regarded as the more valuable for planning purposes, the *ex-post* approach represents a useful approach for delivering lessons for the future from the past.

(2) In general terms, the objective of a project or a scheme can be a purely financial one, as profit maximisation is in the private sector, and analysis comprises merely revenues and expenditures as values in the market.

(3) "This procedure involves the attachment of differential weights to monetary benefits and costs for different groups to reflect judgment concerning the relative "deservingness" of each group. Thus benefits for disadvantaged groups are weighted, or shadow priced, more highly than benefits for other groups. Social pricing may also involve weighting of benefits according to their distribution between savings and consumption." (Schofield, 1987, pp.3-4)

It was argued that the work in the field of regional policy evaluation, at least regarding large-scale national programmes, remains more tentative than in some other fields, such as large scale residential projects, urban renewal schemes, capital investment projects and local economic development. This, it was suggested, is attributed to the conceptual complexities associated with the specification of a complete model of the impacts of whole policies compared with single projects. This is particularly the case for long term analysis when all manner of structural adjustments may result from policy. Moreover, data requirements are more formidable (Schofield, 1987). Time and practicality limitations, concerning this research, have also acted as additional constraints on the possibilities of utilising a comprehensive cost-benefit analysis in the evaluation of the economies of the Egyptian new towns.

A more practical evaluation of new towns finances will, consequently, be undertaken admittedly from the more limited standpoint of efficiency and effectiveness of the allocation of funds and their management. This involves the examination of the criteria set up by the NTDA's and the NCDA through which priorities are given to various development schemes in the new towns. Additionally, a comparison will be made between the actual development progress in the new towns and the actual needs of the inhabitants of these towns.

The development of new towns represents a large-scale, long-term complex process that involves huge spending on various services, infrastructure, housing and economic activities. Thus, the NTDA's, in order to manage the huge sums involved effectively, have to create a set of criteria that can be employed to determine spending priorities. Such criteria can assist in efficient allocation of scarce resources so as to increase the positive impacts on the production and consumption opportunities and hence the welfare level of society. Given the many problems of implementation there will still be a need for the exercise of executive judgment.



## **6-2 Funds**

For the purpose of enabling the NCDA and the NTDA's to defray various expenses arising from carrying out any projects or schemes associated with the new towns development, the New Towns Act 1979 considered three types of financial sources ;

(1) Public funds: which represent the sums allocated for the purpose of new towns development in the National Economic and Social Development Plan prepared on a five years period basis. These sums are provided either as non-repayable grants made by the Ministry of Finance, or repayable loans from the National Investment Bank, which is responsible for providing the monetary needs of public projects designated in the National Development Plan.

(2) Self-generated funds: are the funds generated by the NCDA and various NTDA's from selling or leasing land or other properties in the new towns, as well as duties charged in return for the administrative services they provide. They include the revenues generated from undertaking projects or schemes, such as electricity and water supply, in the new towns or districts, and may also extend to the planning, construction or renewal of the urban fabric and infrastructure outside the new towns, in association with the concerned authorities.

(3) Loans and grants : are the sums borrowed from various Funds or Banks, either national or international. They also include any grants or aid advanced by local or foreign agencies for the purpose of new towns development (New Towns Act,1979).

In the following section these types of funding are considered in terms of their functions and actual contribution to new towns development.

### 6-2-1 Public funds

According to the National Economic and Social Development Plan 1978- 82, a sum of £.E. 321.6 million was allocated for new towns development, of which the equivalent of £.E. 105.5 million was in foreign currencies.

As stated in the plan 25.5% of the total was allocated for infrastructure provision. Additionally a quarter of total funds allocated to new towns were earmarked for housing construction. Transportation and communications as well as services provision had 16% of the total funds each, and agriculture and industrial activities were allocated comparatively small sums accounting for only 2% and 5% of total funds, respectively.(Table:6-1).

The new towns development suffered a setback in the subsequent National Economic and Social Development Plan 1982/83-1986/87, as the total funds to be allocated specifically for new towns development were not stated. Instead, a total sum was allocated for new towns development as well as other reconstruction activities to be undertaken in the country as a whole. This change, it was suggested, has put more restrictions upon the financial planning capabilities of the NCDA and the individual NTDA's.

According to the 1982/83-1986/87 plan, £.E. 1681 million were allocated for new towns development and reconstruction activities, which was five times the amount allocated in the 1978-82 plan (4). Housing construction was allocated no more than 2.1% of the total funds allocated, compared with a quarter in the 1978-82 plan for housing in the new towns only. This could be attributed to a shift in financing housing construction towards more dependence on repayable loans

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(4) As these sums included the funds allocated for reconstruction activities as well as new towns development no specific conclusions can be drawn by comparing the 1978-82 plan and 1982/83- 1986/87 in terms of funds allocated for new towns development.

provided by various housing funds and banks. The sums designated for services, despite an increase in absolute terms, had decreased in comparative terms from 16% of the total in the 1978-1982 plan to 10% in the 1982/83-1986/87 plan. Industrial and mining activities were allocated 2.7% of the total funds. The transportation and communications sector had 19% of the total funds, while, as much as 41.7% of the total funds, were allocated for infrastructure provision (Table:5-2). The huge sum allocated to infrastructure provision could be attributed on one hand to the government's emphasis on reconstructing the national infrastructure networks which had been neglected by preceding administrations and on the other, to the essential need for infrastructure provision for new towns development.

By March 1990, £.E. 909.4 <sup>(5)</sup> million were received by the NTDA's, either as grants from the Ministry of Finance or repayable loans from the National Investment Bank. The amount received as grants was found to have reached £.E. 157.5 million, or 17.3% of total public funds. The repayable loans from the National Investment Bank accounted for £.E. 687.1 million, or 75.6% of total public funds. There was also an amount of £.E. 64.8 million, or 7.1% of total public funds, provided by unspecified governmental agencies to the NTDA's of New Ameryiah City, the Sixth of October, New Damietta, New Sallehia and New Noubaria.

The Tenth of Ramadan had received 26.9% of total public funds allocated to all new towns, about three-quarters of which were provided as repayable loans, the remaining quarter being allocated as grants. This meant that as the first new

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(5) A comparison between the sums allocated to new towns development in National Development Plans and actual public funding received by the new towns was found to be impractical to undertake as the figures obtained from the Ministry of Planning were contradictory with those obtained from the Ministry of Housing, New Communities and Utilities. It was decided, thus, to use the figures of the Ministry of Housing, New Communities and Utilities because they were found to be more comprehensive and covered both detailed spending and revenues, compared with the figures of the Ministry of Planning, which included only the overall public funding, part of the self-generated funds and total spending.

Sector	Investment	
	(£E.millions)	%
Housing	81.6	24.5
Public Utilities	85	25.5
Electricity	25	8
Transport & Communication	50	16
Industry	16	5
Services	50	16
Commerce & Finance	9	3
Agriculture	5	2
Total	321.6	100

Table 6-1: The funds allocated to new towns development in 1978-1982 -breakdown by facility provided.

Source: Ministry of Planning, 1977.

Sector	Investment	
	(£E million)	(%)
Agriculture & Land Reclamation	56.8	3.4
Industry & Mining	45.8	2.7
Energy	96.0	5.7
Construction	250.0	14.9
Transport & Communication	320.0	19.0
Commerce	5.0	0.3
Housing	36.0	2.1
Public Utilities	700.0	41.7
Services	171.4	10.2
Total	1681.0	100

Table 6-2: The funds allocated to new towns development in 1982/83- 1986/87- breakdown by facility provided.

Source: The Ministry of Planning, 1977.

town designated in Egypt, the Tenth of Ramadan received about half of the total grants given to all the new towns. The Sixth of October was allocated 30.9% of the total funds allocated to all new towns, 14% of which were received as grants. These two new towns, situated in the Greater Cairo Region, together received about 57.8% of total public funds received by all the new towns, 21% of which being grants, that is as much as two-third of total grants received by all new towns. New Ameryiah City and Sadat City received 16.6% and 15.6% of total public funds received by all the new towns, by March 1990.

The remaining 10.1% of total public funds for all new towns, were found to have been received by five new towns. New Damietta, New Sallehia and New Beni-Suef received 3.3%, 3.0% and 2.0% respectively. New Noubaria and New Menia were allocated just 0.4% and 1.4% of the total. These five new towns, it was found, did not receive any grants and all the sums they received were provided as repayable loans (Table:6-3).

New Towns	Loans from the N. I. B.		Public Advances		Total	
	(£E millions)	(%)	(£E millions)	(%)	(£E millions)	(%)
The Tenth of Ramadan	174.4	31.8	69.8	44.3	244.2	27.1
The Sixth of October	228.2	33.2	40.0	25.4	281.3	31.2
New Ameryiah City	91.8	13.4	21.5	13.6	151.0	16.7
Sadat City	118.8	17.3	22.0	14.0	140.8	15.7
New Damietta	29.7	4.3	--	--	30.4	3.4
New Sallehia	12.6	1.8	4.2	--	10.9	1.8
New Noubaria	1.3	0.2	--	--	3.7	0.4
New Beni-Suef	17.7	2.6	--	--	17.7	2.0
New Menia	12.6	1.8	--	--	12.6	1.4
New Asyut	--	--	--	--	--	--
Total	478.3	100	115.9	100	607.8	100

Table 6-3: Public funds allocated to new towns development up to 1990-  
breakdown by new town.

Source: MHNCU, 1990.

The structure of the public funds allocation for individual new towns suggests that the early new towns enjoyed a rather privileged status compared with those designated later. But, the Tenth of Ramadan and the Sixth of October were found to have received large sums compared with two other towns designated during the same period, namely New Ameryiah City and Sadat City. The allocation of comparatively large sums to the Tenth of Ramadan and the Sixth of October could be due to the the NCDA's particular concern for the success of these new towns because of their location within the Greater Cairo region, the largest concentration of population and economic activities in Egypt. Additionally, it is possible that the NCDA spent more on these two new towns in order to provide a good image of successful development, both for the political leadership in Cairo and the public in general.

The respective measures of public funding for the individual new towns demonstrates a spread of investment between a large number of new towns, with some new towns receiving only marginal amounts that cannot sustain their forward development. Consequently, these towns can only experience very slow progress, which will affect their image as well as their chance of attaining any significant economic or social returns. Given the scarcity of funds, resources might have been better concentrated on a small number of new towns where more rapid development and larger returns could have been expected.

### **5-2-2 Self-generated funds<sup>(6)</sup>**

The second financial source that was considered is the funds generated by the NTDA's and the NCDA from the variety of activities which they undertake. Nevertheless, it was argued that the funds generated by the NCDA and the NTDA's

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(6) The figures concerning fund generating are those of the sums raised from land selling as the figures concerning the funds raised from housing and administrative charges were not available either from the development authorities or the NCDA.

were mainly as a result of land sales. Other revenues, such as administrative charges, have been fairly low. The revenues from water and electricity charges have been limited because of the heavily subsidised prices at which they have been offered. Also, the revenues from housing were comparatively small, mainly because of the high prices at which housing units have been offered, compared with the level of incomes earned by the workers in the new towns.

**a- Patterns of receipts**

By March, 1990, the NTDA's managed to generate from land sales £.E. 551.9 million, two-thirds of which came from selling industrial land. This was followed by the funds generated from selling residential land with 30.2% of the total. The total sums generated from selling land allocated for services, commercial and tourism activities did not exceed 3.9% of the total. As the demand for land in these sectors depends greatly on the development progress and population increase in the new towns, the limited revenues from the selling this type of land could be due to the slow rate of increase in those factors.

The total funds generated from land sales by individual new towns were found to vary greatly. The NTDA's of the Sixth of October and the Tenth of Ramadan, for instance, each managed to generate 37.1% of such funds raised by all the NTDA's. This brought the total sums generated in these two new towns to about three-quarters of the total funds generated in all new towns. This could be a reflection of the extensive investment programme undertaken in these two new towns compared with other new towns, as well as their particular locations close to the capital, Cairo, particularly in the case of Sixth of October. With the system allowing each NTDA to spend the sums it generates, as an incentive to intensify their efforts, the Tenth of Ramadan and the Sixth of October were given an additional advantage over other new towns.

The NTDA of New Damietta has raised 11.1% of the total funds generated in the new towns, and Sadat City and New Ameryiah City respectively, 8.4% and 5.5% of the total funds (Figure:5-1). The relatively large sums generated by New Damietta NTDA, compared with those by New Ameryiah City and Sadat City, could be attributed to its particular nature with its newly established port, in which some £.E. 700.0 million were invested but not included as part of the expenditure on the new town. The NTDA of New Sallehia was far behind with just 0.8% of the total.

A corresponding trend of industrial land revenues supremacy over other land sales yields was revealed, though with some variations on the individual new towns level. For instance, in the Tenth of Ramadan the revenues generated from selling industrial land were found to have reached as much as 87.4% of total land revenues. The revenues generated from selling residential and services and commercial land were found to be 9.5% and 3.1% respectively of total land revenues. The particular supremacy, in absolute terms, of industrial land revenues generated in the Tenth of Ramadan could be due to the top priority given by the NTDA to such development so as meet the huge demand created by the successful industrial image of the town and the particular services it provided. For instance, a free zone was provided in the town in order to facilitate importing and exporting process for its firms. Particular care was given to the town because of constant presidential visits. In the case of the Sixth of October, which is located very close to Cairo, the revenues from selling residential land were found to be as much as 43.6% of total land sale revenues. The revenues generated from selling industrial and services, commercial and tourism land were found to be 53.1% and 3.3% of the total.

In New Ameryiah City, of the £.E. 30.6 million generated from selling land, 84.0% of the total, came from industrial land sales. The remaining 16.0% of the total were from residential land sale at 12.1% and from services, commercial and



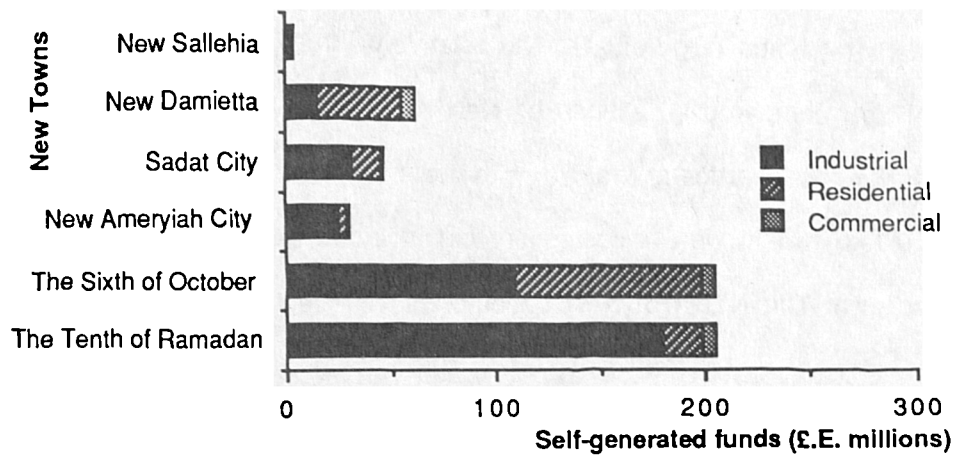


Figure 6-1 : Total self-generated funds from land sale up to 1990  
-breakdown by type of land use and new town.  
Source: MHNCU, 1990.

tourism land at 3.9% of the total. In Sadat City, the revenues generated from selling industrial land were 67.1% of the total land sales. The revenues generated from selling residential and services and commercial land represented about 30.5% and 2.4% respectively.

In the case of New Damietta, it was found that residential land sales were dominant with as much as 65.0% of total land revenues in the town. Sales of industrial and services and commercial land were found to represent 25.3% and 9.7% respectively. The dominance of residential land revenues could be attributed to the NTDA emphasis on residential development to attract new people to the town which is economically dependent, so far, on its new port. In the case of New Sallehia, a new town designated on an integral part of an existing agricultural project, the need for providing a variety of economic activities led to the NTDA concentrating on industrial development. Industrial land sales revenue consequently represented as much as 88.1% of total land revenues. Before designation some 4,000 housing units were constructed by the private sector and this led the NTDA to place more emphasis upon catering for commercial and services facilities to

support the existing and new inhabitants. Consequently, it was found that no revenues arose from residential land sales, but 11.9% of total land revenues were generated by selling land for services and commercial purposes.

Despite the large sums generated from land sale, it was suggested that new towns land, whether allocated for residential, commercial or industrial purposes, has been sold at heavily subsidised prices in order to stimulate demand , as well as for political reasons <sup>(7)</sup>. The selling of new towns land at very low prices has led to an enormous demand for residential land for speculation purposes. Also, it encouraged many entrepreneurs to acquire more land than their projects would actually need.

Additionally, despite the fact that first stage development in terms of target populations and economic activity levels were not reached, most NTDA's have started to offer for sale residential land planned for release only in the second stage development. This is because they need to generate more funds locally to improve their current financial capabilities, despite the long term financial losses in terms of the potential land value increases which would occur in later phases as the town grows. Further, the selling of land allocated for the second stage development before the completion of the first development will lead to scattered development. This will cause economic losses through partial use of the services and infrastructure, will damage the image of the new town as an integrated unit, and will also affect the opportunities for close social interaction and therefore life style prospects for residents in the new town.

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<sup>(7)</sup> For instance, in the early stages of Tenth of Ramadan development, the land was sold at £.E. 0.5 per sq.m., in accordance with the ex-president's will. No consideration was given to the huge sums spent on infrastructure and services provision. This could be attributed to the ex-president's desire, as the executor of the new towns policy in Egypt, to attain rapid success for the new towns idea, as well as gaining more personal and political popularity.

#### **b- Payment rates for land sales**

The payment of the sums generated from land sales by the NTDA's was found to be comparatively low, leading to cash flow problems. By June 1988, payment of about half of the total sums generated were still outstanding. This high rate of neglect could be attributed both to the NCDA and the NTDA's primary concern that their statistical returns should show extensive land disposals and the total sums generated rather than immediate receipts, and also the absence of any administrative division directly responsible for ensuring payment. This led the Minister of Housing, New Communities and Utilities to create, in 1987, a new division in the administrative structure of the NCDA and the NTDA's, with the sole function of ensuring that outstanding payments were made (MHNCU,1987) . By 1990, despite the creation of that division, the rate of unpaid debts was still high with about £.E. 230.7 million, or 42.2% of total funds generated, still outstanding (MHNCU,1990).

In terms of individual new towns, the Sixth of October has generated some £.E. 204.8 million, of which no more than 53.0% were collected, leaving 47.0% still to be paid. In the Tenth of Ramadan of the £.E. 204.7 million generated, as much as 36% was still outstanding

*Sadat City and New Ameryiah City have managed to collect no more than 53.7% and 42.5% respectively of the total funds generated. In the case of New Damietta only 59.6% of the total funds generated, have been received. New Sallehia, meanwhile, has generated no more than £.E. 4.5 million, half of which was paid (Figure:6-2). The differences between individual new towns receipt rates could be due to the different degrees of emphasis placed by each NTDA on fund acquisition and their cash flow problems, and the degree of stability or otherwise experienced by investors in their new towns. In other words, in their perception of how the NTDA's long term interests might best be served.*

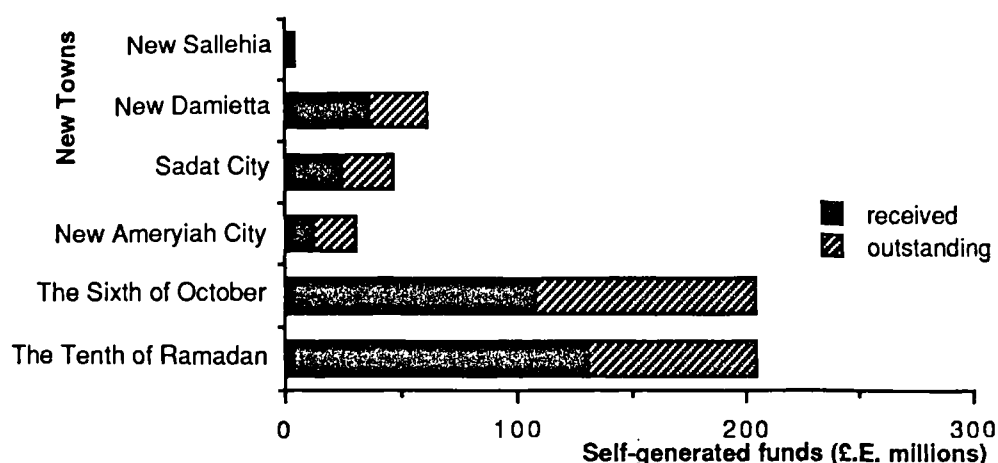


Figure 6-2: Self-generated funds from selling land, Payment outstanding-

breakdown by new towns.  
Source: MHNCU, 1990.

### 6-2-3 Loans

Repayable loans from both local and foreign banks represent the third financial source permitted by the New Towns Act 1979 for the NCDA and the NTDA to defray the cost of development. This source was found to include loans obtained from different housing funds and banks to meet the costs of housing construction in the new towns. These loans, which are usually provided at a relatively low interest rate of about 4.0% and with a long term repayment of about thirty years on average, were borrowed from the Reconstruction and Housing Bank, the Building and Housing Cooperatives Authority and the Housing Fund. All these financial sources for housing loans were supervised by the MHNCU, which made it easier administratively for the NCDA and the NTDA to get approval for their requests for housing loans.

By 1990, the housing loans received by the NTDA reached a total of £.E. 448.4 million, 60.7% of which had been borrowed from the Reconstruction and Housing Bank. This was followed by the sums borrowed from the Housing Fund, at 34.3% of the total housing loans, and 4.8% from the Building and Housing Cooperatives Authority. £.E. 0.9 million were borrowed from the National

Investment Bank, which does not normally finance housing projects and sets tougher loan conditions compared with housing banks, in order to finance housing construction in the Tenth of Ramadan.

In terms of housing loans allocation for the various new towns, once more the high level of financial support for the new towns allocated in the Greater Cairo region is revealed. For instance, the Tenth of Ramadan and the Sixth of October received 17.5% and 26.3% respectively of the total housing loans. This meant that the total borrowed by these two towns was 43.8% of total housing loans. Sadat City was found to have received 14.7% and New Ameryiah City has had about 10.4% of the total housing loans, which was less than the 13.9% and 11.8% received by New Damietta and New Sallehia, respectively. New Beni-Suef and New Menia were found to have received 1.6% and 0.7% of total housing loans respectively (Figure:6-3).

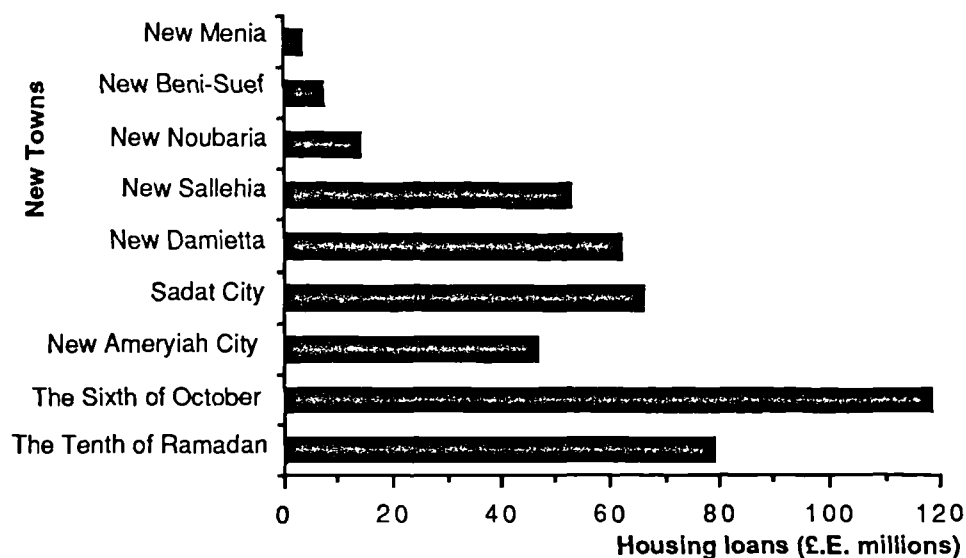


Figure 6-3 : Housing loans borrowed by the NTDA's up to 1990  
-breakdown by new town.

Source: MHNCU, 1990.

### 6-3 Expenditure

The decision in 1975 to promote government new towns on a national scale, meant that this policy became one of the government's main priorities and huge sums were to be invested in new towns development rather than in other economic or development schemes.

By 1990, the total sums spent on new towns development reached £.E. 1839.7 million, 34.8% of which were spent on the Sixth of October development alone, followed by the Tenth of Ramadan with 24.8% of the total. This brought the total for the two new towns in the Greater Cairo region to about 60% of total new towns expenditure. The sums invested in Sadat City, New Ameryiah City and New Damietta (8) accounted for 13.2%, 13.0% and 7.6% respectively. On aggregate the sums spent on the three new towns was slightly less than the sums spent on the Sixth of October alone.

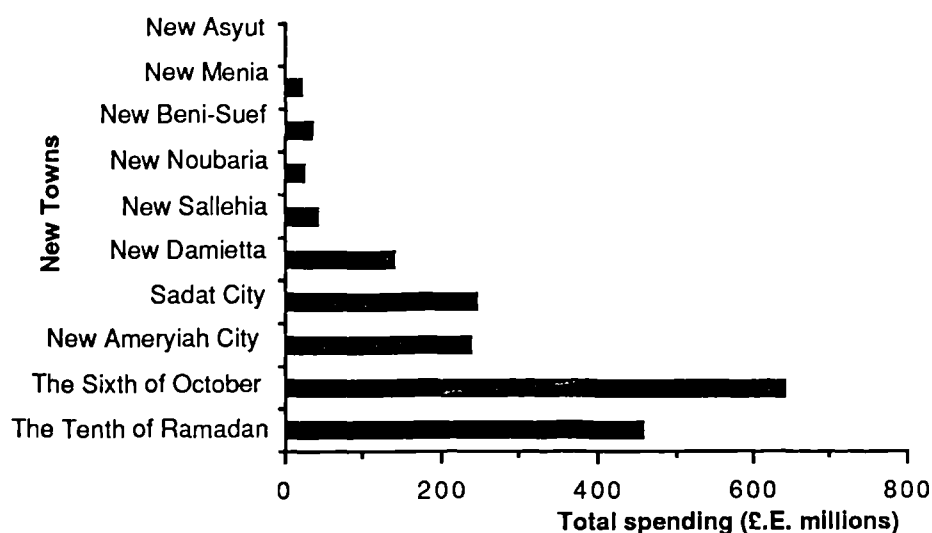


Figure 6-4 : New towns total spending up to 1990  
-breakdown by new towns.

Source: MHNCU, 1990.

(8) This does not include some £.E. 700.0 millions spent on the construction of New Damietta port ( Badawi, 1988).

The remaining 6.5% of total expenditure, was spread amongst the other five new towns. The sums invested in these towns since designation have been marginal, with 1.1%, 1.3%, 1.9% and 2.2% in New Menia and New Noubaria and New Beni-Suef and New Sallehia, respectively. New Asyut was found to have spent no more than £.E. 0.5 million, mainly on studies and plan preparation and administrative and landscape planting activities (Figure:6-4).

The spread of investment between a large number of new towns meant that some towns obtained very little and if this policy continues they will not be able to get any where near meeting their development targets or achieve any significant economic returns in the time scales anticipated. Alternative policies may be to institute a pause in regard to some and to extend the timing of their future programmes, or more harshly, to withdraw all government support.

### 6-3-1 Expenditure sectors

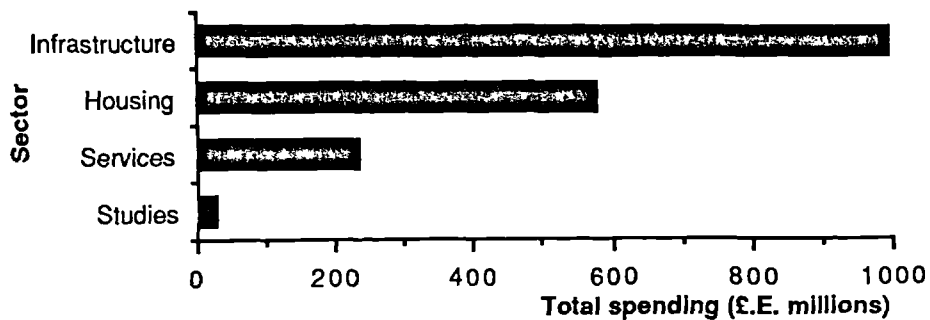


Figure 6-5: New towns total spending up to 1990  
-breakdown by element provided.

Source: MHNCU, 1990.

According to the new towns programme, the new towns were to be created in the desert region, away from traditional urban areas. Thus, in order to promote new towns development the first concern for the NTDA's has been the provision of infrastructure and services as well as housing construction and this has been

reflected, roughly, in the new towns expenditure structure. By 1990, infrastructure provision and housing construction represent the major components of new towns cost accounting for 54.2% and 31.5% respectively. The sums spent on services provision have been comparatively limited at 12.8% of the total cost of the new towns (Figure:6-5).

#### **a- Infrastructure cost**

The provision of public utilities and services must be an essential precursor to the proper development of new towns in the desert. That valuable assets in terms of serviced land are created, as a long term gain to the 'gross national product' (GNP), is a positive result. But the utilities themselves provide a general "public good" and are not directly revenue producing. In the short term they would be unattractive ventures for private investment, given the high risk factors involved and, at best, would offer very low initial returns. They are therefore perceived as the responsibility of national and regional government agencies, both in terms of initial undertakings and maintenance and distribution costs. By March 1990, £.E. 725.5 million, or more than half the total new towns expenditure had been spent on basic infrastructure systems.

In terms of individual new towns, the Tenth of Ramadan and the Sixth of October had spent the biggest shares of the sums invested in infrastructure provision with 25.0% and 35.4% of such expenditure, and together account for slightly less than two-thirds of the total new towns expenditure on infrastructure provision. New Ameriyah City and Sadat City have had 15.5% and 13.2% of such expenditure which in total was less than that spent on infrastructure provision in the Sixth of October.

The remaining 19.6% of the total were shared between New Damietta and the more recently designated new towns; New Sallehia, New Noubaria, New Beni-



Suef, and New Menia with 3.5%, 5.3%, 2.9%, 1.6% and 0.7% respectively of total infrastructure expenditure (Figure:6-6).

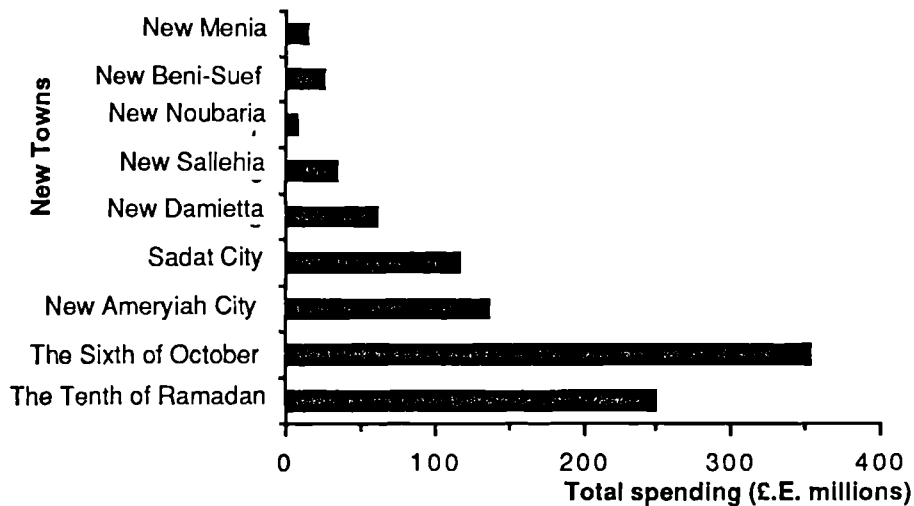


Figure 6-6: New towns spending on infrastructure up to 1990  
-breakdown by new towns.

Source: MHNCU, 1990.

### 1- Patterns of infrastructure investment

Infrastructure provision involved the construction of roads and bridges and water, sewerage, electricity and communications provision.

Water supply provision has had the highest priority and hence the biggest share of such funds, with 34.1% of total new towns spending on infrastructure provision. This large proportion was spent on providing temporary water supply sources for the early stages of development and to secure permanent sources for the new towns, reflecting the difficulties of providing remote desert locations with water. All the new towns, except Sadat City, have been supplied through long pipelines connected to surface water sources far away from the new towns. Only Sadat City can meet the water supply demands of its residents, industries and other users from ground water available in the town area. The cost of water provision in Sadat City has, therefore, accounted for only £.E. 6.6 million,

compared with £.E. 82.1, £.E. 136.9 and £.E. 68.9 million in the Tenth of Ramadan, New Ameryiah City, and the Sixth of October, respectively.

Electricity provision costs represented 24.0% of total new towns expenditure on infrastructure provision. This involved the costs of connecting the new towns to the high-voltage powerline network, the construction of power stations and the provision of electricity powerline networks within the new towns. Concerning power supply, the MHNCU had announced that the new towns were to depend upon unconventional methods of power generation, such as solar energy conversion. It was found, however, that the new towns are totally dependent on electricity supplied from the national high-voltage grid. This means more pressure on the national electricity network and the use of supplies which could be directed to production activities, rather than having to be diverted to supply the residential needs of the new towns.

The cost of sewerage provision has been about 20.0% of total new towns infrastructure costs. This involved the construction of treatment stations, the provision of oxidation tanks, and the laying down of sewerage pipelines within the new towns. There are no plans, so far, for the use of sewerage water in reclamation schemes near the new towns.

The construction costs of roads and bridges represented 17.0% of total new towns spending on infrastructure provision. This large proportion reflects the attention paid by the NTDA's to the need for early construction of roads and bridges to connect the new towns with the national road system as well as building up their internal road networks. However in most cases the design standards of roads and bridges was carried out to the highest recommended capacity needed to serve the towns when they reach their ultimate target population. There is no evidence, or none has yet been found, to show that initial calculations were done to check whether the 'opportunity costs' of what might be considered premature investment

in massive initial provision would be offset by savings in otherwise building up systems and networks in an additive fashion. It would be necessary to bear the cost penalties of piecemeal construction, at inflated prices, for later phases. Maintenance costs over entire underused systems would also have to be borne over longer periods and depreciation write-offs would be much more extensive. Detailed breakdowns of costs have proved unobtainable. Therefore, it has not been possible to make retrospective calculations and the matter must for the moment, remain as one for open debate.

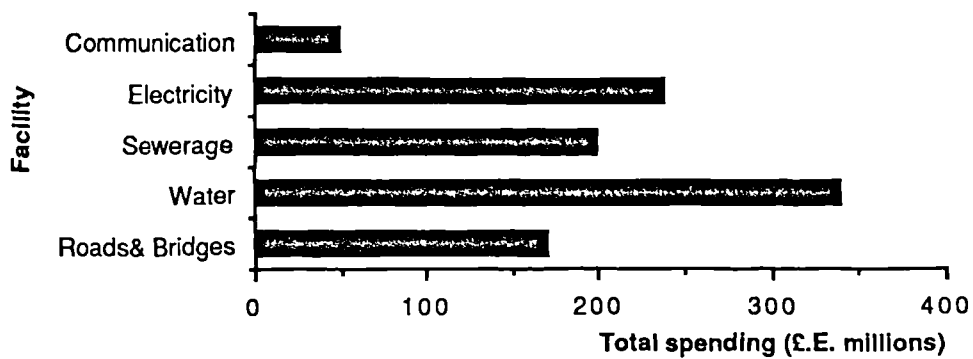


Figure 6-7: New towns spending on infrastructure up to 1990  
-breakdown by service provided.

Source: MHNCU, 1990.

The costs of communication networks have accounted for 4.9% of total new towns spending on infrastructure provision. This amount was mainly spent on the construction of communication centres in the Tenth of Ramadan, New Ameryiah City, and the Sixth of October, at around £.E. 5.0 to £.E. 7.0 million each. Almost all these centres have capacities for thousands of lines, with an excessive supply of lines which will not be utilised for some time to come. The spending on communication provision in Sadat City was found to have reached as much as £E. 27.7 million, which were spent on the construction of a communication centre to

serve the new town as well as the surrounding region with both local and international services (Figure:6-7).

## 2- Evaluation:

The NTDA's were found to have undertaken infrastructure provision on a large scale , compared with a very small number of inhabitants in the new towns. It could be argued, furthermore, that keeping infrastructure projects unused for long periods means a great economic loss in regard to the opportunity cost of these sums if they were used in other development schemes. For instance it was pointed out that:

" The size of the capital lying idle [in the Tenth of Ramadan] simply due to the building of dual carriageways can be illustrated by one trade-off that would have been possible. The primary school to be constructed in each neighbourhood unit would cost about £.E. 420,000. Consequently, one primary school units equals about 2.8 km. of single carriageway road. Consider furthermore that about 50 km. of dual carriageway roads have been constructed. This would thus mean, that by substituting single for dual carriageways in the first stage- which was recommended in the Development Plan 1978 as an initial step until dual carriageways were proven feasible-18 primary school units could have been constructed." (Sweco, 1982)

The funds spent on infrastructure provision, therefore, represent a huge financial burden on the NTDA's budgets without any expected yields in the near future, as the expenditure must be considered as unutilised capital until the population and employment increase substantially.

The enormous sums spent on infrastructure provision by the NTDA's were used to provide utilities and services to a total area of about 41.0 million sq.m., or 20.1% of the total area to be developed in the four new towns investigated. The NTDA's have managed to sell about 55.7% of total serviced area. The remaining 44.3% of the total serviced area, are still unutilised.

The amount of land provided with infrastructure but still unsold varies enormously between different land uses within the new towns. For instance, the total industrial area provided with infrastructure in the four new towns has reached about 21.3 million sq.m., 78.4 % of which was sold, leaving about 21.6% still unsold. The serviced residential land amounts to 12.9 million sq.m., of which only 45.7% has been sold, leaving 54.3% still unsold. In addition, almost all of the residential land sold was left undeveloped by the landlords, having been acquired initially for speculation purposes. The land allocated for commercial , services and tourism purposes represents the worst case with more than 97.0% of the 6.7 million sq.m. provided with infrastructure still to be sold and utilised.

In terms of individual new towns, in the Tenth of Ramadan the total area provided with infrastructure has reached 15.4 million sq.m., 72.7% of which was sold, leaving 27.3% still unsold. In the Sixth of October a total area of 13.4 million sq.m. was provided with infrastructure, of which 38.8% was yet to be sold. New Ameryiah City and Sadat City have 5.5 and 6.6 million sq.m. provided with infrastructure, respectively. The NTDA of Sadat City has managed to sell 31.8% of total serviced land, and the NTDA of New Ameryiah City has sold 23.6% of the total area provided with infrastructure. The areas of land provided with infrastructure and not sold in New Ameryiah City and Sadat City are equal to those in the Tenth of Ramadan and the Sixth of October, but the magnitude of the serviced land in the former two new towns was much smaller.

The comparative amount of land provided with infrastructure and still unsold also varied significantly between different land uses in individual new towns. For instance, the Tenth of Ramadan, as the first industrial new town designated has achieved the highest comparative amount of industrial land. This high proportion of industrial land sold, out of total industrial land provided with infrastructure, can be attributed to the considerable attention given by the NCDA and the NTDA to industrial development as reflected in the wide range of facilities provided in the

town for industrial firms, such as a free zone and a custom office to facilitate exporting and importing process for the firms in the town (Hattem, 1988). Also, it could be suggested that the large number of firms already established in the town have attracted, and still attract, other industrial firms to the town to benefit from possible external economies. Additionally, the high proportion of land sold is due to the increase in the industrial land offered for sale in the first stage development, from a planned 3.08 million sq. m. to 8.19 million sq. m. by 1986, because of the unexpectedly large demand for industrial land.

The demand for industrial land has not been paralleled by increases in the proportion of residential land sold. This could be attributed to the decision of the NTDA not to offer any more residential land for sale after the amount allocated for the first stage was sold out, in spite of the large demand for it. In regard to services and commercial land, 1.3 million sq.m. were provided with infrastructure, of which only 1.7% of the total was sold. This meant that large sums of money had been spent on infrastructure without any likelihood of direct or indirect yields in the near future because of the absence of co-ordination between infrastructure and provision and sales management.<sup>(9)</sup>

Compared with other new towns, in the Sixth of October a large proportion of residential land was sold out of the total area supplied with infrastructure. This can be attributed to the particular location of the town; some 17 km. from the already crowded Giza and with a number of residential developments in between, which means that the town could be expected to encourage more rapid urban sprawl. This creates a large demand for residential land in the Sixth of October, with its relatively low prices, compared with expensive residential land in the Greater Cairo Region.

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(9) It was found that the figures of land provided with infrastructure were seriously tampered with, so that no comparison of any significance can be made between such figures and those of 1988 ( For more details see Appendix 1).

New Ameryiah City also had a high proportion of residential land still to be sold. This low proportion of residential land sold could be a reflection of limited demand for this type of land because of the small number of industrial firms established in the town, and the absence of any other economic activities, and hence few employment opportunities.

Sadat City had a high proportion of residential land still to be sold. As was the case with New Ameryiah City, the low proportion of residential land sold in Sadat City could be a reflection of limited demand because of the small number of industrial firms, the absence of any other economic activities, and the relatively large supply of the NTDA's housing units still empty, with no demand to match the supply (Table:6-4).

It was found, moreover, that the provision of infrastructure in the new towns was far ahead of the actual needs of their population. In the Tenth of Ramadan, for instance, while the actual number of inhabitants living in the town by 1986 did not exceed 34,000 inhabitants, the infrastructure provision planned for the first stage development, which would cater for about 108,000 inhabitants, was completed. This means that of the total infrastructure cost spent in the new town, about 80% has not been utilised. Yet, the construction of the infrastructure projects planned for the second stage development started in 1988. Similarly, in the Sixth of October, of the twelve districts planned for the whole built-up area by the end of the new town development, four districts have been supplied with their infrastructure needs. These four districts were designated to accommodate about 140,000 inhabitants, compared with only 15,000 actually living in the town in 1988. Whereas 10% of the first stage population target has been achieved, 100% of the infrastructure provision target for the first stage development has been carried out.

New Towns	Industrial Area (sq.m.000')				Residential Area (sq.m. 000')				Services & Commercial Area (sq.m.000')									
	Sold		Unsold		Sold		Unsold		Sold		Unsold							
	Area	(%)	Area	(%)	Area	(%)	Area	(%)	Area	(%)	Area	(%)						
The Tenth of Ramadan	9,151	90.6	945	9.4	10,096	100	1,978	49.0	2,057	51.0	4,35	100	23	1.7	1,315	98.3	1,338	100
The Sixth of October	4,780	68.2	2,226	31.8	7,006	100	3,266	73.2	1,196	26.8	4,462	100	191	10.0	1,717	90.0	1,908	100
New Ameryiah City	1,137	53.0	1,008	47.0	2,145	100	145	10.6	1,220	89.4	1,365	100	28	1.4	1,997	98.6	2,025	100
Sadat City	1608	75.6	517	24.4	2,120	100	526	17.2	2,525	82.8	3,051	100	28	1.9	1,435	98.1	1,463	100

Table: 6-4: Total area of serviced land, sold and unsold- breakdown by new town and type of land use.

Source: MHNCU, 1988



Similar conditions were revealed in other new towns planned during the same period; namely Sadat City and New Ameryiah City. In Sadat City, infrastructure projects for eight neighbourhoods were completed by 1988. These neighbourhoods were planned to accommodate about 40,000 inhabitants, but the new town has provided accommodation for only 4,300 inhabitants. In New Ameryiah City, the infrastructure for the first residential district, which was designed to accommodate 50,000 inhabitants was completed. Nevertheless, the total number of residents in the town by 1988, did not exceed 1,000 inhabitants.

## **b- Housing costs**

### **1- Patterns of expenditure**

The costs of housing construction represent the second main component of total new towns spending. By 1990, it has accounted for £.E. 579.1 million, or about one-third of total new towns expenditure. This amount has been utilised in the construction of 96,812 housing units, of which 35,249 were completed, 19,226 were nearing completion, 28,439 were under construction, and 13,890 were at the foundations stage.

The Tenth of Ramadan and the Sixth of October has spent 24.9% and 39.9% of total spending on housing construction, respectively. These amounts were invested in the construction of 25,687 and 24,171 housing units, of which 13,703 and 11,320 were completed, 1,424 and 5,530 were nearing completion, 7,720 and 5,510 were under construction, and 2,840 and 1,811 were at the foundations stage, respectively. The significant difference in housing construction costs per unit between the Tenth of Ramadan and the Sixth of October was due to inflationary price rises, as the development of the latter started a few years after the development of the former.

New Ameryiah City and Sadat City respectively invested 12.6% and 9.5% of total new towns spending on housing. The sums spent in New Ameryiah City produced 8,677 housing units, of which 2,524 were completed, 2,163 were nearing completion, 2,690 were under construction and 1,300 were at the foundations stage.

Sadat City had 3,082 housing units completed, 7,741 units nearing completion, 3,799 units under construction and 910 units were at the foundations stage giving a total number of 15,532 housing units in Sadat City. New Damietta was found to have had 8.6% of total spending on housing. These sums were spent on a total of 7,908 housing units, of which 3,240 were completed, 1,414 were nearing completion and 3,254 others were under construction.

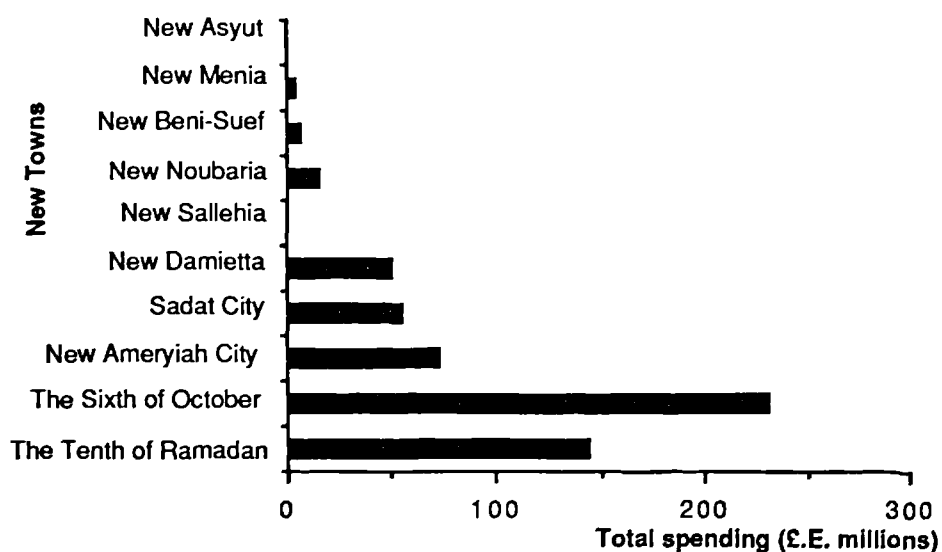


Figure 6-8: New towns spending on housing construction up to 1990  
-breakdown by new town.

Source: MHNCU, 1990.

The remaining 4.6% of total new towns spending on housing, were invested in housing construction in New Noubaria, New Beni-Suef and New Menia, with 2.7%, 1.2% and 0.7% of the total respectively. These sums were spent on a total of 14,837 housing units, of which 1,380 were completed, 954 were nearing completion, 5,466 were under construction and 7,037 were at the foundations stage (Figure:6-8).

## 2- Evaluation

Although the level of housing construction was below the planned targets, given the actual number of inhabitants in each of the new towns it is obvious that there are large numbers of unoccupied housing units. The estimated number of housing units occupied in the new towns by 1990 was 20,455 housing units, or 66.8% of total housing units completed in the new towns investigated <sup>(10)</sup>. The number of housing units left unoccupied, thus, was 10,174 units, or as much as one-third of total housing units completed.

In the case of Tenth of Ramadan the number of unoccupied housing units was 1,803 units, or 13.6% of the total. In the case of New Ameriyah City and Sadat City, of the 2,524 and 3,082 housing units completed, some 1,359 and 1,712 units, or 53.8% and 54.5% of the total were still unoccupied, respectively. The Sixth of October was found to represent an extreme case, due to the extensive, rapid construction process undertaken by its NTDA, with some 5,300 units, or as much as 46.8% of total housing units completed but unoccupied (Table:6-5).

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(10) Contrary to the British new towns which experienced a smaller family size compared with the country as a whole, the Egyptian new towns were found to have, on average a family size similar to that of the country as a whole (CAPMS, 1988). The number of families was estimated assuming that the average family size was 4.9 persons, as the national average, and that the trends of population increase experienced by the new towns were continuing.

New Towns	Housing Units					
	Occupied		Unoccupied		Total	
	unit	%	unit	%	unit	%
The Tenth of Ramadan	1,900	86.8	1,803	13.6	13,703	100
The Sixth of October	6,020	53.2	5,300	46.8	11,320	100
New Ameryiah City	1,165	46.2	1,359	53.8	2,524	100
Sadat City	1,370	44.5	1,712	54.5	3,082	100
Total	20,445	66.8	10,174	33.2	30,629	100

Table 6-5: Occupied and vacant housing units in the new towns in 1990-  
breakdown by new town.

Source: MHNCU, 1990.

The large number of unoccupied housing units in the new towns resulted in high per capita housing costs. For instance, in the Sixth of October the per capita housing cost amounted to £.E. 78,300, compared with £.E. 2,500 and £.E. 8,200 in the Tenth of Ramadan and Sadat City. New Ameryiah City represented an extreme case, as with only 5,300 inhabitants, the per capita cost reached £.E. 127,500.

It was suggested that a number of unoccupied housing units in the new towns, particularly in the Tenth of Ramadan, were sold to individuals who have no connections with the new towns either as workplace or residence. Those individuals, it was argued, bought the housing units either for speculation purposes, or for rental at high rents as furnished dwellings for the employees in the new towns. This mis-allocation of housing units was behind one of the main complaints from the private entrepreneurs who claimed that there had been an insufficient allocation of housing units for their projects ( El-Sharkawi, 1986). It is also clear that the high prices at which housing units are offered by the NTDA's do not attract the workers in the new towns to move there, as they cannot afford such costs. Also commuting is relatively easy and services are poor in the new towns.

### **c- Services Costs**

#### **1- Patterns of expenditure**

The provision of a proper and sufficient range of services represents one of the main components of new towns development. It plays a great part not only in attracting in-migration to new towns, but also assists in allowing them to function as comparatively independent units.

By the 1990, the provision of various services in the new towns received 12.8% of total new towns expenditure. The services provided involved educational, health, commercial, administrative and cultural, social and religious services.

The provision of educational services received the highest share with 27.6% of total new towns spending on services provision. It was followed by miscellaneous services with 21.4%, which included open space provision, landscape plantations, as well as basic services such as the fire-brigade and police services, post and telephone offices.

The administrative services were given 12.5% of total spending on services provision. This amount was mainly spent on the construction of administrative buildings in the new towns. The commercial and health services received 14.9% and 11.0% of the total. The remaining 12.6% was spent on cultural, social and religious services (Figure:6-9).

In terms of individual new towns shares of services spending, Sadat City and the Tenth of Ramadan came first with 26.4% and 24.3% of total spending on services provision. They were followed closely by the Sixth of October with 21.4% of the total, while New Damietta and New Ameryiah City spent 11.4% and 11.1% respectively.

The remaining 5.4% of total services provision costs, were shared between New Sallehia, New Noubaria, New Menia and New Beni-Suef, with 0.9%, 1.0%, 0.7% and 0.2% respectively of the total (Figure:6-10).

## 2- Evaluation

In the Tenth of Ramadan, the provision of health services, which received £.E. 14.5 million, or 25.8% of total spending on services provision, included the construction of a public hospital with a capacity of 300 beds, a health centre, an ambulance centre and an accidents unit. Additionally, there were private hospitals in the first district and in the third district, as well as a comprehensive private clinic. The master plan proposed that a private hospital should be shared between every two districts and that a private hospital, a private clinic, two general clinics and a health centre should be provided in the new town central services area. The provision of health service buildings was far ahead of the population they were to serve. Moreover, it can be argued that there appears to be no consistent approach to integrate the provision of private health services and public ones.

The provision of education services received a sum of £.E. 10.9 million, or 19.1% of total spending on services. This was spent on the construction of four primary schools to accommodate 1206 pupils, a secondary school and a preparatory school to accommodate together 527 pupils, as well as eight nurseries. Moreover, there were religious schools at primary, preparatory and a secondary levels and a religious education institute. Additionally, there was a private primary school, a private nursery and a polytechnic operational in the new town. There were three primary schools and an industrial secondary school under construction, and a further secondary school was to be opened by 1990. (El-Abkar, 1989) According to the standards set by the master plan for the educational services, the nine nurseries can serve between 36,000 and 54,000 inhabitants, which meant they were roughly on line with population growth. The nine primary

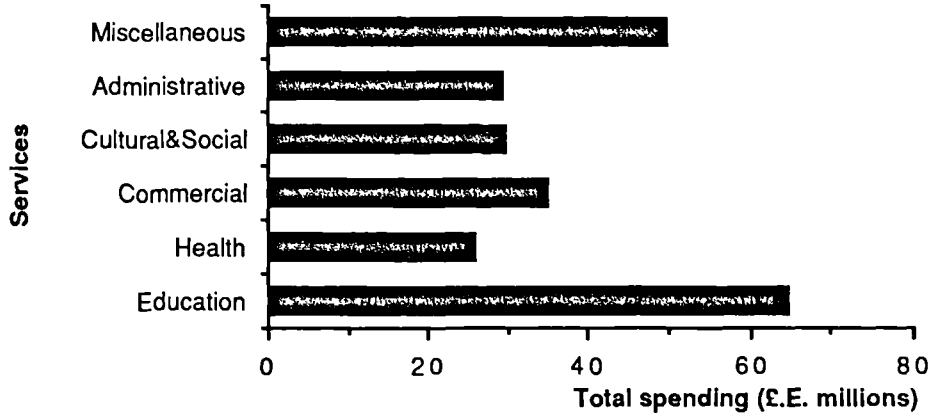


Figure 6-9 :New towns spending on services provision by 1990  
-breakdown by service provided.  
Source: MHNCU, 1990.

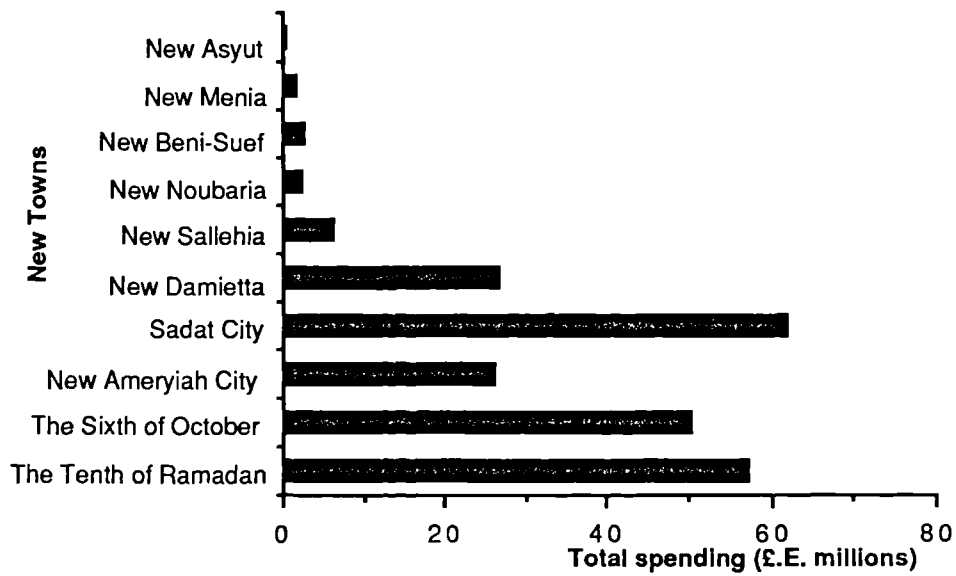


Figure 6-10 :New towns spending on services provision by 1990  
-breakdown by new town.  
Source: MHNCU, 1990.

schools, operational or under construction, can serve up to 45,000 residents. As the planned capacity of each of these schools is about 600 pupils, it was argued that there were excessive places at this stage. According to the master plan the three secondary schools can serve about 120,000 inhabitants, the industrial school about 40,000 inhabitants, and the two preparatory schools about 27,000 inhabitants. (Sweco, 1976). The provision of educational services demonstrates a lack of consistency in allocation of places which led to the under-utilisation of some schools and the lack places in others.

An amount of £.E. 1.4 million, or 2.5% of total spending on services provision, was spent on cultural, social and religious premises. This involved the construction of nine mosques, five of which were privately financed and constructed, a cultural centre and a sporting club. Also, a cinema and a theatre were built but are not yet operational. According to the master plan these facilities were to serve up to 40,000 inhabitants, so that they were roughly in line with population growth.

In terms of commercial services, which received £.E. 12.7 million, or 22.3% of total spending on services provision, there were 5 public sector stores, 20 cornershops, a large automatic bakery, and four commercial centres each of which included 22 shops. Despite most shop units being sold to private retailers, only some were operational and to some extent, financially sound. But, in terms of new town development revenues overall, the picture was not so sanguine as some of them were kept closed for speculation purposes.

In the Sixth of October, the provision of educational services received the highest share of investment with £.E. 23.7 million, or 47.0% of total spending on services provision. This amount was invested in the construction of some seven primary schools, of which three were operational, but with an average of no more than 16 pupils per class (El-Kellami, 1988). Additionally, there was a primary



The commercial services, which involved an investment of £.E. 5.6 million, included the provision of two public general stores and two shops selling vegetables and fruit run by the Ministry of Agriculture. There were also two automatic bakeries constructed in the town, as well as 32 shops constructed, but not yet operational, to serve various purposes.

In New Ameryiah City, about £.E. 20.4 million, or 8.5% of total spending was invested in services provision, of which £.E. 7.6 million was spent on education. This sum was invested in the construction of a primary school, a secondary school <sup>(11)</sup> and a nursery, which were operational by 1988. Also, an industrial secondary school, seven nurseries, a preparatory and a religious secondary school and a religious primary school were under construction. The first stage of the master plan for the town had proposed a range of facilities, including the construction of a nursery and a primary school for every 8,000, the primary school functioning also as a preparatory school until the population figure reached 2,700 persons. The first industrial secondary school was to serve some 38,000 inhabitants, while a proposed commercial secondary school could serve as many as 154,000 persons. According to the master plan standards, the number of nurseries constructed, or under construction, can serve about 54,000 inhabitants; the two primary schools can serve about 16,000 and the two secondary schools can serve up to 76,000 (ILACO, 1980). These figures, compared with less than 2,000 inhabitants resident in the town, show that there has been over-spending on educational services owing to a lack of co-ordination in the programming of such provision.

The provision of health services, which received £.E. 4.1 million, or 15.7% of total spending on services provision, included an operational health centre and a general hospital which was still under construction. According to the master plan

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(11) It was found that out of the 50 classes constructed for the secondary school, there were no more than three classes operational.

the health centre could serve 8,000 to 38,000 inhabitants. The general hospital, which is to be constructed to total capacity, could serve 8,000 persons with only 10% capacity, and with 30% of its ultimate, capacity up to 38,000 inhabitants. Despite the master plan proposal that an ambulance station should be established from the very beginning, no steps were taken by the NTDA to do so.

In regard to cultural, social and religious services, on which £.E.1.7 million, or 6.6% of the total was spent, it was found that a mosque and a local social unit were operational in the new town and two mosques and a cultural centre were under construction. The master plan had proposed that a local social unit should be established for 8,000 to 15,000 inhabitants, a local mosque for 2,700 to 15,000 persons, and a cultural centre for up to 38,000 persons. This demonstrates, again, that there was excessive initial spending, given the actual population of 2,000 persons and a growth rate far below that planned.

Commercial services, which received £.E. 1.7 million, or 15.7% of the total, included a local shopping centre which at full capacity was to serve 15,000 inhabitants. It was found, however, that three local shopping centres, which can serve up to 45,000 inhabitants, are already established in the town.

In Sadat City, the first neighbourhood included a primary school, a mosque and a commercial centre, which were constructed as early as 1986. Other services included a further primary school, an industrial secondary school, a religious educational institution, a police station, a post and telephone office, a health centre, a youth centre, a cultural centre and a cinema. Moreover, a number of services which were not included in the master plan were constructed as well. They included a fire-brigade station, a mosque, and an automatic bakery (Physical Planning Institute, 1986). These services were supposed to serve a population of 24,000 inhabitants, but by 1986 the new town had a population of no more than 1,927 inhabitants. This meant that most of the funds invested in the construction of

services, most of which were not operational, have been left idle and will be so for years to come (Sabour, 1980).

#### **d- Studies and plan preparation costs**

The final element of new towns expenditure is the cost of research studies and plan preparation. By 1990, this item accounted for £.E. 28.3 million.

The sums spent on studies and plan preparation costs were £.E. 5.7, 5.0, 3.4 and 2.3 million in the Tenth of Ramadan, the Sixth of October, New Ameryiah City and New Damietta, respectively. The sum £.E. 10.1 million spent on Sadat City studies and plan preparation is large compared with the other towns, but this can be attributed to the intent to make it a second administrative capital for Egypt, which involved more comprehensive studies as well as better designs to higher standards.

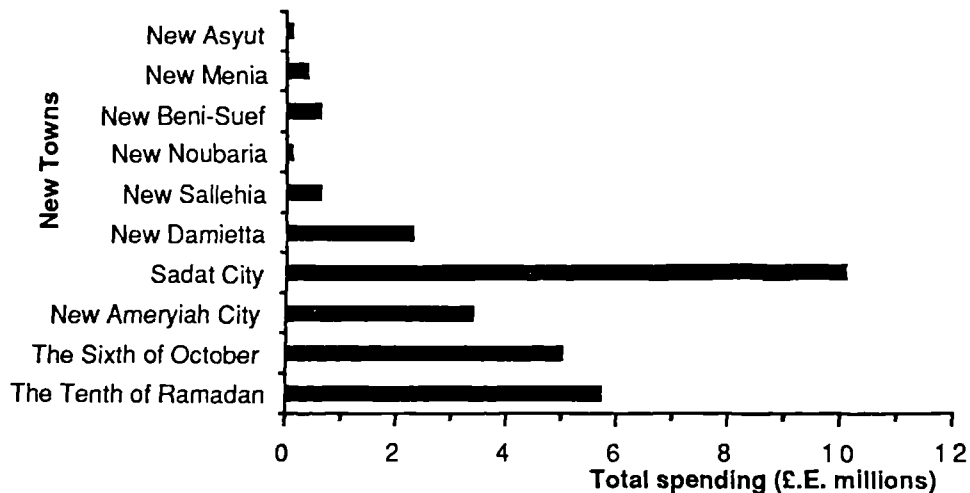


Figure 6-11: New Towns spending on studies and plan preparation by 1990- breakdown by new town.

Source: MHNCU, 1990.

The more recently designated new towns, meanwhile, have had studies and plan preparation costs ranging between £.E. 417,000 in New Menia to as low as £.E. 135,000 in New Noubaria. New Sallehia and New Beni-Suef, which by 1988 had spent £.E. 255,000 and £.E. 514,000, respectively spent an additional £.E. 343,000 and £.E. 50,000 on this component between 1988 and 1990 (Figure:5-11). The comparatively small sums spent on plan preparation and studies in the case of the more recently designated new towns, compared with earlier new towns, reflects the more limited targets and standards they are to adopt.

### **6-3-2 Appreciation**

It was found, that neither the NCDA nor the NTDA's have employed any clear criteria to determine spending priorities. Instead, they have approached new towns development as a non-profit making governmental bureaucratic agency. Such an approach was assisted by the generally accepted arguments in governmental circles that new towns development is not expected to yield any significant financial revenues. But if fully implemented, the investment in new towns development will have a positive impact on Egyptian society as a whole and could change the structure of the economy, while materially altering the geographical distribution of the nation's population.

The NTDA's, moreover, were employing a budget system which stresses the traditional budget functions of control and accountability rather than using it as an instrument for project evaluation, programme monitoring and resource allocation. The budget system adopted also places major emphasis on objects of expenditure and organisational responsibility for expenditure, rather than the evaluation of alternative activities.

In terms of programme monitoring, it was found that the activities of the NTDA's are monitored through an annual expenditure targets system. According to

this system the NTDA's are allocated certain amounts by the Ministry of Planning to invest during a particular year on new towns development. The NTDA's have to spend all the funds allocated to them in order to be regarded as having achieved their financial targets.

The only other monitoring system adopted to evaluate the NTDA's activities is used by the NCDA and the MHNCU. According to this system a number of construction targets are set by the NCDA and the MHNCU for the NTDA's to achieve. This involves housing construction as well as the provision of schools, health centres, and other services. It also includes the provision of certain water, electricity and sewerage facilities. Such targets, however, are set without taking into consideration any priorities or even the lack of population for whom the housing, services and infrastructure are supposedly constructed.

The lack of clear-cut priorities in new towns development, and any form of project evaluation, programme monitoring and resource allocation priorities, have led to excessive spending on certain projects and schemes and the under-utilisation of almost all the development schemes already undertaken in the new towns. There has been no appraisal of the "opportunity costs" implicit in such premature investment.

#### **6-4 Summary**

In order to defray new towns development costs the NCDA and NTDA's were financed by the government through sums allocated for that purpose in the National Development Plans. These sums were provided either as repayable loans from the National Investment Bank, or as public grants from the Ministry of Finance. It was found that the Tenth of Ramadan and the Sixth of October were given substantial sums to invest compared to other new towns. Also, the sums invested were spread between a large number of new towns, with some towns receiving marginal sums. This could, it was argued, affect their images as well as their chance of achieving

any significant returns, because of poor initial performance and very limited growth prospects .

The NTDA's were also permitted to use the sums they generated, mainly from selling serviced land in general and serviced industrial land in particular. But, the land offered for sale in the new towns was offered at low prices to encourage new towns development. But it was found that substantial proportions of the funds generated by the NTDA's were not actually received and much is still outstanding. Other possible sources for fund generation were found to be quite limited. According to the financial system adopted in the Egyptian new towns, each NTDA was allowed to re-invest the sums it generated in its town. Although acting as an incentive for all the NTDA's to improve their performance, this gave an advantageous edge to the new towns that had substantial sums to invest, particularly the Tenth of Ramadan and the Sixth of October. The NTDA's, moreover, in order to finance housing construction in the new towns had borrowed large sums of money from different housing banks and funding agencies.

In terms of spending patterns, the development of the new towns involved spending large sums on infrastructure, housing and services provision. In particular the NTDA's were found to have devoted substantial sums of money to infrastructure provision. In the absence of a coherent set of criteria to be used to determine spending priorities or to monitor spending, much of these sums appear to have been prematurely used, in that most of the facilities provided were either underutilised or left totally idle. Similarly, housing received huge funds in order to meet the costs of housing construction which was undertaken on a large scale. Yet, it was found that a considerable proportion of the housing units completed were left vacant and still remain so. The provision of various services in the new towns was found to be lacking in co-ordination between operational readiness and staffing and the building of facilities provided, as well as between the actual needs of the towns residents and the extent of some services provided.

The financial system adopted in the Egyptian new towns lacked any form of control or criteria which might have been used to determine spending priorities. The system was both rigid and inefficient, as with most overly bureaucratic governmental agencies. Moreover, no clear form of monitoring was employed. Such an inefficient financial system, particularly given the absence of a flexible and responsive planning system, has led to the mis-management of resources. Un-coordinated financial and physical planning resulted in the excessive provision of infrastructure, services and housing well in advance of the current or even near future needs of the new towns residents or industries. Proper monitoring of development progress must have indicated the obvious, that is, that planned economic and population growth targets were not and could not be achieved. Building programmes should have been adjusted accordingly.

## **Chapter 7**

### **The evaluation of the Egyptian new towns in terms of their objectives**

#### **7-1 Introduction**

The new towns in Egypt have been designated to fulfil a number of economic as well as demographic objectives. These objectives could be summarised as follows:

- 1- Absorbing overcrowded population from traditional urban areas so as to reduce the massive population density experienced by Cairo, Alexandria and the Delta region.
- 2- Attracting over-concentrated economic activities from traditional urban areas.
- 3- Creating incentives for local and foreign investors to invest, through both the provision of an efficient physical infrastructure and amenities and the introduction of economic incentives.
- 4- Developing the natural resources available in the desert and the coasts of Egypt.
- 5- Creating employment opportunities and speeding up economic development (see pp.123-125).

Such important objectives mean that the new towns are set to play a vital role in the development efforts in Egypt. The new towns achievements, therefore, need to be monitored very closely in order to detect any problems or failures.

This chapter intends to evaluate the Egyptian new towns in terms of their objectives, pointing out the difficulties faced and their success. Each of the new towns objectives is examined and the extent to which the new towns have managed to attain it is investigated, pointing out the weaknesses and the strengths of the



new towns in each respect. This chapter is concluded by a summary of the shortcomings and the successes of the policy, its real impact on settlement policy in Egypt and highlighting possible improvements.

## **7-2 The demographic objective**

By 1986, the population of Egypt reached about 48.2 million persons, compared with 38.2 million in 1976. This was a population growth of about ten million persons, i.e. 26.3% of the 1976 population. Moreover, the urban population during the same period increased from 16.0 million in 1976 to 21.2 million in 1986, which is an increase of 32%.

It was estimated that the new towns would attract between 500,000 to 600,000 persons by 1986, accounting for about 5.5% of the total growth in population or about 10.7% of the increase in urban population. Instead, by 1986 they had attracted only 10,982 persons, of which 8,528 were to be found in the Tenth of Ramadan. Sadat City and the Sixth of October had attracted only 1,927 and 527 persons respectively. New Ameryiah City, worse still, had no population at all. This means that the new towns population accounted for no more than 0.11% of the total population growth between 1976 and 1986 or no more than 2% of the projected growth. In terms of their share of urban population increase, they accounted for just 0.21% compared with a projected share of 10.7%.

By the end of 1988, it was estimated that the population in the new towns had increased to 54,300 persons, of whom 34,000 , representing 62.6% of the new towns residents, were living in the Tenth of Ramadan. The Sixth of October had 15,000 inhabitants, representing 26.7% of total population in the new towns, while, Sadat City and New Ameryiah City had attracted some 4,300 and 1,000 persons, respectively.

It can be argued, therefore, that the new towns have completely failed to attain their projected share of the population of Egypt. It can be concluded, consequently, that no significant change in the geographical distribution pattern of the population has yet been achieved through the development of the new towns.

#### **7-2-1 The Tenth of Ramadan**

The population of the Tenth of Ramadan was expected, initially, to reach an ultimate target of 500,000 persons over five development stages, ending by the year 2002. It meant accommodating some 70,000 by the end of the first stage development, and 150,000 persons by the end of the second stage. The interim targets were deemed by the Ministry of Housing, New Communities and Utilities (MHNCU) to be inadequate and it instructed the planners of the new town to speed up the development of the town. Consequently, the development of the new town has been accelerated by condensing the first ten years development as initially proposed, into five years. This meant that the new town population would reach 100,000 persons by the end of the first stage development, then 208,000 persons by the end of the second stage development. In subsequent stages, the population targets for the new town were set at 340,000 persons by the end of third stage development in 1992, then 440,000 persons by 1997 and ultimately 500,000 by the year 2002 (Physical Planning Institute, 1986).

By 1986, the new town population was only 8,528 inhabitants, representing 3.4% of the projected 251,000 persons (CAPMS, 1987 b). By 1988, it was estimated that the population of the new town reached some 34,000 persons (Ahmed, 1988), which accounts for no more than 11.1% of the overall projected population (Figure:7-1 a).

Despite the relatively rapid population growth between 1986 and 1988, the population of the new town is not expected to reach its ultimate target of 500,000 inhabitants as projected for 2002. At best, if the relatively high rate of population

increase can be maintained throughout the development of the new town, the population of the town may reach some 180,000 inhabitants by the year 2002.

### **7-2-2 The Sixth of October**

The Sixth of October was proposed, in the master plan, to accommodate an ultimate population of 350,000 persons by the year 2000. The new town population was expected to reach 70,000 persons by 1985, increasing to about 170,000 persons by 1990. A study by the Physical Planning Authority increased the ultimate population target to 470,000 persons and this was followed by the detailed planning study which increased the population target to 630,000 inhabitants (PPI, 1986).

One of the motives for increasing the ultimate target population within the same development period was to meet the growing demand for industrial as well as residential establishments in the town. But the population of the new town had reached no more than 527 persons by 1986, accounting for 5.85% of the 1986 projected population (CAPMS, 1988 d). The families of the employees of the development authority represented some 281 persons, accounting for 53.3% of the total population in 1986.

By 1988, it was estimated that the population of the new town had reached about 15,000 inhabitants (Ahmed, 1988). Despite this claimed population increase in the space of only two years, the figure represents no more than 8.8% of the target population set for the second stage of development in the initial population projections of the master plan (Figure:7-1 b).

### **7-2-3 New Ameryiah City**

New Ameryiah City was planned to accommodate about 510,000 persons in 25 years. The population of the new town was expected to reach 41,000

inhabitants by the end of first stage development in 1985, increasing to about 150,000 persons by the end of second stage development in 1990 (ILACO, 1980).

It was found, however, that the population of the new town had reached only 1,000 inhabitants by 1988, then increased to some 5,700 inhabitants by 1990 (NACDA, 1990) . This means that the new town has attained no more than 3.8% of its projected population. At this rate of growth in population, it would only accommodate some 22,000 persons by the year 2000 (Figure:7-1 c).

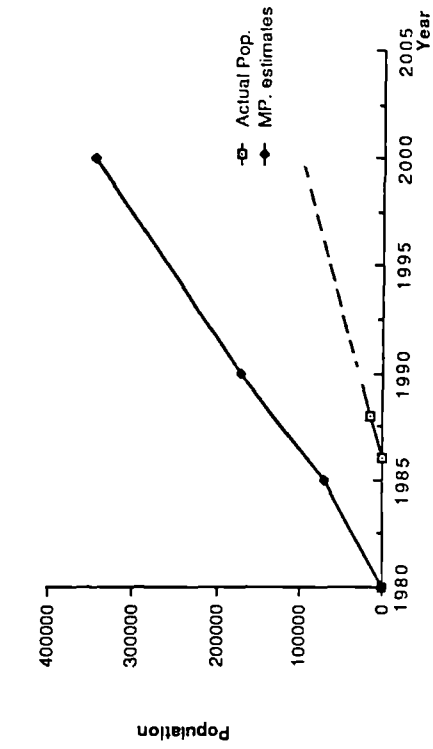
#### **7-2-4 Sadat City**

Sadat City was designed to reach a population of 500,000 inhabitants in 25 years. It was intended that it would accommodate 61,000 inhabitants by 1980, increasing to 146,000 inhabitants by 1985 and 251,000 by the end of the third stage development (Sabour, 1980).

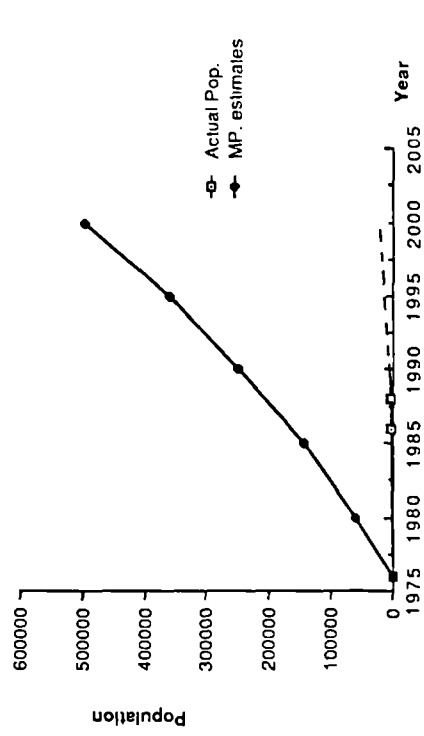
By 1986, the new town, nevertheless, had a population of only 1,927 persons, of whom there were 171 Chinese workers employed by a Chinese firm involved in housing construction in the town (CAPMS, 1988 b). This meant that only 1,756 Egyptians were resident in the new town, accounting for no more than 1.1% of the projected population. The population of the new town then increased to reach some 4,300 inhabitants by 1988 (Figure:7-1 d). This represented no more than 2.05% of the projected population.

#### **7-2-5 Problems confronting population increase**

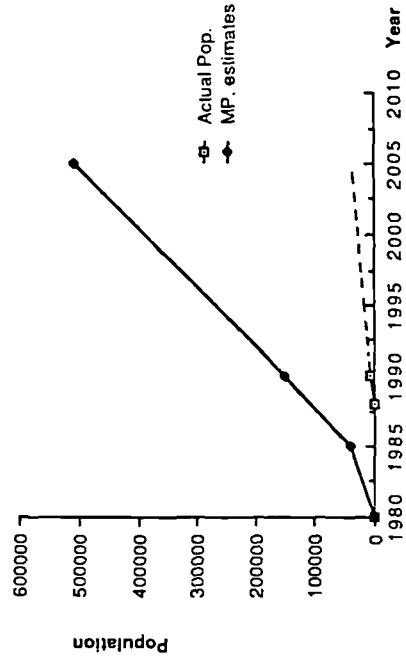
It can be argued that one of the main reasons for the very poor performance of the new towns in attracting more inhabitants was due to the slow rate of employment growth at the beginning of the new towns development process because of the limited number of industrial projects established there. Such slow rate of employment opportunities provision meant that the new towns lagged behind their employment projections. For instance, the number of employment opportunities



a- The Tenth of Ramadan



b- The Sixth of October



c- New Ameryiah City

d- Sadat City

Figure 7-1 Projected and actual population of the new towns

provided by the four new towns investigated represented, by 1990, no more than 14.7% of their projected employment by that year (MHNCU, 1990). This factor, it could be suggested, affected New Ameryiah City and Sadat City the most. Despite the fact that housing development was behind the targets set for unit construction, it cannot be considered as one of the reasons for the performance of the new towns, as the number of unoccupied housing units ranged between 13.6% of those in the Tenth of Ramadan and 55% in New Ameryiah City (see p.163).

Rather, it is the case that most of the people commuting daily to work in the new towns are of relatively low income groups who cannot afford to buy or lease a housing unit in the new town in which they work. This means that the projections contained in the master plans concerning the levels of income earned by the workers in the new towns need to be reviewed.

Another reason which contributed to the poor population increase in the new towns could be the approach adopted, that is, of concentrating heavily on construction without a parallel development of the necessary social fabric to inculcate a sense of belonging in the labour force.

Additionally, the occupancy system of rented housing units adopted in the Egyptian new towns, it was found, creates a kind of insecurity for the occupants, who have to move out of their houses when they leave their jobs in the new town. This factor is particularly important for the Egyptian worker who prefers to settle down and not to change his town of residence constantly.

A "core-housing" system was recommended in the plans for Sadat City, but was not implemented. It should be re-considered as a system which could reduce unit costs and therefore the financial burden of social housing on the government. Such a system allows the owner of the house to extend it according to his ability and consequently would give such owner the feeling of belonging to the town.

Another side of the problem is related to the "sponsors" of the new towns. This is evident in the confusion surrounding the prime functions and stated goals of the new towns. For instance, when asked about the small number of inhabitants resident in the town, the senior officer responsible for community development activities in the Tenth of Ramadan development authority argued that:

" The aim of developing the Tenth of Ramadan is not to solve the population problem in Egypt, it is to be an industrial city. Solving the population problem is rather one of the objectives of other towns such as (the satellite town) 'the Fifteenth of May'." (quoted in El-Sharkawi, 1986)

### **7-3 Economic objectives**

#### **7-3-1 Attracting over-concentrated economic activities from urban areas**

The new towns were planned not only to encourage new investments but also to provide alternative locations for over-concentrated economic activities in the traditional urban areas. It was found that out of the fifty firms interviewed only seven, representing 12.5% of the sample, had moved from other urban areas to the new towns. Of these, six firms moved from Cairo and one from Sharkia. Three of the firms which moved from Cairo were relocated in Sadat City, two in the Sixth of October and one in the Tenth of Ramadan.

In relation to the factors which pressured them to move, two firms stated that they decided to move to the new towns because of the lack of space for expansion in their original locations. One firm argued that they moved because of the unsuitability of original premises for the production process and the inconveniences caused by being located within a residential area. Another firm attributed the move to the high rents they had to pay for the original premises and the lack of services and amenities. The remaining three firms gave a variety of

reasons for moving to the new towns. They included the unsuitability of the premises, the lack of services and amenities, the lack of space for expansion, the high costs associated with the previous location, and the problems of transportation within Cairo. Overall, it could be suggested that the lack of space for expansion represented the most important factor, being mentioned by five firms. It was followed by the lack of services and amenities and the unsuitability of the premises, suggested by three firms each.

In relation to the current uses of the original, vacated premises, it was found that two premises were used for similar activities, one for other industrial activities and two premises for storage purposes. The remaining two premises were either given back to landlords or left closed. So, despite the fact that these seven firms moved out of the over-pressured urban areas, *five were replaced, in three cases by other industrial activities and in two cases by industrial products storage.* Therefore, it could be suggested that, unless there is total control over the vacant premises, there can be no significant effects in regard to relieving the pressure on such areas.

### **7-3-2 Incentives for local and foreign entrepreneurs to invest**

The new towns are planned so as to encourage entrepreneurs to invest in them. In addition to the provision of cheap land, such encouragement is given by the tax reliefs offered to persons and firms investing in land reclamation, industry, tourism and housing in the new towns. According to the New Towns Act 1979, and the Investment Act 1989, they are entitled to import, duty-free, any materials or machinery associated with their activities in the new towns. All the firms in the new towns are exempted from paying any taxes on their revenues and on their distributed dividends for ten years from beginning production. Such tax exemption could be extended, with the approval of the Board of Ministers, to twelve years



where the local components used account for 60% or more of the machinery and other equipment, and to fifteen years for vital projects.

The revenues from land which is reclaimed within the time limits set are to be exempted from the taxes normally imposed on agricultural land or any additional duties. In relation to the foreign capital invested in the new towns, according to the Investment Act no.32 for 1977, the entrepreneurs can transfer the capital invested and its net returns outside the country, provided that the capital has been kept in the country for at least five years.

#### **a- New towns attractions**

It was found that the main factor that has attracted entrepreneurs to invest in the new towns was the availability of cheap land. This was indicated by the response of forty-two firms out of the fifty-six interviewed as part of this study. The availability of tax reliefs was given by thirty-seven firms as one of the reasons for investing in the new towns and the availability of land for future expansion and the availability of sufficient infrastructure and amenities were indicated by twenty-six and twenty-one firms, respectively, as part of the reasons that attracted them to the new towns.

The importance of the tax incentives indicated by a large proportion of firms interviewed could be over emphasised, because of the tendency of businessmen to overstate the importance of tax incentives in their decisions in the hope of getting more favourable ones (Bird, 1970). A detailed breakdown for each of the towns is as follows:-

The Tenth of Ramadan: It was found that the tax reliefs were considered, by twelve firms out of the fourteen interviewed, as one of the reasons for choosing to invest in the town. The availability of cheap land was indicated by ten firms as one of the factors that attracted them to the town. In addition to the tax reliefs and the

availability of cheap land, nine and eight firms respectively suggested that they were partly attracted by the availability of land for future expansion and the provision of sufficient infrastructure and amenities. Further, the unrestricted working hours and the new town as a potential market for building materials were suggested by one firm as additional factors that led them to operate in the new town.

The Sixth of October: fourteen firms out of the sixteen firms interviewed indicated that the availability of cheap land was one of the reasons for investing in the town. It was followed by the tax reliefs, which was suggested by seven firms. The availability of land for future expansion was cited by five firms, and four firms suggested that the availability of sufficient infrastructure and amenities in the new town was one of the factors that attracted them. One entrepreneur, however, suggested that locating the firm in the Sixth of October was due to a condition set by the Industrial Development Bank for lending him the money he needed to establish the firm.

New Ameryiah City: the availability of cheap land and the tax reliefs were suggested by eleven firms out of the fourteen firms interviewed as the only two reasons that attracted them to the new town. The availability of land for future expansion and the availability of sufficient infrastructure were cited by three firms as partly responsible for them investing in the town.

Sadat City: the availability of cheap land was suggested by seven firms out of the fourteen interviewed as one of the reasons for investing in the town, and the tax reliefs and the availability of land for future expansion were indicated by five firms. The availability of sufficient infrastructure and amenities was cited by three firms as one of the attractions of the new town. Other singular reasons for choosing to invest in the town, which were cited by one firm each, involved the new town as a potential market for building materials, the low level of pollution in

the town which is desirable for food processing, the perfect location of the town, and being away from overcrowded areas.

The availability of financial incentives, as well as the new towns future prospects have provided an attractive context for entrepreneurs to invest in the new towns. For instance, the prospect of investing in a particular new town attracted forty-three firms out of the fifty-six interviewed and three firms for the new towns in general. In the case of the other ten firms, Cairo, Alexandria and Sharkia were considered as possible locations, but they decided finally to invest in the new towns. This means that the new towns, through the various incentives they provide, have not only initiated new investment but also, in those particular circumstances, have been perceived as an attractive alternative to traditional urban areas.

**b- The provision of cheap land**

The availability of cheap land was considered by the planners to be one of the incentives that can attract investors to the new towns. Thus, land prices were subsidised so as to be offered at low rates, even less than the actual costs of infrastructure and services provision. Indeed, it was found that the provision of cheap land was the main motive for entrepreneurs to invest in the new towns. Yet, it was found that the firms interviewed had, on average, built upon about 38% of their total site area and that there were no significant differences between the four new towns investigated, with average built-up area ranging between 34% and 41% of the total site area.

There were still some extreme cases, for instance, a textile firm in New Ameriyah City had a total area of 27,000 sq.m. with a built area of only 5,000 sq.m. This suggests that land was bought in excess of the actual needs of the plants established. This could be attributed to some entrepreneurs' intentions either to reserve it for future expansion, or, to use it, valued at its real value, as the'r

contribution to the capital of a newly formed firm with new partners. This means that this planned incentive for entrepreneurs to invest in the new towns, was in some cases, a misused advantage.

This highlights the need for the adoption of some rules to reduce excessive buying of land. This can take the form of assessing the actual needs of the firms, through their feasibility studies or building permissions which should specify growth targets at the very beginning. The ability to reserve land for future expansion is valued by all industrialists but it should be possible to specify that a given minimum percentage of the land should be built upon. As such a system could favour large firms, it should be possible to permit small firms with small land holding the opportunity to leave a greater percentage of the site vacant. Moreover, the pricing policy, particularly in regard to subsidies, needs to be reviewed so as to ensure that out of the large number of people reported to have shown an interest in buying land in the new towns, only those with genuine development programmes are considered.

### **c- Tax reliefs**

Concerning the tax reliefs offered, the main purpose has been to encourage investment and consequently new towns development. Yet, there appears to have been no study which justifies such comprehensive tax reliefs offered to the investors in the new towns. For instance, the investment acts do not distinguish between various types of activities that can enjoy the tax reliefs. This, it could be suggested, means a favourable tendency towards high-return activities, such as consumer goods production, which could then be closed down after enjoying the tax reliefs for ten years. As an alternative to this entrepreneurs can wind up their firms officially, every ten years, then re-establish them under an artificially new ownership and management to enjoy the ten years tax reliefs for ever. This means that the tax reliefs offered by the investment acts, instead of encouraging new

investments, can lead in some cases, to great financial loss to the Public Treasury in return for no apparent benefits for the new towns nor the national economy. These shortcomings highlight the need for a review of the tax reliefs adopted to encourage more investment in the new towns.

Such a review should involve the formulation of a coherent, meaningful set of development policies which, it is argued, is a necessary precondition for the development of a useful set of special tax incentives that will be worth the efforts and costs of designing and implementing them. Until such a strategy is elaborated, tax incentives can only be revised so as to appear to work towards the general end of increasing "productive" investment in modern, rapid-growing, large value-added or labour-intensive sectors of the economy. Similarly, the importance of encouraging exports should be explicitly addressed. For that purpose, a special subsidy exchange rate for export-producing firms is considered favourable because of its administrative simplicity, flexibility, certainty, and proved efficiency (for more details see; Bird, 1970).

#### **d- Obstacles confronting industrial firms in the new towns**

Despite the attractions of choosing the new towns to invest in, it was found that out of the fifty-six firms surveyed about thirty-seven firms were not working to capacity, i.e. 66.1%. Of those firms eleven suggested that being in a trial period was the only reason for this, while three firms suggested it was due to shortages in the supply of their raw material inputs. One firm cited that their main problem is the low quality of the local supply of its inputs. Other obstacles suggested for not working to capacity included inputs importing difficulties, in regard to basic and raw materials, marketing difficulties, the recession of the market, and that the electricity capacity needed could not be obtained.

This means that, except for the case of low capacity electricity supply and those in trial periods, the firms in the new towns were not working to capacity

because of national economic conditions rather than problems related directly to the new towns themselves. The majority of firms interviewed suggested, however, that they had confronted problems while starting their activities in the new towns. It was found that only eleven of the fifty-six firms interviewed had not confronted any problems while setting up in the new towns. They were mainly located in the Tenth of Ramadan with five firms, the Sixth of October with four firms, and New Ameriyah City and Sadat City with one each. This suggests that the firms located in the Tenth of Ramadan and the Sixth of October have been treated favourably and were in more advantageous positions compared with those located in New Ameriyah City and Sadat City. This fact was emphasised by the provision of a "free-zone" in the Tenth of Ramadan so as to assist the firms located there in dealing with importing and exporting processes (1).

The remaining forty-five firms (80.4% of those interviewed) have confronted different types of problems while starting their activities in the new towns. It was found that twenty-eight firms have confronted one problem, twelve firms confronted two problems or more. Generally, the main problem that confronted twenty-five firms was the large number of official permissions to be obtained before production could start. This was followed by the shortage of skilled workers in the new towns, which represented a problem for sixteen firms. In five cases lack of cooperation by the NTDA's was a problem, financial problems were cited in three cases and the lack of and the high prices of electricity in five cases. There were also complaints about the lack of maintenance services, shortage of fast-foods and the absence of building contractors.

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(1) The firms in the new town can have their imports and exports delivered to the free-zone in the town where all the customs, health checks and other procedures are carried out without having to travel to ports.

### **7-3-3 Natural resources development**

The development of local natural resources is one of the objectives for the new towns, but only New Ameryiah City and Sadat City master plans have considered such objectives. The natural resources available near their selected sites, which include sandstones and gypsum, were to be utilised, either in their construction or in manufacturing industry. The other two new towns examined, the Tenth of Ramadan and the Sixth of October, are located in areas which do not have any significant natural resources. Furthermore, no new town has been proposed, planned or developed on the coasts of Egypt. Rather, a number of satellite towns depending on seasonal tourism have been proposed and developed.

A case can be made for locating the new towns in accordance with the availability of natural resources. This would enhance the economic development of these towns and utilise the natural resources available in the desert region. This does not mean that the economic base of such new towns would solely depend on these natural resources. Rather they would have to depend on a variety of economic activities, so that they would not suffer any significant decline as the deposits of these resources eventually run out.

Land reclamation is regarded as one of the main priorities of the Egyptian government and yet, except for New Ameryiah City, all the new towns examined were planned without giving any consideration to land reclamation. Rather, agricultural products and land reclamation came as by-products of their development. Still, land reclamation in the Tenth of Ramadan and the Sixth of October was not undertaken on a significant scale.

#### **7-3-4 Creating employment opportunities and speeding up economic development**

One of the major tasks assigned to the new towns is the creation of employment opportunities to attract more people to move to the new towns. They were designed to provide some 153,000 job opportunities by 1985, increasing to about 122,000 employment opportunities between 1985 and 1990, and reaching a total of 275,000 job opportunities by 1990. Ultimately, around the year 2000, the new towns were to provide a total of about 600,000 job opportunities. These employment opportunities were to cover a wide range of industrial, construction, services and tourism activities.

*The task of job creation was emphasised by the rapidly growing unemployment experienced in the country during the 1980s. For instance by 1986, the level of unemployment reached as much as 12% of the total workforce in the country, compared with 5-7% by 1976 and no more than 2% in 1960. Furthermore, the unemployment level in the urban areas was found to be higher at 14%, compared with 9% and 4%, and 1% and 6% in urban and rural areas in 1976 and 1960, respectively.*

In terms of age groups unemployment, the 1986 census showed that about 27% of the workforce in the 20-29 age group were unemployed, which was more than twice the unemployment level in that age group in 1960. Similarly, the unemployment level between the 15-19 age group workforce was about 25% compared with 4% in 1960. Additionally, it was suggested that the high unemployment levels were recorded in all fields, which meant that these high levels were due to the limited capacity of the economy to expand and absorb those seeking employment and not the inability of the unemployed to adapt to the changing conditions in the labour market. It was estimated that if the current trends were to



continue, by 1996 the unemployment levels would reach some 63% and 68% of the workforce in the 15-19 and 20-29 age group respectively.

Despite these serious conditions, it was found that by 1990 the new towns managed to create no more than 40,390 job opportunities, representing only 14.7% of their employment projections for that year. These employment opportunities were mainly provided in the industrial sector, and for tourism, services and construction activities the employment opportunities provided were marginal compared with the employment targets in these sectors (Halloda, 1989).

### **a The Tenth of Ramadan**

#### **1- Planned economic activities**

According to the initial report of the master plan the employment structure of the Tenth of Ramadan was expected to be initially dominated by the construction sector with 15,000 workers, representing as much as 52% of the total projected employment by 1982. The industrial and service sectors would, meanwhile, provide 10,000 and 4,000 employment opportunities, accounting for 34% and 14% of the total employment estimates for 1982, respectively. The employment structure of the town would subsequently be dominated by the industrial sector, which was expected to provide 31,000 employment opportunities by 1987, representing 40% of the total employment projected for 1987. The service sector would, meanwhile, provide 15,000 employment opportunities, accounting for 28% of the total projected employment. The employment opportunities to be provided by the construction sector with 17,000 jobs would account for 32% of total employment expected by 1987. Eventually, the service sector was expected to be dominant with 79,000 employment opportunities by the year 2002, representing about half the employment projected for that year. The industrial sector would then provide 60,000 employment opportunities (40% of the total) and the construction sector would provide 16,000 jobs (11%) (Table:7-1 a).

The final report of the first stage development plan, however, proposed a different scenario for economic development of the town. According to this new policy, which was initiated by the increase in population projection for each development stage<sup>(2)</sup>, the service sector would maintain a rapid growth rate from the very beginning. This emphasis on this sector, it was suggested, was due to the fact that the service sector is to a large extent private, and on average requires relatively little capital while employing a large number of people. These features meant that by giving a larger role for the service sector to play in the economic development of the town, more employment opportunities would be provided at lower capital cost when compared with those for the industrial sector.

Accordingly, by 1982 the service sector was projected to provide as many as 12,900 jobs, representing 31.3% of the projected employment by that year. In subsequent stages, the service sector would provide 31,500 jobs by 1987, to increase to 53,000 by 1992, and ultimately to 83,000 jobs by the year 2002. The industrial sector, according to the new scenario, would provide by 1982 about 12,300 jobs, to increase to 28,000 by 1987, and ultimately to 60,000 jobs by the year 2002. The construction sector, meanwhile, was expected to provide no more than 15,300 jobs. Subsequently, the construction sector was projected to provide 12,000 jobs by 1987, reducing to 10,000 jobs by 1997 (Table:7-1 b).

#### Manufacturing industry:

The industrial strategy for the development of the Tenth of Ramadan was designed :

- 1- to achieve a maximum number of job opportunities consistent with satisfactory standards of development and living;
- 2- to achieve diversified job opportunities for the skilled and semi-skilled and

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(2) For more details see section 6-2-1 .

Development Stage	Industry		Services		Construction		Total	
	Workers	%	Workers	%	Workers	%	Workers	%
1982	10,000	34	4,000	14	15,000	52	29,000	100
1987	31,000	40	15,000	28	17,000	32	53,000	100
1992	36,000	40	31,000	34	23,000	26	90,000	100
1997	49,000	40	54,000	44	20,000	16	123,000	100
2002	60,000	40	79,000	49	16,000	11	155,000	100

Table 7-1 a: Employment opportunities distribution in the Tenth of Ramadan according to the master plan initial report-breakdown by activity

Source: Physical Planning Institute, 1986.

Development Stage	Industry		Services		Construction		Unemployed		Total	
	Workers	%	Workers	%	Workers	%	Workers	%	Workers	%
1982	12,000	29.9	12,900	31.3	15,300	37.1	700	1.7	41,200	100
1987	28,000	38.4	31,500	43.1	12,000	16.4	1,500	2.1	73,500	100
1992	41,000	37.6	53,000	48.6	12,000	11.0	3,000	2.8	109,000	100
1997	51,000	38.8	68,500	51.9	10,000	7.6	2,500	1.9	132,000	100
2002	60,000	38.5	83,000	53.2	10,000	6.4	3,000	1.9	156,000	100

Table 7-1 b: Employment opportunities projection in the Tenth of Ramadan according to final report-breakdown by activity

Source: Physical Planning Institute, 1986.

education and training opportunities for the unskilled;

3- to provide encouragement of small scale industry, e.g. those with reasonably high labour intensity as well as modern industries based on domestic and nearby raw materials and possessing good development and growth potential;

4- to encourage foreign investment and foreign capital; and

5- to achieve an industrial structure linked and timed to occur in parallel with regional and national industrial economic development.

The industrial character of the Tenth of Ramadan was further elaborated on the basis of the general strategy, being expressed in a number of policies that could be summarised as follows:

1- The new town has a suitable location for light and medium engineering firms. As a model industrial society which, among other things, could aim at promoting technological development, it would be well suited to receive a proportion of fairly advanced industries, research and development functions.

2- The new town is suitably located to produce equipment and services for agriculture and for processing agricultural raw materials produced in Greater Cairo and the Canal regions.

3- Physical planning of the town takes small-scale and informal industry into consideration. This, it was recommended, should be reflected in the implementation programme, allocating specific functions within the project management team responsible for the support of small industry programmes.

4- There are no special raw materials available locally and thus no basis for raw material based industry exists. Apart from the possible manufacture of building materials, such as sand bricks, industry in the town would have to depend entirely on imported supplies.

5- The location of the new town at the hub of a dynamic region, flanked by Cairo, the Suez canal and the Delta makes it a suitable centre for industry, distribution and communications. Therefore, the town was to exploit opportunities for excellent transportation and communications links for future functions and development. Many of the products related to the development of infrastructure and distribution networks would have to be manufactured and serviced locally.

6-The new town, if properly developed, was expected to have a significant effect as a breeding ground for industrial skills. The planners expected a considerable proportion of foreign ventures as well as local small scale industrial endeavours. Apart from vocational schools, demonstration projects by foreign firms, it was suggested, could be used during the building period to train managers for industry and, specifically, to prepare studies of the industrialisation requirements in the town.

According to these master plan policies, the industrial structure of the new town would involve the development of the following industries:

1- A food industry that would depend on agricultural products produced in Greater Cairo and the Canal regions. This industry was expected to employ some 2,450 workers by 1982, to increase to 3,525 workers by 1987 and ultimately 6,725 workers by the year 2002.

2- The textile industry, which is a labour-intensive industry, was expected to employ about 2,100 workers by 1982, representing 17.1% of target industrial employment by this stage. The employment in the textile industry would be 3,400 by 1987, increasing to 4,900 workers by 1992 and ultimately 6,775 workers by the year 2002.

3- By the end of first stage development the leather industry would employ 625 workers, representing 2.5% of total industrial employment. In subsequent stages,

this would increase to 950 employees by 1987, 1,300 employees by 1992 and reach some 1,850 employees by the year 2002.

4- The packaging industry was expected to provide about 1,450 employment opportunities by the end of first stage development in 1982. It would then provide about 1,850 jobs between 1982 and 1987, reaching a total of 3,300 job opportunities by 1987. Ultimately, this industry would provide 5,225 jobs by the year 2002.

5- The chemical industry was expected to create 1,150 employment opportunities by 1982, to increase to 3,350 opportunities by 1987. The employment in the chemical industry would ultimately reach about 9,250 job opportunities by the year 2002. This meant that the relative importance of the chemical industry, out of total industrial employment, would increase from 4.7% by 1982 to about 12.0% by 1987 and finally 15.4% by the year 2002.

6- The mechanical and engineering industry was estimated to provide about 1,600 jobs, accounting for 6.5% of total industrial employment by the end of the first stage development. It would then grow rapidly to reach 5,200 workers by 1992 and ultimately 14,000 workers by the year 2002, representing 23.4% of total ultimate industrial employment.

7- The building materials industry was expected to rely, to some extent, on raw materials available locally, such as the production of sand bricks. The manufacturing of other building materials, such as cement bricks and pipelines, would depend on imported supplies. The building materials industry would provide, it was estimated, about 1,100 job opportunities by 1982, to increase to 4,750 jobs by 1987 and ultimately to reach 10,850 by the year 2002.

8- The miscellaneous industries were expected to provide 1,825 job opportunities by 1982, to increase to 3,525 and ultimately to 5,300 by the year 2002 (Table:7-2).

Services:

The service sector was expected to account for more than half the employment opportunities to be provided in the new town when it reaches its ultimate population target of 500,000 persons. The service sector is thus of considerable importance for the town's development in general and for its economic development in particular. Investment in the service sector, especially in infrastructure, education, trade, finance and other social services was expected to have a twofold function of raising productivity in the town's economy as a whole, and of generating income and employment, and thereby enlarging the market.

It was argued that the significance of the service sector to the town, apart from its importance for employment, would be its value to industrial development. Transport and communication were a priority consideration, and were to employ 2000 workers by the end of first stage development in 1982, and ultimately about 13,000 workers by 2002. Trading, finance and repair activities were considered of great importance for self-sufficiency. The retail and trade sector was expected to provide about 4,100 job opportunities by 1982 (31.1% of the total services employment projection for that year) and then to reach some 26,000 by the year 2002 (31.2% of the total employment in the services sector). The repair and professional services would provide 1,350 and 1,750 jobs by 1982, to increase to 8,700 and 10,250 jobs by the year 2002. The finance and insurance services, meanwhile, were expected to provide 500 jobs by 1982, and ultimately 3,400 jobs by the year 2002. By 1982, the remaining 3,400 job opportunities were expected to be provided by the wholesale and the personal services (which include health, education, entertainment) and public administration with 850, 1,550, and

1,000 jobs, respectively. By the year 2002, these sectors were to provide a total of 21,700 jobs, of which 5,250 jobs were to be in wholesale services and 10,450 and 6,000 in personal services and public administration, respectively (Table:7-3).

### Construction:

The employment opportunities expected to be provided by the construction sector, according to the initial report of the master plan, were to be about 15,000 employees by the end of first stage development in 1982, representing about half the total employment projection for that year. In subsequent stages, the construction sector would provide 17,000 jobs by 1987, increasing to 23,000 by 1992, accounting for 32% and 26% of the total projection for those years, respectively. The employment in the construction sector would then decrease to 20,000 by 1997 and ultimately to 16,000 employees by the year 2002. The employment in the construction sector was expected to decline after the end of the first stage development, despite construction projections that showed that the process was not expected to slow down by that stage.

The scenario proposed by the later version of the first stage development plan, despite adopting larger population targets for each development stage, projected that the construction employment would be 15,300 employees by 1982, accounting for 37.1% of total employment. In subsequent stages, the employment in the construction sector would decline to 12,000 workers by 1987 and would remain at 12,000 until 1992, then it would decline and stabilise at 10,000 workers.

### 2- The Tenth of Ramadan achievements

By 1990, the employment opportunities provided in the Tenth of Ramadan totalled about 26,000, which represented no more than 27.4% of the projected



Industry	1982		1987		1992		1997		2002	
	Workers	%	Workers	%	Workers	%	Workers	%	Workers	%
Food industry	2,450	19.9	3,525	12.6	4,550	11.2	5,700	11.2	6,725	11.2
Textile	2,100	17.1	3,400	12.1	4,900	12.0	5,700	11.2	6,775	11.3
Leather	625	2.5	950	3.4	1,300	3.1	1,600	3.2	1,850	3.1
Packaging	1,450	5.9	3,300	11.8	3,875	9.4	4,450	8.7	5,225	8.7
Chemical	1,150	4.7	3,350	12.0	5,550	13.5	7,750	15.2	9,250	15.4
Mec.&engineering	1,600	6.5	5,200	18.6	9,600	23.4	12,000	23.5	14,000	23.4
Buil. materials	1,100	4.5	4,750	17.0	7,000	17.1	9,225	18.1	10,875	18.1
Miscellaneous	1,825	7.4	3,525	12.5	4,225	10.3	4,525	8.9	5,300	8.8
Total	12,300	100	28,000	100	41,000	100	51,000	100	60,000	100

Table 7-2: Industrial employment projection in the Tenth of Ramadan according to the first stage plan-breakdown by industry

Source: Physical Planning Institute, 1986.

Service	1987		2002	
	Employees	%	Employees	%
Transport&communication	2,000	15.6	13,000	15.6
Wholesale	850	6.5	5,250	6.25
Retail&trade	410	31.1	26,000	31.2
Finance&insurance	500	3.9	3,400	4.1
Business&repair services	1,350	10.4	8,700	10.4
Personnel services	1,550	11.7	10,450	12.5
Professional services	1,750	13.0	10,250	12.5
Public administration	1,000	7.8	6,000	7.3
Total	12,900	100	83,000	100

Table 7-3: The Tenth of Ramadan service employment projection: First Stage Plan

Source: Physical Planning Institute, 1986.

employment for that year. These employment opportunities were provided by the construction sector in the town. The service sector, meanwhile, provided few employment opportunities in retail and personal services needed to meet the essential needs of the first new town residents. As for the employment opportunities provided by the construction sector, it was found that the workers in this sector were either daily commuters, or residents on the scattered construction sites, though individual firms' records were not available. This contradicts with the master plan assumption that the construction workers were to be residents in the town and become members of its community. Such a contradiction could be attributed to the nature of the construction sector in the new towns which includes a number of construction firms that bring their employees to the construction sites until the work is completed and then move to other locations to undertake other projects. These conditions meant that determining the actual number of construction workers was enormously difficult. It may well be that, as the construction process was far behind its projected targets, the employment provided by this sector was much less than projected. The detailed investigation of the employment opportunities provided in the new town will therefore concentrate on the industrial sector developed in the new town.

By 1990, the industrial sector in the new town had provided some 25,102 employment opportunities, accounting for about 70% of the industrial employment projected for that year <sup>(3)</sup>. These employment opportunities were distributed amongst various industrial activities as follows:

1- The food industry: forty-seven firms were operational in the new town. They were engaged in food processing and had a total employment of about 2,326 employees. This meant that the food industry has achieved about 56.2% of the

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(3) Industrial employment projections for the Tenth of Ramadan, for 1990, were calculated assuming equal annual employment increase in the employment provided by each industry between 1987-1992.

employment target set for 1990.

2- The textile industry: this included forty-nine plants involved in spinning and weaving, colouring and finishing activities as well as clothing manufacture. The total number of workers in these plants was 4,794 , accounting for 97.8% of its projected employment. This meant that the employment in textile industry was growing in line with the projected targets.

3- The leather and plastic industries: a total of thirty-eight firms were operational in the town. They were engaged mainly in plastic manufacturing and have provided some 2,518 employment opportunities, which exceeded twofold the estimated targets.

4- The packaging industry: twenty plants were operational in the new town, employing 908 workers, which meant that this industry has managed to achieve about one-quarter of its employment target.

5- The chemical industry: twenty-eight plants were engaged in manufacturing paints, varnishes, cosmetics as well as pharmaceuticals. This sector provided 1,786 employment opportunities, representing 38.2% of its employment projection.

6- The mechanical and engineering industry: this had the largest share of employment opportunities with the provision of 5,142 jobs in forty-five firms. These firms included thirty-two engaged in electrical and engineering activities and thirteen firms in metal and mechanical activities. The mechanical and engineering industry has achieved about 53.6% of the employment target set for it.

7- The building materials industry: sixty-six plants were operational in the new town, employing 3,189 workers which was 52.3% of its employment projection. There were thirty-eight firms engaged in the production of sand and cement bricks and cement pipes as well as in prefabricated housing units. The other twenty-eight

firms were involved in wood-working, including the production of windows and doors as well as furniture.

8- The remaining 4440 workers were employed by eighty-eight firms which were classified by the NTDA as miscellaneous industry. This represented 112.5% of the employment target for this industry (Figure:7-2).

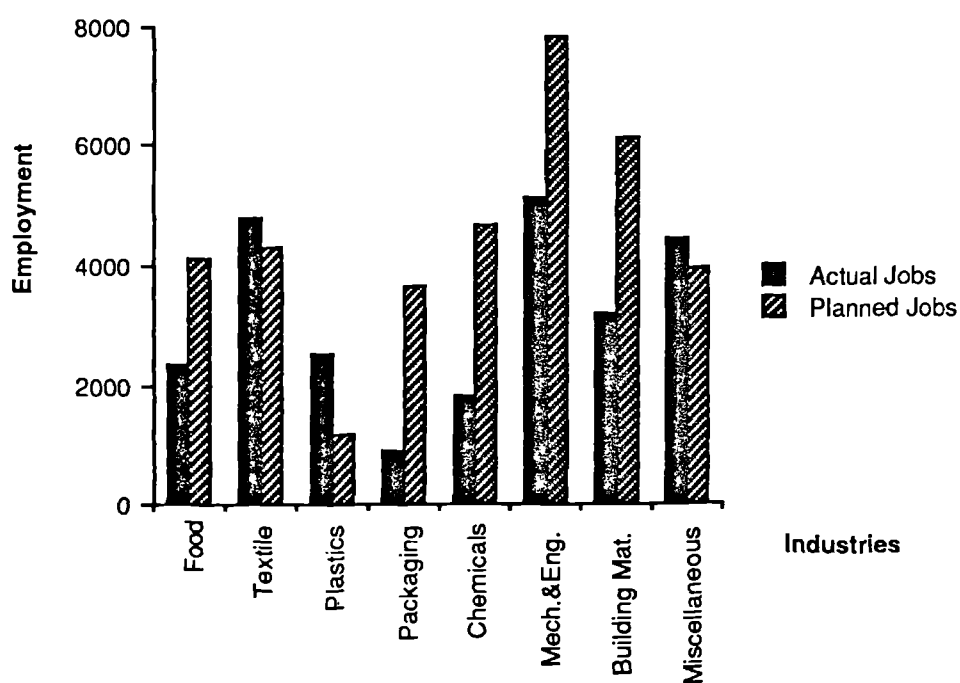


Figure 7-2: Actual and projected industrial employment in the Tenth of Ramadan - breakdown by industrial sector.  
Source: PPI, 1986 and MHNCU, 1990.

**b- The Sixth of October****1- Planned economic activities**

The Sixth of October new town was expected to provide about 22,000 employment opportunities by the end of the first stage development in 1985. In subsequent stages, the town was expected to provide 55,000 jobs by 1990, to increase to 92,000 by 1995 and ultimately to a total of 125,000 jobs by the year 2000. The economic activities proposed included industrial, service, tourism and construction activities. The industrial sector was expected to provide 9,000 jobs by 1985, to increase to 22,000 by 1990, then to 36,000 by 1995 and ultimately to 50,000 jobs by the year 2000. The relative employment share of the industrial sector was projected to remain stable around 40% of the total employment during the whole duration of the town's development. The service and tourism sectors were expected to provide 8,000 and 3,000 employment opportunities by 1985, accounting for 36.4% and 13.6% respectively of the total target set for that year. Subsequently, the relative employment share of the service sector was expected to continue around 36% of total employment, with the provision of 20,000 jobs by 1990, to increase to 33,000 by 1995 and then to 46,000 by the year 2000. The relative employment share of the tourism sector was expected to increase from 14.5% in 1990, to 17.4% by 1995 and then to decline to 16% by the year 2000, with the provision of 8,000 , 16,000 and 20,000 employment opportunities, respectively. The construction sector, meanwhile, would provide 2,000 employment opportunities by 1985, to increase to 5,000 by 1990, to 7,000 by 1995 and ultimately 9,000 employment opportunities by the year 2000 (Table:7-4).

Development stage	Industry		Services		Tourism		Construction		Total	
	Workers	%	Workers	%	Workers	%	Workers	%	Workers	%
1985	9,000	40.9	8,000	36.4	3,000	13.6	2,000	9.1	22,000	100
1990	22,000	40.0	20,000	36.4	8,000	14.5	5,000	9.1	55,000	100
1995	36,000	39.1	33,000	35.9	16,000	17.4	7,000	7.6	92,000	100
2000	50,000	40.0	46,000	36.8	20,000	16.0	9,000	7.2	125,000	100

Table 7-4: Employment opportunities projection in the Sixth of October according to the master plan

Source: Physical Planning Institute, 1986.

#### Manufacturing industry:

The main criteria for choosing the industries to be allocated in the town area were:-

- 1- The exclusion of all polluting industries as the town was to depend upon tourism and is located close to already overcrowded areas that suffer from high levels of pollution.
- 2- The development of workshops within the residential areas as a means for providing employment for those who will not be able to travel, such as female workers with children.
- 3- The need for internal linkages, both forward and backward, between the industries to be established in the town. For instance, the development of a textile industry would be accompanied by the development of colouring and finishing industries. These industries were not to be developed immediately, but would be developed in parallel with the town's growth.

4- The needs of the industries to be located in the town should not exceed the capacity of infrastructure such as electricity, water and roads in the town.

According to these criteria, the new town planners decided that the industrial structure of the new town would depend upon the food industries, building and construction industries, and consumer goods industries not included in these two categories. This meant that the industrial structure of the new town was planned to include the following industries:

1- The food and beverage industry was expected to include the processing of agricultural products of Giza governorate, which was estimated to be 562,000 tonnes by 1980, to increase to 646,000 tonnes by 1985. The master plan also proposed the development of tobacco and cigarettes firms in the new town. The food and beverage industry was expected to provide 2,450 job opportunities by 1985, to increase to 7,700 by 1990 and ultimately to reach 15,000 by the year 2000.

2- The textile industry was planned to cover a wide range of activities that would involve not only spinning and weaving and clothing manufacture but also colouring and finishing activities. It was estimated that the textile industry would provide some 1,400 job opportunities by 1985, representing 20% of total industrial employment at this stage. The employment in this industry would then increase to 4,700 jobs by 1990 and ultimately would reach 12,500 jobs by the year 2000.

3- The building materials industry was to provide a variety of building materials such as sand and cement bricks as well as wood products such as doors and windows, needed for new town construction. This industry was to provide about 1,750 job opportunities by 1985, to increase to 3,100 by 1990 and finally to 3,700 by the year 2000.

4- The chemicals and plastics industries proposed for development in the new town were to consist of light industries that would not affect the town environment. These industries were expected to provide 840 jobs by the end of the first stage development in 1985, to increase to 2,900 by 1990 and ultimately 5,800 by the year 2000.

5- Concerning the engineering and electrical industries, the master plan proposed the development of light industries that would not contradict with the proposed image of the town. These industries were expected to start with the provision of 560 jobs by 1985, accounting for no more than 6% of total employment projection at this stage. The employment to be provided by the engineering and electrical industries would then increase to 3,600 employees by 1990 and ultimately reach 13,000 jobs by the year 2000 (Table:7-5).

#### Services:

The master plan documentation for the Sixth of October estimated that the service sector would ultimately provide about one-third of the total employment expected in the town. The development of the service sector was thus considered of special significance both for the town's development in general and its economic development in particular. According to the master plan the service sector was to include transport and communication services that were expected to provide some 3,000 jobs by 1985, to increase to 16,000 by the year 2000. By 1985, the professional and repair services were estimated to provide 1,350 and 1,100 jobs respectively, and by the end of final stage development in the year 2000, about 7,950 and 6,675, respectively. The personal services, which include services such as education, health and entertainment, were expected to provide 1,325 jobs by 1985, to increase with the population growth to an ultimate employment target of 8,100 job opportunities by the year 2000. The finance and insurance services were estimated to provide 450 jobs by 1985, increasing to 2,725 by the year



2000. The public administration services in the town were expected to provide about 775 jobs by 1985, to increase, by the end of the final stage development, to 4,450 (Table:7-6).

### Tourism:

The tourism activities were planned as an important component of the economic base of the Sixth of October. The tourism sector, and the sports activities associated with it, were allocated an area of 1,680 hectares located to the east of the town with a view of the pyramids, and were to provide some 20,000 job opportunities by the year 2000. The master plan, considering the different needs of various types of tourists, proposed that the tourism area should include the development of the following projects:

- 1- Six tourism villages, that would accommodate 2,000 to 4,000 residents each, in addition to a village for medical tourism;
- 2- A tents and caravans park;
- 3- A recreational tourism centre;
- 4- An international centre for communications, exhibitions and conferences;
- 5- A traditional garden covering 756 hectares; and
- 6- An Olympic sports centre.

Furthermore, a number of small traditional workshops involved in activities such as hand crafts, were proposed in the master plan, both to provide the commercial traders with their local needs for traditional products and to create a traditional environment which attracts tourists. The master plan did not consider comprehensively the tourism sector in the town, despite its obvious importance, in

Industry	1985		1990		2000	
	Workers	%	Workers	%	Workers	%
Food	2,450	35.0	7,700	35.0	15,000	30.0
Building materials	1,750	25.0	3,100	14.1	3,700	7.4
Textile	1,400	20.0	4,700	21.4	12,500	25.0
Chemicals	840	12.0	2,900	13.2	5,800	11.6
Engineering&Electronics	560	8.0	3,600	16.3	13,000	26.0
Total	7,000	100	22,000	100	50,000	100

Table 7-5: Industrial Employment Projection in the Sixth of October according to the master Plan.

Source: Physical Planning Institute, 1986.

Service	1985		2000	
	Employees	%	Employees	%
Transport, Trade & Communication	3,000	37.5	16,000	34.8
Finance & Insurance	450	5.6	2,725	5.9
Business&repair	1,100	13.7	6,675	14.5
Personal services	1,325	16.6	8,100	17.7
Professional services	1,350	16.9	7,950	17.4
Public administration	775	9.7	4,450	9.7
Total	8,000	100	46,000	100

Table 7-6: Service employment Projection in the Sixth of October according to the master plan.

Source: Physical Planning Institute, 1986.

that the documentation did not provide any projections about the distribution of employment in this sector.

### Construction:

The employment opportunities to be provided by the construction sector were expected to be no more than 2,000 employees by 1985, representing only 9.1% of the total employment projected for that year. Between 1985 and 1990, the construction sector would provide 3,000 more jobs to reach a total of about 5,000 by 1990. In subsequent stages, the employment in the construction sector would be 7,000 by 1995 and ultimately 9,000 by the year 2000, accounting for 7.6% and 7.2% of total employment targets for the town in 1995 and 2000, respectively. These projections made by the master plan contradict the logic that the construction sector would dominate the early phases of any new town, particularly when the new town is developed from scratch in the desert regions. Additionally, the projection that some 2,000 workers would be sufficient to undertake the early intensive construction activities needed in the Sixth of October was far less than the projections made by the master plans of other Egyptian new towns. For instance, the Tenth of Ramadan projections for construction workers was 15,300 by the end of first stage development, and Sadat City and New Ameryiah City were expected to have 9,000 and 15,000 such workers respectively by the end of their first stage development.

### 2- The Sixth of October achievements

By 1990, the Sixth of October has provided some 8,000 to 9,000 employment opportunities, accounting for about 14.5% to 16.3% of the employment projection set for that year. These opportunities were mainly provided by the industrial sector in the new town. The service sector, contrary to the master plan projection, has provided very limited employment opportunities and those are mainly in personal services. As for the construction sector determining

the number of workers employed was found to be enormously difficult. But, it can be suggested that the number of employment opportunities provided by the construction sector was less than projected as the construction programmes were found to be progressing slowly (see p.221).

It was found that none of the tourism schemes proposed by the master plan had been implemented and thus no employment opportunities were provided by this sector in the town. The detailed analysis of the employment opportunities provided in the new town will, therefore, concentrate on the employment opportunities provided by the industrial sector.

By 1990, the industrial employment provided in the Sixth of October was no more than 8,325 jobs, which represented 37.8% of the employment target set for that year. The failure to meet the employment targets meant that the actual industrial structure achieved was different from the planned one and, in fact, included the following industries:

1- The food industry had ten firms operational in the new town. They were involved in food processing and had a total employment of no more than 675 employees, representing only 8.8% of that projected for 1990.

2- The textile industry was represented by fourteen firms operational in the new town. They were all involved in spinning and weaving as well as clothing production, except for one firm that was involved in colouring and finishing. The total employment in the textile industry was about 1,399 workers, accounting for 29.8% of the employment target set for this industry for 1990.

3- The building materials industry provided employment for 2,230 workers, i.e. 71.9% of its target. They were employed by twenty firms, of which eight were involved in wood-workings, ten were engaged in sand and cement bricks and tiles

manufacture, one in the production of prefabricated houses, and one made cement pipes.

4- The chemicals and plastics industries had twenty-one firms operational in the new town, of which eight were engaged in plastics production. The remaining thirteen firms were involved in the production of paints, varnishes, detergents and liquid fertilisers. The firms employed about 1,060 employees, accounting for 36.6% of the projected total.

5- The engineering and electrical industries had nineteen firms operational in the town, of which seven were engaged in metal work . The remaining twelve firms were involved in electrical products, producing consumer electric goods and

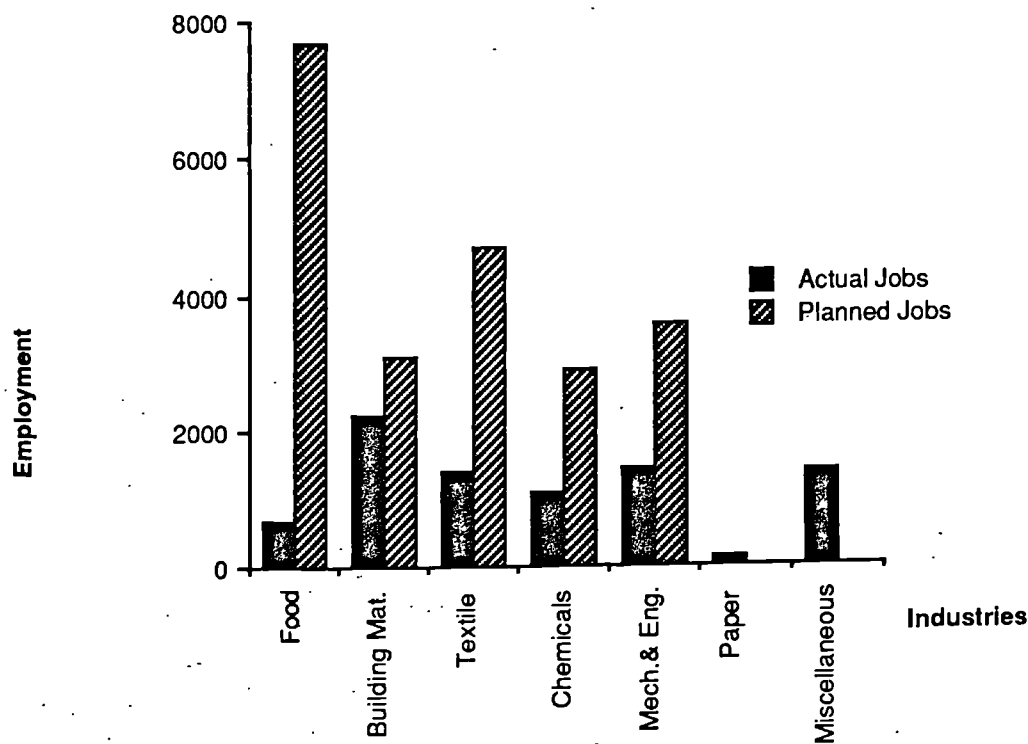


Figure 7-3: Actual and projected industrial employment in the Sixth of October - breakdown by industrial sector.  
Source: PPI, 1986 and MHNCU, 1990.

electric motors as well as electric tools and instruments. By 1990, the total employment in these industries reached 1,429 employees, compared with a target for these industries of 3,600 employees by that year i.e. 39.7% of their target.

6- The paper products industry had three firms operational in the new town, with a total of 120 employees. These firms were established in the town although such industry was considered unsuitable for development in the new town because of its high level of water consumption.

7- Finally, the miscellaneous industry group had nineteen firms operational in the new town, employing 1,412 workers (Figure:7-3).

### **c- New Ameryiah City**

#### **1- Planned Economic Activities**

The economic development of New Ameryiah City is planned so as:

- 1- To be in harmony with, and enhanced by, the North West Coast regional planning proposals;
- 2- To identify and encourage the forward and backward interrelationship between the economic sectors and sub-sectors in the town; and
- 3- To ensure that future regional development would fulfil the new town forecasts for development during the twenty five years development period.

It was estimated that the new town would provide some 21,000 job opportunities by the end of the first stage development in 1985. Of these 9,000 would be in construction, 7,100 in manufacturing industry and 4,100 in services. By 1990, the employment opportunities to be provided in the town were to reach 45,000 jobs. Ultimately, the town would provide a total of 151,000 job

opportunities, of which 78,700 would be in services and 59,300 in the industrial sector.

It was proposed that the industrial sector would have a balanced share of about 40% in the employment structure at all stages, starting with 7,100 workers by 1985, then 17,800 by 1990 and ultimately 59,300 by the year 2005. There would be, it was projected, some 43,000 employees in basic industrial activities by the completion of the new town development, representing 72.3% of total industrial employees.

In the first five years, the services sector would create about 4,100 job opportunities, representing 19.4% of total jobs to be provided at this stage. As the new town developed, it would provide a larger share of job opportunities, with about 12,000 jobs in the second development stage representing 36.4% of all jobs. Ultimately the employment in the service sector would reach some 78,700 employees, accounting for 10.2% of the total employment in the services sector.

Development stage	Industry*		Services		Construction		Total	
	number	%	number	%	number	%	number	%
1980-1985	7,900	33.8	4,100	19.4	9,000	46.7	21,000**	100
1990	17,800	39.6	16,200	36.4	11,000	24.4	45,000	100
2005	59,300	39.3	78,700	52.7	13,000	8.6	151,000	100

\* Including manufacturing and quarrying

\*\* About 8,500 workers, of which, would be temporarily workers

Table 7-7: Employment opportunities projection in New Ameryiah City

Source: ILACO, 1978.

The construction sector would dominate the employment structure in the first stage development of the new town with about 9,800 job opportunities, representing 46.6% of the projected first stage employment. In subsequent phases more jobs would be provided in the construction sector, yet its employment share would decrease from 46.6% to 24.4% of total employment in the town. Ultimately, as the construction process slowed down, the employment share of this sector would decrease to only 8.6% of total employment by the year 2005 (Table:7-7).

#### Manufacturing industry:

The employment projections for the industrial development in the town were based upon the following:

1- As the new town development begins, industrial development should support the construction activities in the town, hence the production of building materials and the metal and wood-work industries would have priority, according to the master plan.

The most important materials to be used for building products, such as limestone, sand, gypsum and clay are in abundant supply in the area around the new town, making a sound location for enterprises. Additionally, the master plan proposed two more projects, producing prefabricated elements of reinforced concrete and pre-mixed concrete. It was argued that these two projects would raise the efficiency of the construction programme.

In terms of quarrying activities, the master plan proposed the establishment of several small and large quarries which would be mechanically equipped. They would supply not only the construction sector but also the proposed long term building materials industry. It was projected that the quarrying activities would create some 900 jobs by 1990. Additionally, 100 employment opportunities would



be created in quarrying by the year 2005, to enable it to satisfy the needs of the basic chemical industry.

The wood-working industry was primarily planned as an industry supplying parts such as doors and windows to the construction industry, as well as all types of furniture to the population of New Ameryiah City. It was predicted, moreover, that in later development stages, it would develop into a basic industry supplying the needs of other areas in Egypt. It was proposed that this industry would create about 600 jobs by the end of the second stage development.

2- The need to attain a balance between demand for male and female labour force suggested that priority should be given to textile, clothing and leather industries. Textile factories need female labourers and their establishment would improve the work opportunities for women and hence their readiness to migrate to the new town. Additionally, the presence of large labour-intensive textile complexes in the Alexandria region would give New Ameryiah City a chance to attract branches of these firms as well as related textile and clothing activities. The textile industry was expected to employ some 3,700 workers by 1990.

Moreover, the clothing and leather industry was to be established as an export industry to the Western European countries through joint ventures with European entrepreneurs. The master plan documentation emphasised the importance of the middle and higher quality garments and fashion goods. In the field of leather working, it was recommended that special attention should be given to sportswear and sports leather articles. Such projects would, by 1990, provide about 2,100 job opportunities. This would bring the total employment to be created by the textile, clothing and leather industries to about 5,800.

3- The chemical industries were to be introduced in 1990, ten years after designation, because they need costly preparatory investigation, a developed metal products industry and an expanded labour force to support them. For intermediate

chemical products the master plan proposed that a combination of local raw materials (such as limestone, salt produced from the sea water and petrochemical products available some 30 km. from the new town) would encourage first phase production of salt, chlorine, soda ash, polyethylene and polypropylene. The chemical complex would employ some 7,000 workers by the year 2005 and would require a site of 1,200 hectares.

The light chemical industry recommended in the master plan would involve paint resins, paints and varnishes, ink, pharmaceutical products and cosmetics. It was proposed that this industry would be developed through joint ventures with international, reputable entrepreneurs.

4- The food and beverage industry was considered partly as a population servicing sector and partly as a basic sector. The basic industry element is based upon the processing of the agricultural products of the surrounding 220,000 hectares of reclaimed land.

The agro-industries in the town, which represents a significant part of the food industry proposed, were expected to process about 208 tonnes of agricultural products by the end of 1985. The amount processed would increase to 330,000 tonnes by the end of the second stage development and would reach 574,000 tonnes by the year 2005. These agro-industries were expected to employ some 500 workers by 1985, 800 workers by 1990 and ultimately 1,700 workers by the year 2005 (Table:7-8).

5- The printing and packaging industry was to provide for other industries operational in the new town. It was argued that the production of such materials and the packing of consumer goods in many cases needs female labour, so the development of this industry would help in attaining a balanced male/ female labour force. Possible products to be made by this industry would depend on the types of

Product	1985	1990	2005
Wheat	26	39	62.5
Soya beans	21	31	50
Milk	120	200	360
Beef meat	6	8	12
Sheep meat	20	30	60
Poultry meat	15	22	30
Total	208	330	574.5

000' tonnes

Table 7-8: New Ameryiah City projected development of agro-industries

Source: ILACO, 1978.

demand created by other industries. It was projected that this industry would employ some 800 workers by 1990.

6- The plastic and rubber working industry produces a very wide range of articles. The master plan documentation made a distinction between custom-made articles which are produced to order, according to the specification of other industries, and articles sold as consumer goods. The production of the first type, it was pointed out, would depend on the industry having specialised knowledge regarding the raw materials to be used and the forming technology. In terms of input materials, the master plan recommended the use, in the early years, of the plastic originating from the petrochemical complex to be established in Ameryiah-East. In later stages, plastic forming plants in the new town would use other imported raw materials as well. By the end of the second stage development, it was projected that some 600 workers would be employed in this industry.

7- The metal-electro industry is the combination of the metal working industry and the electro-technical and electronics industry. It was suggested that its development of a wide range of goods would diminish Egypt's dependency upon

imports of such products. It would involve metal working such as casting, turning and pressing as well as factories specialised in the production of chemical plant and equipment, pipelines and tankages. Other proposed projects included the manufacture of domestic appliances, machinery and transport equipment as well as plant for the electro-technical industry. The metal working industry, it was argued, is labour-intensive and requires a large number of semi-skilled workers which makes adequate vocational training indispensable. It was proposed that, by 1990, the metal-electro industry would provide about 5,100 job opportunities, which could be filled by semi-skilled as well as highly skilled workers.

Industries	1980-1985		1990		2005	
	number	%	number	%	number	%
Food and Beverage	500	6.5	1,500	8.4	5,900	9.9
Textile	1,000	12.7	3,700	20.8	10,000	16.8
Clothing and Leather	700	8.9	2,100	11.8	5,900	9.9
Wood Working	300	3.8	600	3.4	2,000	3.4
Printing and Packaging	300	3.8	800	4.5	2,500	4.2
Rubber and Plastics	200	2.5	600	3.4	2,500	4.2
Chemicals	---	---	---	---	7,000	11.8
Light chemicals	---	---	---	---	2,000	3.4
Building materials	2,000	25.3	2,500	14.0	2,000	3.4
Metallectro	2,100	26.6	5,100	28.7	17,500	29.5
Airport free-zone	---	---	---	---	500	0.8
Quarrying	800	10.1	900	5.0	1,000	1.7
Total	7,900	100	17,800	100	59,300	100

Table 7-9: Industrial employment projection in New Ameryiah City

Source: ILACO, 1978.

8- The international airport, proposed some 10 km. east of New Ameryiah City, would include a tax free zone covering 20 to 30 hectares. It was suggested that about 1,000 of the free zone employees would be settled in the new town. Such employment opportunities were expected to be created in the long-run, so no jobs in the airport were included in the projections for the first ten years of the new town's development (Table:7-9).

### Services:

The master plan of New Ameryiah City has classified the services to be provided in the new town into three categories, namely household services, production services and basic services.

The household or 'public' services include education, health, trade, religious, cultural, recreational and housing provision. The household services were to grow in parallel with the growth of the population. Taking into account the need for diversified and good quality services, it was estimated that there would be one household 'public' service job per ten persons by the year 2005. In the first ten years ,it was suggested, this level would be lower, with one household service job per fifteen persons by 1990. This means that some 10,000 employment opportunities were to be created by household services by the end of second stage development, of which 4,300 jobs would be in trade services. Of the remaining 5,700 jobs, 2,600 would be provided by the education services, 1,100 by the health services, and 2,000 by cultural, recreational and other public services.

By the year 2005, the production services, which involve banking and insurance, transportation and communication and administration would provide 14% of the job opportunities to be created in the town (Table:7-10). In the first five years the production services were to be mainly supplied from other existing centres located close to the new town, such as Alexandria. Therefore, the

production services share of jobs would not exceed 5% or 1,000 jobs. However, the master plan argued that for New Ameryiah City to be self-contained from the very beginning, a higher employment share needed to be considered for these services. Yet, the projections were that by 1985 only 700 workers would be employed in the production services in the town, which means that the new town residents would have to depend heavily on Alexandria to meet their needs for such services. The master plan gave no grounds for such a low projection.

	1985	1990	2005
<u>Household services:</u>			
Education	1,000	2,600	9,000
Health	600	1,100	4,000
Trade	750	4,300	23,500
Cultural, recreational & other public services	350	2,000	13,5000
Sub-total	2,700	10,000	50,000
<u>Production service:</u>			
Banking & insurance	] 700	400	4,500
Transport & communication		2,700	9,500
Adminstration		900	6,000
Sub-total	700	4,000	20,000
<u>Basic services:</u>			
University	600	1,500	4,000
Tourism	--	500	2,500
Airport	--	--	1,500
Sub-total	600	2,000	8,000
Total	4,000	16,000	78,000

Table 7-10: Service employment projection in New Ameryiah City

Source: ILACO, 1978.

By the year 2005 the basic services<sup>(4)</sup> were expected to employ only 8,000 workers, representing 5% of the total employment in the new town. Some 4,000 workers would be in university services, 2,500 workers in tourism activities on the north west coast and 1,500 workers in the proposed airport (Table:7-10).

#### Construction:

The construction programme for the New Ameryiah City would involve the construction of a wide range of building property needs as well as their subsequent maintenance. The construction labour force was expected to dominate the employment structure by the end of first stage development in 1985 with about half of all employment. The relative employment share of the construction sector would subsequently decline till it would drop ultimately to about 8% of total employment. It was suggested that in the beginning mostly large contractors would be engaged in the new town development, but later medium and small contractors would also be present in the new town.

The number of construction workers in each stage was calculated by using the expected productivity in the sector and the construction costs per house and workplace. It was estimated that about 9,300 workers would be employed by the end of first stage development, of which 4,100 would be in housing construction, 5,000 in factory and commercial construction and 200 in maintenance tasks. Ultimately, the number of construction workers in the housing sector would reach 5,400 and the maintenance workers would increase to 2,260, while the number of construction workers to be involved in industrial and commercial building operations was expected to stay at 6,000 workers (Table:7-11).

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(4) Basic economic activities are the activities that sell their output to buyers who live in other cities, towns or regions. As for the non-basic activities, they are the economic activities that serve the town itself (Armstrong, 1985).

Construction activities	1985	1990	2005
Housing	4,100	4,800	5,400
Work places	5,000	6,000	6,000
Maintenance	200	620	2,260
Total	9,300	11,420	13,640

Table 7-11: Construction employment projection in New Ameryiah City

Source: ILACO, 1978.

## 2- New Ameryiah City achievements

By 1990, the employment provided in the new town reached about 2500 employees, or 5.6% of the projections for all employment opportunities for 1990. These opportunities were mainly provided by the industrial sector, which managed to achieve about 14% of its projected target. As for the service activities, it was found that none of the services planned for the town were operational, except for a couple of shops serving the very limited number of residents in the town. In the construction sector, the actual number of workers was very difficult to determine (see p.221). It could be argued, as was the case in other new towns, that the number of construction workers was far less than planned, as the construction activities were lagging behind targets.

By 1990, the industrial employment in the new town reached a total of 2,507 employment opportunities, representing 11.6% of the projected industrial employment for 1990. These employment opportunities were distributed amongst various industries as follows:

1- There were, by 1990, about eleven plants manufacturing building materials in the new town, producing sand, lime and cement bricks and tiles. They provided some 350 jobs, which accounted for 14% of the employment target set for this



industry for 1990. But the two projects proposed to produce prefabricated elements of reinforced and pre-mixed concrete were not established.

In regard to the wood-working industry, there were six plants operational in the town. They provided about 388 jobs, which means that it has marginally exceeded its projected employment. As for the quarrying activities, it was found that only one firm had been allocated a site in the town by 1987. It was expected to employ some 24 workers, but there was no information available as to whether production had started or not.

2- The textile, clothing and leather industries were found to have some 518 workers, employed by four firms, representing 14.0% of the estimated employment for this industry.

3- The chemical industry was not expected to start production until after 1990, but it was found that six plants were already operational in the new town, providing 218 jobs. These firms were mainly involved in light chemicals production, such as paints, varnishes, and detergents, with one plant producing salts and acids.

4- The food and beverages industries had only four plants operational in the town. These plants provided about 208 jobs, accounting for 13.9% of the projected employment for this industry.

5- The printing and packaging industry has provided a total of 256 jobs, compared with a projected level of about 800, therefore achieving about 32% of the target set for 1990.

6- In relation to the plastic and rubber working industry, by 1990 there was only one plastic firm operational in the town. It employed 30 workers, representing no more than 5% of the target for this industry.

7- In terms of the metal and engineering industries, there were five metal-working plants operational in the town, employing a total of 275 workers. It was found, moreover, that no electronic plants were operational in the town. This means that the metal-electro industry has achieved no more than 5.4% of its employment target (Figure:7-4).

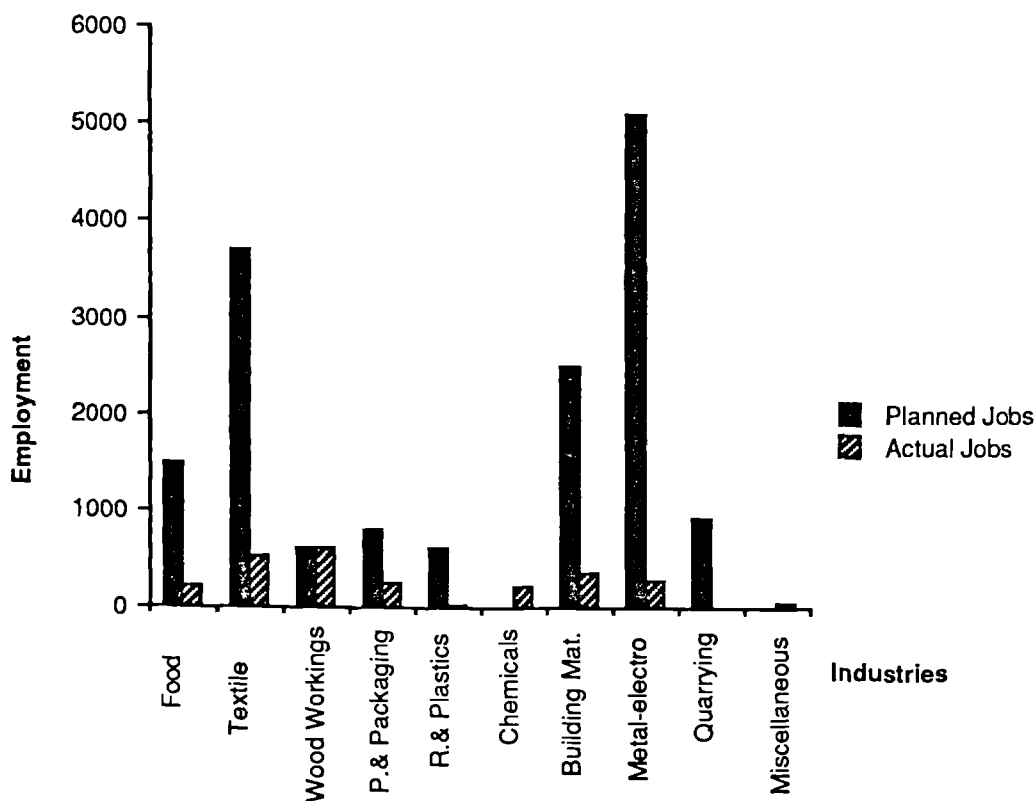


Figure 7-4: Actual and projected industrial employment in New Ameryiah City - breakdown by industrial sector. Source: ILACO 1978 and MHNCU, 1990.

**a- Sadat City****1- Planned economic activities**

The economic development of Sadat City was planned on the assumptions that:

- 1- A number of national government functions are to be relocated in the town;
- 2- The town is to act as a regional service centre; and
- 3- The town is to depend upon the iron and steel industry and related metallic and mechanical industries for its industrial development.

By the end of the first stage development (1980), the new town would provide a total of 25,000 employment opportunities. The total number of jobs would, by the end of the second stage development (1985), double to reach 50,000, accounting for about a third of the ultimate employment target for the town. During the third development stage a further 30,000 job opportunities were to be provided, to reach a total of 80,000 by 1990. By the year 2000, an ultimate target of 165,000 job opportunities was to be met.

As before, the employment opportunities to be created in the first stage development would be mainly in the construction sector, which would provide 5,000 jobs, representing 60% of the total jobs to be provided at this stage. The remaining 10,000 job opportunities were to be divided equally between the manufacturing industry and the non-basic services. At the second stage development the number of workers in the construction sector would remain constant, which means that its relative employment share would decrease to about 30% of the total projected employment. Manufacturing industry and the non-basic industries would provide equal employment opportunities, with 15,000 job

opportunities each. The provision of basic services, meanwhile, would begin in the town with 5,000 employment opportunities by the end of this stage.

In the third stage development, the manufacturing industry would dominate a relatively larger employment share with 30,000 job opportunities, representing 37.5% of the projected employment, compared with 25,000 and 10,000 in the non-basic and basic services, respectively.

The number of workers to be employed in the construction sector would remain the same, but with a relatively smaller employment share of 18.75%. In the fourth stage development, the manufacturing industry would still represent the largest sector in the town with 39.1% of the projected employment. The non-basic services, meanwhile, would provide 38,000 jobs, accounting for 33% of the projected employment, whereas the basic services were to create 15,000 job opportunities, representing 13.1% of the projected jobs. The construction sector would, by the year 2000, increase the number of workers it would employ to 17,000 workers, but its employment share would continue to decrease to 14.8%.

In the fifth and final development stage, the employment shares of manufacturing industry and the non-basic services would each reach about 36.4% of total employment. Employment in the basic services would continue to grow to reach an ultimate target of 25,000, accounting for 15.2% of total employment. Similarly, the construction sector would create a further 3,000 employment opportunities, to reach a total of 20,000, or about 12% of total employment (Table:7-12).

Development stage	Manuf. industry		Basic services		Non-basic serv.		Construction		Total	
	no.	%	no.	%	no.	%	no.	%	no.	%
1976-1980	5,000	20.0	---	--	5,000	20.0	15,000	60.0	25,000	100
1981-1985	15,000	30.0	5,000	10.0	15,000	30.0	15,000	30.0	50,000	100
1986-1990	30,000	37.5	10,000	12.5	25,000	31.25	15,000	18.75	80,000	100
1991-1995	45,000	39.1	15,000	13.1	38,000	33.0	17,000	14.8	115,000	100
1996-2000	60,000	36.4	25,000	15.2	60,000	36.4	20,000	12.0	165,000	100

Table 7-12: Employment opportunities projection in Sadat City

Source: Sabour, 1980.

### Manufacturing industry:

In its attempts to coordinate the national industrial development efforts and industrial development in the town, the master plan based its proposed industrial development on projects recommended or approved by the Ministry of Planning for establishment in the country as a whole. Accordingly, the master plan projected that the industrial sector to be developed in Sadat City would include the following activities:

1- The iron and steel industry was considered in the master plan, as " an extremely important element of critical development mass" and was intended to be totally operational by the early 1980s. Other related industries were to be located in the new town. These would include feeder industries for iron and steel, e.g. steel consuming industries and engineering industries such as steel casting and malleable iron castings.

It was projected that by 1985 the iron and steel industry and other metallic industries would provide about 6,000 job opportunities and as many as 30,000 jobs by the year 2000. This means that it was to be developed as a dominant industry which would create 40% to 50% of the planned industrial development.

2- The development of a transport equipment industry in Sadat City was expected to include the construction of a bus manufacturing plant with a production capacity of 3,500 buses per year. The master plan also recommended the establishment of a joint venture plant for motor car production as well as trucks, tractors and diesel engines. It estimated that the transport equipment industry would provide 1,300 jobs by the end of the second stage development in 1985. In subsequent stages, it was expected to provide 3,200 jobs by 1990, to increase to 5,800 by 1995 and to reach an ultimate target of 9,000 by the year 2000.

3- The master plan also proposed the establishment of industries concerned with paper products, e.g. the production of office supplies, household products and printing and packaging. It, nevertheless, argued against the development of a paper pulping operation in the town, despite the availability of water, as such an industry would need to be located near a major port since the pulp is imported. By the end of second stage development in 1985 the paper products industry was expected to provide about 400 employment opportunities, to increase to 800 by 1990 and to 1,800 by the year 2000.

4- In terms of the textile industry, the master plan proposed the development of spinning and weaving plants as well as a finishing plant. It also suggested that the manufacturing of ready made garments, which is a labour-intensive activity, could be located in the new town. It was estimated that about 7,300 job opportunities could be created in the textile industry, by 1990.

5- The non-metallic industries, which include chemicals, building materials, plastic and leather, were to provide 5,000 job opportunities by 1990, representing 16.7% of the total industrial employment at this stage. In relation to the chemicals industry and depending on possible natural gas sources in the area, the master plan proposed the development of a light chemical plant to produce ethylene, ammonia, urea and ammonia sulphate in addition to other gases. Additionally, purification activities were proposed to utilise the salts occurring at Wadi-el-Natroun. These would mainly produce sodium chloride, sodium sulphate, sodium carbonate and possibly magnesium salts.

Also recommended was the development of intermediate chemical activities for the production of glass using the white sands available in Wadi-el-Natroun. Other intermediate chemical products, it was suggested, could be also utilised in petroleum refining, the textile and the paper industries. Other proposals were that

the new town could accommodate plants that would produce paints, varnishes, oils, solvents, food additives, perfumes and rubber products.

In terms of the building materials industry, it was proposed that cement pipes as well as porcelain products could be established in the new town. It was also suggested that plants which might use the clay and white sand deposits at Wadi-el-Natroun could provide the construction sector in the new town with bricks and glass. Finally, a plant to prefabricate housing units was planned for the new town, as part of a strategy of supplying low cost housing.

The plastic industry proposed for development in Sadat City was expected to include the use of polyvinyl chloride, either in rigid or flexible form, for electrical components requiring insulation, floor covering, packaging, travel goods and footwear. The plastic industry would also use high density polythelene for household, industrial and medical articles, film and sheet, and large blow mouldings. Additionally, the master plan proposed the use of phenolic resins to manufacture electrical components, appliance parts, handles, telephone equipment, laminates and chipboard.

For the leather industry, the master plan proposed the construction of a tannery in Sadat City, to process imported hides for use in the leather industry in Egypt, particularly Cairo. The master plan argued, however, that as the water requirements of a tannery are heavy, the installation of a tannery might constrain the extension of the basic iron and steel complex if the ground water reserves prove to be limited. Subsequent development of the leather industry would include the production of consumer oriented articles, at the scale of large, integrated industrial establishments and not small workshops.

6- In the case of the foodstuffs industry, the master plan recommended the provision of poultry and meat products units. There would also be an edible oils extraction and refining factory that would process the soyabeans grown



experimentally west of Alexandria in the North West Tahrir province. It would be a very large factory dealing with 2,000 to 3,000 tonnes per day for oil extraction. The new town would also accommodate plants for dehydrating vegetables. The food industry was expected to provide some 200 jobs by 1980, to increase to 1,000 by 1985, then to 1,500 by 1990 and ultimately to 3,000 by the year 2000 (Table:7-13).

Industries	Stage (1)	Stage (2)	Stage (3)	Stage (4)	Stage (5)
	1978-1980	1981-1985	1986-1990	1991-1995	1996-2000
Food	200	1,000	1,500	2,000	3,000
Textile	2,200	3,000	4,000	5,000	6,000
Wood Workings	100	200	300	400	600
Paper products	--	400	800	1,200	1,800
Non-metallic*	1,500	3,000	5,000	7,000	9,000
Met. & mechanical	1,000	6,000	15,000	24,000	30,000
Transport equipment	--	1,300	3,200	5,800	9,000
Miscellaneous	--	100	200	400	600
<b>Total</b>	<b>5,000</b>	<b>15,000</b>	<b>30,000</b>	<b>45,000</b>	<b>60,000</b>

\* Includes chemicals, building materials, leather and plastics

Table 7-13: Industrial employment projection in Sadat City

Source: Sabour, 1980

#### Basic service activities:<sup>(5)</sup>

It was suggested that one of the main causes of the growth of Cairo is that the vast majority of government employment is located there. Therefore, in order to curtail the growth of Cairo, the master plan of Sadat City proposed that certain service activities should be located in the new town. After examining various service activities, it concluded that the potential for relocation could involve such central government functions as higher education, research, communication, recreation and regional government services. As these service activities have a

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(5) For the definition of basic and non-basic economic activities see p.241.

catchment area which is often the whole of the country, northern Egypt or at least the western half of the Delta, they are considered as suitable basic activities for Sadat City. But a potential difficulty would be to convince white collar employees to move to a new town in the desert. Yet, the central government functions could, when the new town reaches a population of 500,000, provide as much as 16,000 government jobs, which would account for 64% of the total employment in the basic services and 15.2% of the overall employment in the new town. Other central government functions to be relocated in the new town could include departments and agencies or organisations concerned with non time-critical activities such as tax revenue and research facilities. They could also involve specialised sub-groups with no direct link to the central function of government, such as commerce, in addition to departments and organisations that deal with internal government affairs, for example, health and education.

It was estimated that the basic activities would create some 250 jobs by 1990, then increase steadily with the employment of the new town to 25,000 jobs by the year 2000. It was proposed that the expanding central government functions, which might be located in the new town instead of Cairo, would create about 5,000 jobs in the first ten years.

In addition to accommodating central government functions, Sadat City was planned as a possible capital of a new governorate and as a regional centre to serve that part of the Delta region and the Western Desert. If implemented, such proposals would further enhance Sadat City as a place to live in, strengthen its economic base, and by the year 2000, could provide a further 5,000 job opportunities in regional, administrative and governmental affairs.

In terms of higher education, the master plan of Sadat City recommended that new educational institutions should be established in locations where new technologies and solutions pertaining to Egypt's special problems could be

developed. It proposed the establishment, initially, of a university branch that would develop into a major university and a technical college. This would provide about 700 job opportunities which could serve a student population demand of between 10,000 and 15,000 students for a town of 500,000 inhabitants. In addition to these educational institutes, the master plan recommended the development of research institutes which could specialise in arid-agriculture, desert development, reclamation and solar energy. They could also specialise in health problems as well as vocational training of middle-management and skilled and unskilled labourers. These research units could provide about 300 job opportunities when the town reaches its population target of 500,000 inhabitants. The provision of the research and the higher education institutions by the Ministry of Education, it was suggested, would assist in attracting professionals to the new town.

In order to improve the construction industry, particularly in training workers and improving techniques to reduce construction costs, a construction centre was proposed. It was recommended that the establishment of the centre would begin as soon as the development of the new town started so that it would be completed by 1985.

*A new communication centre, which would provide telephone, telegraph and telex services was proposed for Sadat City as a long term development, with some initial development to be undertaken by 1985. Finally, a recreational park, which would include a historical village, a crafts village, a zoo, an Arab world complex and a "leisure land" was also proposed. It was recommended that it would be funded, planned, designed and operated through joint venture concessions with the private sector (Table:7-14).*

Non-basic services:

The share of employment in non-basic service activities would be expected to grow broadly parallel to the growth of the new town population. It was expected that certain elements, such as commercial development, would initially lag behind, whereas other public facilities would grow with the population. The non-basic services were proposed to employ some 5,000 employees by the end of first stage development, increasing to 15,000 employees by 1990. Subsequently, the figure would increase with a diminishing rate until it would reach 60,000 employees by the year 2000.

The non-basic service activities planned for Sadat City, involve commerce, wholesaling and retailing, transport, communication and utilities, community facilities in addition to other services. Initially, most employment opportunities to be provided in non-basic services would be created in community facilities and transport and communication and utilities with shares of 40% and 28% of projected employment in non-basic services, respectively. Wholesaling, retailing and other services would provide 700 employment opportunities each, representing 14% of the job opportunities in non-basic services by 1980. Commerce, however, would provide only 4% of the employment in non-basic services. By the year 2000 the dominance of employment in the community facilities and transport, communication and utilities would disappear as they would be complemented by wholesaling, retailing and the development of other services.

A number of professional services were expected to be provided in the new town, through professionals such as lawyers, accountants and engineers in private practice. The number of those professionals in private practice was not expected to expand at a rapid rate. It was assumed that there would be one professional lawyer, accountant, engineer and private doctor for every 3,000 to 5,000 persons

in the town. This would result, it was suggested, in some 100 to 150 professional offices, employing a total of about 500 to 750 persons.

In terms of tourism, the new town was not considered to have any substantial tourist potential, other than the proposed recreational park. A few hotels, which would employ no more than 300 employees, were proposed to accommodate business travellers. Generally, it was estimated that approximately 1,500 persons would be employed in the formal commercial sector, and that the informal commercial employment would be broadly comparable. This means that the overall employment in the commercial sector would be about 3,000 employees.

In terms of wholesale and retail trading, the new town as proposed would have about 125 employees working in formal (official) wholesale establishments to serve a population of 500,000. In addition to the formal wholesalers, the master plan projected that some 50 private wholesale stores, generally small-scale operations oriented to serve localised markets, would be located in the town.

The retailing activities planned for Sadat City involved departmental stores and government food stores as well as private retailers. The master plan proposed the development of about 45 formal stores in the town, expected to employ some 2,000 employees by the year 2000. The remaining 20 would be engaged in food sales. For the private retailing sector, including peddlers, the master plan estimated that about 12,000 persons would be employed in the new town.

In addition, Sadat City was to accommodate wholesaling and retailing facilities which would serve the surrounding region. The extent of these activities, however, was not closely defined because of the uncertainty associated with regional development around the new town, but it was estimated that this sector would employ some 500 workers. It was suggested that the future long-term development of Sadat City as a significant regional centre could cause this

Development stage	National government		Higher education		Research centres		Communic. centres		Construc. centres		Recreation park		Regional government		Total	
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%
1980	100	40.0	--	--	--	--	--	--	150	60.0	--	--	--	--	250	100
1985	4,000	80.0	200	4.0	50	1.0	150	3.0	300	6.0	200	4.0	100	2.0	5,000	100
1990	6,000	60.0	300	3.0	100	1.0	300	3.0	400	4.0	400	4.0	2,500	25.0	10,000	100
1995	9,550	63.6	400	2.7	150	1.0	400	2.7	400	2.7	600	4.0	3,500	23.3	15,000	100
2000	16,100	64.4	700	2.8	300	1.2	1,500	6.0	400	1.6	1,000	4.0	5,000	20.0	25,000	100

Table 7-14: Basic services employment projection in Sadat City

Source: Sabour, 1980.

Service Activity	Stage (1) 1976-1980		Stage (1) 1976-1980		Stage (1) 1976-1980		Stage (1) 1976-1980		Stage (1) 1976-1980	
	no.	%	no.	%	no.	%	no.	%	no.	%
Commerce	200	4.0	600	4.0	1,000	4.0	1,600	4.2	3,000	5.0
Wholesaling & Retailing	700	14.0	2,900	19.3	4,700	18.8	7,700	20.3	14,000	23.3
Transp., commun. & utilities	1,400	28.0	3,800	25.4	6,400	25.6	9,200	24.2	12,000	21.2
Community facilities	2,000	40.0	4,800	32.0	8,200	32.8	11,800	31.0	16,300	27.2
Other services	700	14.0	2,900	19.3	4,700	18.8	7,700	20.3	14,000	23.3
Total	5,000	100	15,000	100	25,000	100	38,000	100	60,000	100

Table 7-15: Non-basic services employment projection in Sadat City

Source: Sabour, 1980.

employment figure to rise, and it might then be more accurately described as basic employment.

Transportation would, it was projected, require around 6,500 employees in auto, bus and rail related industries, such as sales, repair and service stations. Additionally, it was suggested that some 6,200 persons would be employed in communication facilities and the utilities sector would create some 12,700 jobs when the new town reaches a population of 500,000. Other services, which include numerous small unstructured services such as casual recreation, would employ about 14,000 persons by the year 2000. The community facilities which include public services, education, health and welfare, cultural and open space, would employ about 16,300 persons (Table:7-15).

The employment in community facilities and transport, communication and utilities, it was suggested, would broadly grow in line with the growth of population. The growth in commerce, wholesaling, retailing and other services would lag behind the growth of population but would maintain their relative sizes throughout the development period.

#### Construction:

The construction sector of Sadat City was expected to be a major task in the first ten years of the new town's development. Employment in the construction sector was, therefore, expected to dominate the employment structure of the town during the first stage development with 15,000 workers, representing 60% of total projected employment in 1980. The employment in the construction sector would subsequently remain at 15,000 workers until the end of third stage development in 1990, but with a decreasing relative share of 30% of total employment by 1985 and 18.8% by 1990. In subsequent stages, the employment in the construction sector was expected to increase to 17,000 employees by 1995,

then to 20,000 employees by the year 2000, which would account for 14.8% and 12% of total employment projected for these years, respectively.

## 2- Sadat City achievements

### Manufacturing industry:

The industrial sector developed in Sadat City provided a total of 4,445 jobs, or 14.9% of industrial employment projection for 1990. The employment structure of this industrial sector developed in the new town was found to involve the following industries:

1- Although an integrated iron and steel plant was provisionally approved within the five year National Development Plan 1976-1980, the industry has not been established and this proposal, as well as the proposals for related industries, was shelved for no apparent reason. This meant a real set back for the development of Sadat City. Nevertheless, it was found that there were four plants in the new town which were producing metal products, of which two made aluminium goods, one provided spare parts, while the fourth made metallic castings. There were 629 workers employed in the metallic industry in addition to 562 workers in the engineering industry, bringing the total to about 947 workers, or 7.9% of its projected employment for 1990.

2- None of the transport equipment industry proposals have been implemented.

3- The paper products industry was found to have only one plant operational in the town, employing only 32 workers, accounting for 4% of the projected employment for this industry.

4- By 1990, the textile industry had a total of 1,050 jobs, representing about 26% of its projected employment. The textile industry had seven plants operational in the town, involved in colouring and finishing, knitting and carpet manufacturing.



5- By 1990, the non-metallic industries had provided 1,553 job opportunities, or 31.1% of its target. The building materials industry employed 632 workers in eleven plants, manufacturing cement, sand and sandstone bricks as well as a plant engaged in the production of prefabricated housing units. The chemical industry had 629 workers employed in twelve plants involved in the production of liquid gases, detergents, cosmetics and paints and varnishes. The remaining 292 jobs were provided by the plastic industry, which had ten plants engaged in manufacturing footwear, toys, bags and buttons.

6- The food industry was found to have provided only 474 jobs, accounting for 35.1% of its target employment for 1990. These jobs were provided by nine firms producing milk and meat products (Figure:7-5).

#### Basic services:

In order to accommodate the ministries and government agencies, that would move to the new town, a ministerial complex costing some £.E. 6.9 million was established by 1986. Yet, since its completion it has not been used, as none of the ministries or government agencies from Cairo would agree to move to the new town. This was found, by a later opinion poll, to be due to the refusal of the majority of the white collar employees to leave Cairo to live in the new town. This raises the question as to why, despite the master plan's admission of possible difficulties in persuading white collar employees to move to Sadat City, such an opinion poll was not carried out as part of the master plan study?

Additionally, it was found that no steps had so far been taken that would allow Sadat City to carry out its proposed regional, administrative and governmental functions. In terms of higher education institutes, it was found that only an experimental farm belonging to the American University had been established to undertake researches on arid-agriculture and land reclamation. Otherwise, none of the planned educational units and research institutes were

established in the new town. As for the telecommunications centre proposed, it was found that a communication building, with a total capacity of 20,000 telephone lines, was established on the central spine of the town. Overall, it was found that the provision of basic service activities in Sadat City have been significantly poor.

Non-basic services:

It was found that of the commercial services planned, the first stage of an hotel was constructed, comprising fifty-six rooms and one suite together with amenities, which include a restaurant, cafeteria, a launderette, with a capacity to meet future requirements of the second stage, when the number of rooms would reach three hundred. But, none of these facilities have yet been operational because of the absence so far of any demand for such services in the new town.

A four-storey rental office building was built between the city hall and the hotel. The ground floor of the building was allocated to the Bank of Housing and Reconstruction and the three upper floor included twenty-four office areas to be let speculatively for various activities the new town might require. Although the ground floor was allocated to the bank, it has not yet begun operating. It should be mentioned that the bank belongs to the MHNCU which is also responsible for new towns development. This relationship could raise the question; did the bank acquire this space to serve possible customers, if any, or was it a political move by the Ministry to show that the new town was progressing in matters other than merely constructing buildings? It was also found that other than the hotel and the office building, none of the commercial services proposed by the master plan have been established.

No accurate figures were available about the employment opportunities created in community facilities, retailing and wholesaling transport, communication and utilities, but it is believed that in reality, there have been very few, if any, jobs created in the new town by these services.

Construction activities:

The employment opportunities provided by the construction sector were very difficult to determine (see p.221). Yet, it could be suggested, as the construction process was lagging behind its targets, that the actual number employed was less than projected

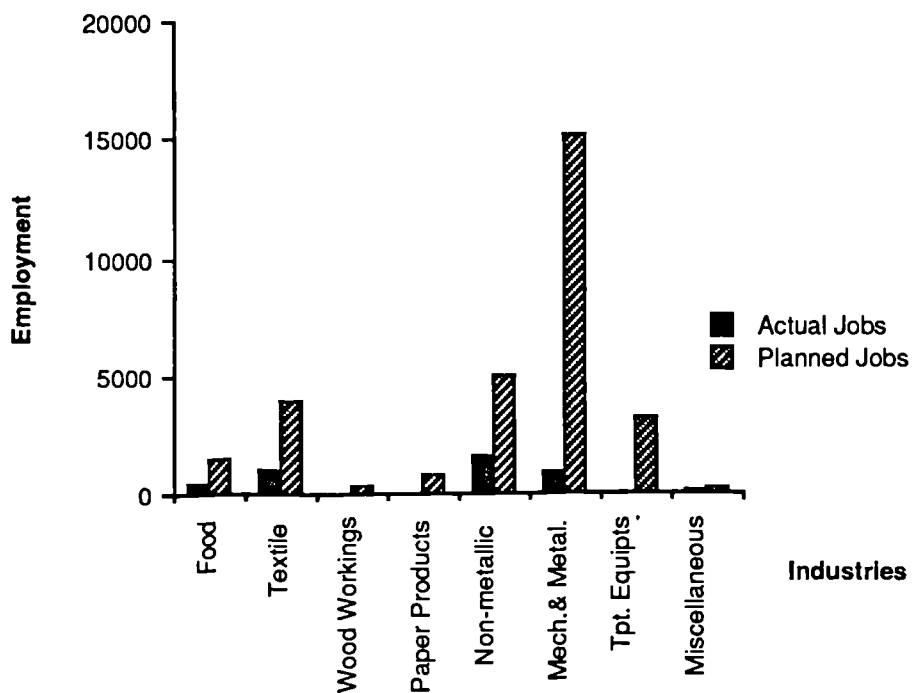


Figure 7-5: Actual and projected industrial employment in Sadat City - breakdown by industrial sector.  
Source: SAbour, 1980 and MHNCU, 1990.

**e- Appreciation: the new towns overall**

All the new towns investigated were found to be lagging far behind their employment targets. Concerning industrial development, except for the Tenth of Ramadan which has achieved a reasonable level of success with the attainment of about 70% of its industrial employment targets, all were found to be lagging badly behind their industrial employment projections. It was also found that the new towns have failed to achieve the integrated and balanced industrial structures proposed in their master plans. It can be argued that the master plans' predictions were too precise and too detailed, because total control is not possible within a mixed economic system as is the case in Egypt. There is no clear documented indication of the basis on which the planners of the Egyptian new towns managed to provide such precise and very detailed predictions. It can be argued, furthermore, that the development authorities cannot be expected to be able to be selective about the type, size and capital invested in projects put forward by the private sector for establishment in the new towns in the early stages of their development. Rather, the development authorities would be likely to accept almost all the industrial projects seeking permissions to operate in the new towns. Thus, it can be argued that the precise projections of the nature and size of the projects to be established in the new towns lacked any sense of practicality.

The service, construction and the tourism activities were found to be almost absent in all the new towns examined. This means that all the new towns investigated were, in different degrees, lagging behind in achieving their employment targets. The following section, therefore, is devoted to the apparent problems and obstacles affecting the new towns economic development.

**f- Difficulties confronting the economic development of the new towns**

The new towns have singularly failed to achieve the employment projections made in their master plans and are trailing far behind the employment targets set for them. This failure could be attributed to a number of reasons.

1- Bureaucratic hurdles and the large number of permissions required: Entrepreneurs are asked to obtain a series of official permissions to set up their firms in the new towns. For instance, the Sixth of October NTDA, intending to assist investors, has prepared thirteen forms to be filled in at various stages. They range from a request for obtaining industrial land in the town, the approval of the Public Investment Authority, a request for a permission to construct the plant, a request to operate the plant, to requests for connecting electricity, water and sewerage. Moreover, the investors not only have to deal with all these forms but also have to deal with a variety of authorities located in different regions.

2- Bottle-necks in the prior provision of infrastructure and amenities: Delays in beginning production in the new towns were also caused by the investors being held up by bottle-necks in infrastructure and utilities supply. This was more obvious in New Ameryiah City, where the industrialists had to use their own electric generators to operate their plants because of the absence of electricity until the mid 1980s. Even then they have been taken aback by the large bills they have had to pay to connect to the electricity network. These have run into hundreds of thousands of pounds. Consequently, it was found that some firms, not only in New Ameryiah City but also in the Sixth of October, were still using their own electricity generators to provide the electricity they need. Similarly, the industrialists and businessmen in New Ameryiah City stated that there were no telephone facilities in the town until 1988, when they complained about the lack to the President, who was visiting the town. Immediately afterwards the NTDA, under

orders from the President, installed telephone facilities for the firms who asked for them.

3- The new towns have failed to achieve their planned economic base strategies through failing to promote and facilitate the establishment of the planned industrial structure. Such failure can also be attributed to the control powers and the procedures adopted by the NTDA's for approving the setting up of any firm in the new towns. According to these procedures, private investors are not allowed to invest in certain industries. Their establishment is either forbidden (such as the case of industries with high power consumption like the electric heaters industry) or is reserved to be carried out by public agencies only (such as the monopolistic steel industry). Other than these public sector industries, private investors can invest in any type of industry and not necessarily only those planned for each new town. The procedures do not give any priority to achieving the planned mix of industries, rather they focus upon the immediate financial returns from selling industrial land. In the cases of excess demand for industrial land, it was found that they would give priority to the firms that could afford to pay all or most of the price of the land in hard cash.

4- Other economic activities planned for development in the new towns were found to be not only way below targets, but completely absent. This is attributed to the development authorities over-emphasis on industrial development as the sole means for developing employment potential in the new towns. In relation to community facilities, which should be developed parallel to population growth, the resulting small number of inhabitants living in the new towns meant that these facilities were only marginally developed, particularly where their supply was perceived to be the function of the private sector.

5- Finally, the new towns, even with extensive incentives such as cheap land and tax reliefs, cannot be seen as independent entities which have nothing to do with

the overall national economic climate. Investors in the new towns are subjected to the overall national economic climate in general and the current national, regional and local economic difficulties in particular. These may range from local shortage in, or low quality of raw materials, and to national importing and exporting problems (see section: 6-2-2-d). In essence it would seem that to encourage the new towns economic development, it is first necessary that the overall economic climate should be improved and not vice versa.

#### **7-4 Summary**

The new towns in Egypt were designated to fulfil demographic as well as economic objectives. Concerning the demographic objective of absorbing overcrowded population from the traditional urban areas, the new towns investigated were found to have failed totally in achieving the population targets set for them. It was found that this failure could be due to the slow rate of employment growth achieved by the new towns. The very slow population increase could also be attributed to the mismatch between the prices set for renting or leasing housing units in the new towns, the financial abilities of the workers employed there and the renting occupancy system adopted, the ease of commuting and also the absence of any form of social life in the new towns. Additionally, the NTDA's were found to have delusions about the ability of any "new town" policy to fulfil the actual objectives and priorities set, given the prevailing economic and administrative context in Egypt.

The economic objectives set for the new towns included attracting existing over-concentrated economic activities from older urban areas. The new towns were found to have a limited effect on decentralisation efforts. The firms moved were found to have done so due to a lack of space for expansion and the lack of services and infrastructure in their original locations as well as the unsuitability of their original premises. It was also found that most of the premises vacated by the

firms which moved to the new towns were used for industrial activities similar to those of the former occupants. Therefore no gain occurred to the exporting city which remained as over-crowded as before. Such re-occupation was made possible by the absence of any form of control over the vacated premises.

The new towns were also expected to encourage local and foreign entrepreneurs to invest in the new towns' locations, mainly through the provision of cheap land and tax reliefs. These incentives were found to be excessively advantageous and seemingly were granted without any examination of the balance between their costs and possible benefits. This led most firms to buy land at the cheap prices offered, in excess of their actual needs either for future expansion (acceptable if intentional) or for speculation purposes (unacceptable in all circumstances). As for the tax reliefs provided, it was found that they were applicable to almost all economic activities operational in the new towns, without any form of preferential treatment for desirable activities. The tax reliefs system adopted was also found to suffer from a shortcoming which could lead to great loss to the public treasury instead of encouraging new investment to the new towns. Overall, it was found that the firms which moved to the new towns were mainly encouraged by the availability of cheap land, the generous tax reliefs provided as well as the provision of an initially sufficient infrastructure and supply of basic amenities. Almost all the firms interviewed were troubled by the large number of permissions necessary to operate in the new towns and the unfavorable economic climate in the country.

Additionally, the new towns were expected to assist in developing the natural resources available in the desert regions. It was found that only New Ameryiah City and Sadat City were located in regions with significant natural resources to make this possible. As for the Tenth of Ramadan and the Sixth of October, they were located in areas which had no significant natural resources.



Finally, the new towns were expected to provide employment opportunities through the wide range of economic activities to be developed there. To that end the master plans of the new towns investigated provided precise and very detailed future projections which, taking into account the mixed economic system adopted in Egypt, proved to be groundless. Although all the efforts of the development authorities were concentrated on industrial development, none of the towns studied have managed to get any closer to achieving their industrial employment targets than the Tenth of Ramadan with an exceptional 70% of its industrial employment target achieved. As for the other new towns, the industrial employment opportunities provided have only amounted to 37.8%, 11.6% and 14.9% of the targets set for 1990 in the Sixth of October, New Ameryiah City and Sadat City, respectively.

The slow rate of employment growth achieved by the new towns could in large measure be attributed to the many formal permissions needed to operate in the new towns. These permissions were to be obtained from a variety of governmental agencies located in often distant areas of Egypt. Additionally, the firms operating in the new towns were found to be held back by delays in the evolution of basic infrastructure and amenities provision. Concerning other economic activities proposed for development in the new towns, the signs were that all the new towns investigated have failed totally to achieve any breadth in the range and form of alternative activities. Also, if the new towns were to achieve rapid rates of economic development postulated in their master plans, the overall economic climate in the country would have had to improve dramatically over the relevant periods. This did not occur and the consequences are obvious, as is the inter-relationship between the political will to prescribe an end and the power to marshal and control the resources to achieve that end.

## Chapter 8

### The evaluation of the Egyptian new towns in terms of theoretical characteristics

#### 8-1 Introduction

Despite the indications that there is no agreement between town planners on the precise nature and magnitude of the elements of the new towns, there is general acceptance as to certain basic features that all new towns should have. They include functional as well as physical characteristics. The functional characteristics incorporate self-containment, both in terms of the provision of employment and of facilities and services for the residents of the new town. They also involve a balanced population in terms of age-structure, male/female distribution and socio-economic structure. Another characteristic of the new towns is a sound economic base, which includes a variety of economic activities that have growth and linkages potentials that can enhance the economic as well as the demographic development of the new town. Finally, the development of a new town is to be sponsored by a single authority that can ensure systematic implementation of its plans and avoid the duplication of efforts (for more details see chapter:2).

Two principle physical characteristics of a new town, which should be considered carefully, are the location and size of the town. Selecting a location for a new town represents a very complex process that depends upon a wide range of economic, demographic as well as physical elements. Furthermore, the optimum size of a new town in terms of population and areal extent, must be justified on economic and functional grounds.

The purpose of this chapter is to examine the Egyptian new towns in terms of their functional as well as physical characteristics, in order to find the extent to which the theoretical features have been achieved. It intends to point out the

weaknesses as well as the strengths that can undermine or otherwise enhance the possibilities of acquiring such characteristics.

## **8-2 Functional characteristics**

### **8-2-1 Self-containment**

The term self-containment has been referred to in most definitions of the new town concept as one of the essential characteristics that a new town should possess. It involves two meanings; the first refers to a need to provide a wide range of employment opportunities for its residents and the second is related to the provision of sufficient urban facilities in the town, so that it would neither be dominated by, nor place undue demands upon, the infrastructure, services and employment provision of other cities.

These two interpretations of self-containment, it was found, were also referred to as desirable features for Egyptian new towns. For instance, the master plan of the Tenth of Ramadan states that:

" (the new town) is an independent industrial city and not an extension to any existing residential area. It is an integrated city with its own public utilities, services, housing and industry."

The Sixth of October master plan also points out that:

" (the new town) is to provide at least 80% of employment opportunities for its residents, in order to ensure its independence and not to be a burden on its region."

Self-containment, as such, was considered not only as an ultimate target to be achieved by the completion of new town development, but also as a feature to be maintained during the whole period of such development. This was to be ensured by planning the provision of a wide range of facilities and services, as well as

forecasting employment needs for most of their inhabitants during all phases of development.

As far as journeys to work are concerned, the new towns are no where near achieving any degree of self-containment. Only 564 workers, or 12.4% of the 4,456 workers accounted for, were found to be residents in the new towns. The remaining 3,993 workers, or 87.6% of total employees, were commuting daily to their workplaces in the new towns (Table:8-1). This high rate was revealed for both male and female workers, with some 3,461 males, or 87% of total male workers, commuting daily. The rate for females was found to be even higher with 532, or 91.6% of total female workers, commuting daily to the new towns to work. This slightly higher rate could be attributed, as suggested by a study carried out in 1986, to the fact that the majority of the female commuters were single and consequently had difficulties of a social nature in settling into the new towns by themselves, particularly as the new towns were almost empty after working hours.

The commuters were found to be travelling from nearby governorates, as the nearer the town is to other residential areas the easier it is for people to work in the new town and live elsewhere. The most substantial in-commuting flow was found to be from Cairo, which is located relatively close to three new towns, with 2,009 workers, or 52% of the workers commuting daily. Alexandria represented a significant source of in-commuting movements, with 1,137 workers, or 30% of total commuters. The remaining 783 workers came from Sharkia and Behera governorates. It was suggested that some of the commuters from nearby governorates to the new towns were originally from Upper Egypt and moved to those governorates so as to reduce the relative distance they had to commute daily (Table:8-2).

New Town	Resident-in		Resident-out		Total	
	no.	%	no.	%	no.	%
The Tenth Of Ramadan	142	10.8	1178	89.2	1320	100
The Sixth of October	157	13.5	1007	86.5	1164	100
New Ameryiah City	14	1.2	1168	98.8	1182	100
Sadat City	251	28.2	640	71.8	891	100
Total	564	12.4	3993	87.6	4457	100

Table 8-1: Total resident-in, resident-out workers in the new towns

Source: The Field Survey, 1990.

New Town	Ca'ro		Alexandria		Sharkia		Behera		Tota	
	no.	%	no.	%	no.	%	no.	%	no.	%
The Tenth Of Ramadan	629	61.1	-	-	400	38.9	-	-	1029	100
The Sixth of October	1007	10.0	-	-	-	-	-	-	1007	100
New Ameryiah City	-	-	1137	97.3	31	2.7	-	-	1168	100
Sadat City	373	59.7	-	-	-	-	252	40.4	625	100
Total	2009		1137		431		252		3829	

Table 8-2: The origins of commuting workers

Source: The Field Survey, 1990.

As the commuting flow also depends on the availability of transport facilities, almost all the firms interviewed were found to be providing transport means for their employees to use. Out of the fifty-six firms interviewed, fifty-one firms, accounting for 91% of total firms surveyed, were providing transport, mainly coaches, in order to ease traveling for their employees as well as to reduce possible delays and absenteeism. Firms which did not provide transport for their employees included two which had a small number of their employees commuting-in daily, the rest being resident in the new towns. As for the other three firms, they indicated that their employees were commuting daily from nearby residential areas, located 2 to 3 miles from their new town work places.

Similar patterns of significant in-commuting movements were experienced, with a degree of variance, by all the individual new towns investigated. For instance, the Tenth of Ramadan survey sample had 1,178 workers, or 89.2% of the total workers accounted for, commuting in daily. Similarly the Sixth of October and Sadat City samples were found to have 1,007 and 640 workers, or 86.5% and 71.8% of total workers respectively. The figures from New Ameryiah City sample were 1,168 commuters, or 98.8% of the total. Except in the case of New Ameryiah City, the variations recorded in the rate of commuting experienced by individual new towns could be due to the sample covered by the study. For example, the sample covered in the Tenth of Ramadan included three large firms employing 829 workers of which only 94, or 11.3% of the total, were residents in the town. The overall rate of commuting movements for the other firms interviewed in the town was found to be around the average for all new towns at 86.2% of the total. In the case of Sadat City, the sample of firms covered included a public sector manufacturing firm, which provided accommodation in the town for all of its 130 workers, but excluding this unit the overall rate of commuting movements experienced by Sadat City was found to be about 84.1% of total workers accounted for. In the case of New Ameryiah City, the particularly high rate of commuting

found would be attributable to the fact that the NTDA only started to hand housing units to their potential occupants at the beginning of 1989.

The flow of in-commuting was found to be influenced by a variety of factors. It was found that twenty-eight firms, or 50% of the firms interviewed, failed to acquire housing units for their employees for a number of reasons. Fourteen firms said that the high prices of housing was the only reason for not acquiring such accommodation in the new towns. Two other firms indicated that the high prices of housing and the tenure system, which requires that the worker who leaves his job in the new town should also leave his rented accommodation in the town, were behind their refusal to acquire accommodation for their workers. Another problem, suggested by three firms, was that their workers did not want to move and live in the new towns. This could be attributed both to the social and family ties they have in their current place of residence, and to the lack of any form of social life in the towns. Other obstacles confronting the firms, but which were mentioned only once, were the high rate of turnover amongst employees, the employees were too young, and finally that the particular firm was within easy commuting distance (2-3 miles) from where their employees lived.

A second possible reason why there was a high rate of daily commuting could have been the absence of any social fabric in the new towns. A third reason *could be the separate provision of transport by the individual firms operating in the new towns*, which facilitated the daily trip to work and thus reduced the pressure on the workers to move and live in these towns. This does not mean, however, that such provision should be discouraged, rather, it should be seen as an essential approach adopted by the firms in order to ensure a steady and stable supply of workers.

In terms of the second meaning of self-containment, that is the provision of a wide range of facilities and services, it was found that despite the huge sums

allocated for the provision and construction of the premises for such facilities, these establishments were either scattered indiscriminately over large areas within the new town or necessary services and facilities were not provided at all. Where planned buildings were completed they were left vacant or used for purposes other than those originally intended (see "evaluation" under section 5-3-1-a). This abandonment of these establishments was due to the refusal of certain governmental authorities to provide these facilities and services. This could be attributed to the limited financial sources available to those governmental authorities as well as to the very small number of inhabitants living in the new towns. These conditions did not give the new towns the desirable image of independent and self-contained communities, which in turn further deterred people from moving to the new towns, and consequently increased commuting movements. It could be concluded thus that the Egyptian new towns have failed to achieve any degree of self-containment, in both of the meanings initially defined.

#### **8-2-2 Demographic balance**

The term balance, which represents one of the basic features of the new towns, involves three interrelated interpretations. The first relates to the age structure of a new town population. The second interpretation is concerned with the socio-economic structure of that population, which is dealt with here through studying the educational status as a proxy for the socio-economic structure as no socio-economic classification is employed in the Egyptian national population census. The third meaning relates to the male/female distribution in a new town. These three interpretations are dealt with in the following sections. The very limited increase in the Egyptian new towns population has decreased significantly the impacts of any form of imbalance, in all three interpretations. According to the 1986 census the population of these towns ranged between 8,537, 1,927 and 527 inhabitants in the Tenth of Ramadan, Sadat City and the Sixth of October, respectively. While, New Ameryiah City had no population. The treatment of the



issue of population balance, therefore, is more of a descriptive approach to the conditions revealed in the new towns rather than a comprehensive analysis. This means that no definitive conclusions can be drawn from the study of the age structure, socio-economic composition and male/female distribution of the Egyptian new towns populations.

#### **a- Age distribution**

In relation to the age distribution, the 1986 census shows that the population of the urban areas in Egypt was dominated by the 0-15 years age group. It represented about 36.3% of the total population. It was followed by the 15-25 years age group, which accounted for about 19.7% of the total population. This meant that the population of less than 25 years of age accounted for about 56% of the total urban population. The 25 -35, and the 35-45 age groups, meanwhile, accounted for about 15% and 11.6% of the total population, respectively. The percentage of those of 45-55 years and 55 -65 age groups were 8.1% and 5.3% of the total population. Those aged 65 and over represented no more than 3.6% of the total urban population.

The age distribution of the population of the new towns varied greatly from the national structure as well as from one new town to another. In the Tenth of Ramadan, the 0-15 age group was highly represented with about 45.8% of the total population. It was followed by the 25-35 and the 35-45 age groups with 16.8% and 12.4% of the total population, respectively. This meant that these two age groups were marginally higher than the urban areas average. The 15-25 age group was found to be under-represented in the town with only 11.5%. Similarly, as could be expected, the 45 and over age groups were significantly under-represented with only 6.4% compared with the urban areas average of 17.0% of the total population.

In the Sixth of October, which by 1986 had only about 527 residents, the age distribution of its population was most imbalanced, with the 25-35 age group

significantly over-represented with about 42.4% of the total population. The 0-15 and the 35-45 age groups were under-represented with only 29.3% and 5.1% of the total population, respectively. The 15-25 age group accounted for about 17.2% of the total population compared with the urban areas average of 19.7%. This age group comprised 34 persons all of whom were female residents. The age group of 55 and over was under-represented with only 5.% of the total population, compared with an urban areas average of 8.9%. The 45-55 age group, moreover, was found to be totally absent from the new town.

In Sadat City, as in the Tenth of Ramadan, the 0-15 age group dominated, representing about half the population. It was followed by the 25-35 age group which accounted for about 23.6% , compared with the urban areas average of just 15%. The 35-45 age group represented some 8.3% of the population compared with an urban areas average of about 11.6%. Other age groups were all under-represented with the 15-25 age group accounting for 10.4% and the 45-65 group representing 6.1% of the population. The 65 and over age group, moreover, was found to be absent from the population age structure of the new town (Figure:8-1). These figures are presented to provide a picture of the demographic circumstances rather than statistical significance.

#### **b- Educational composition**

The population distribution according to the educational status varied between individual new towns and between the new towns and the country as a whole. In regard to the later, according to the 1986 census, illiterate people represented the largest group with 34.7% of total urban population. This, it was suggested, was attributed to the high percentage of illiterate females, who accounted for about 44.8% of total female population in urban areas. It was followed by high school graduates, and those who can read and write, representing some 31.4% and 25.5% of total urban population, respectively. The university

graduates, meanwhile, have accounted for no more than 8.5% of the total urban population.

In the Tenth of Ramadan, about half the population was equally divided between illiterates and high school graduates, which was in both cases less than the urban areas averages of 31.4% and 34.7%, respectively. The percentage of people who can just read and write was about 38.2% of total population, compared with an urban areas average of 25.5%. University graduates, nevertheless, accounted for about 12.2% of total population, which was higher than the urban areas average.

In the Sixth of October high school graduates were highly represented in the town, accounting for more than half the population, followed by the illiterates who represented more than a quarter, compared with an urban areas average of 34.7%. Those who can read and write were found to be under-represented as they accounted for about 17.5% of the population. The university graduates represented only 4.6% of total population, which was less than the urban areas average of 8.5%.

Sadat City was similar to the Tenth of Ramadan in that the percentage of illiterate people accounted for one quarter of the population, equalling the percentage of high school graduates. This means that these two groups were under-represented in the new town as comparable rates in the urban areas were 34.7% and 31.4%, respectively. The people who can read and write accounted for about 30% of total population, compared with an urban areas average of 25.5%. The university graduates represented 17.7% of total population, which was more than double the urban areas average and the highest rate of university graduates in the new towns investigated (Figure:8-2).

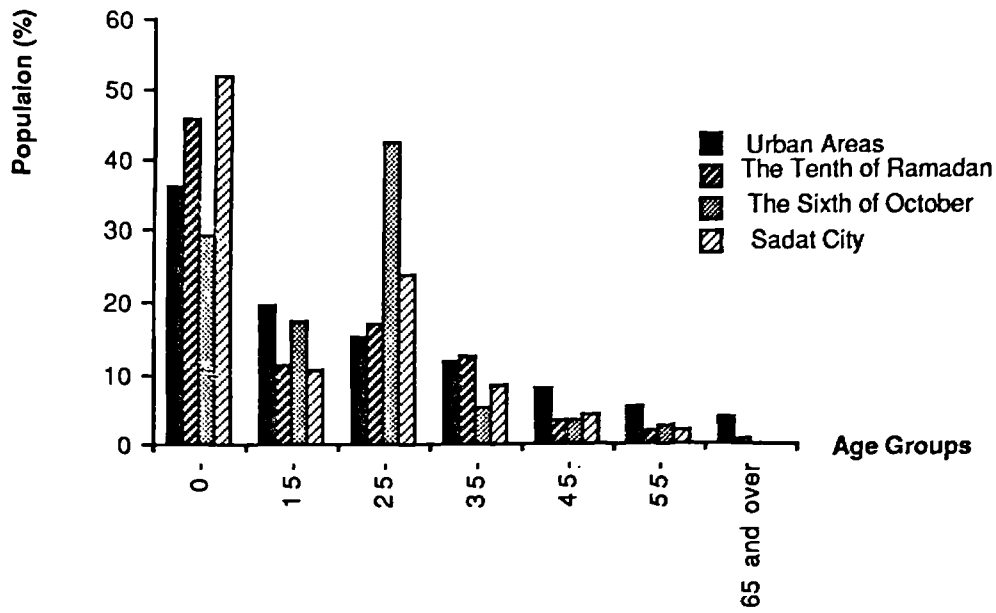


Figure 8-1: Age distribution of the new towns' population in 1986.  
Source: CAPMS, 1988.

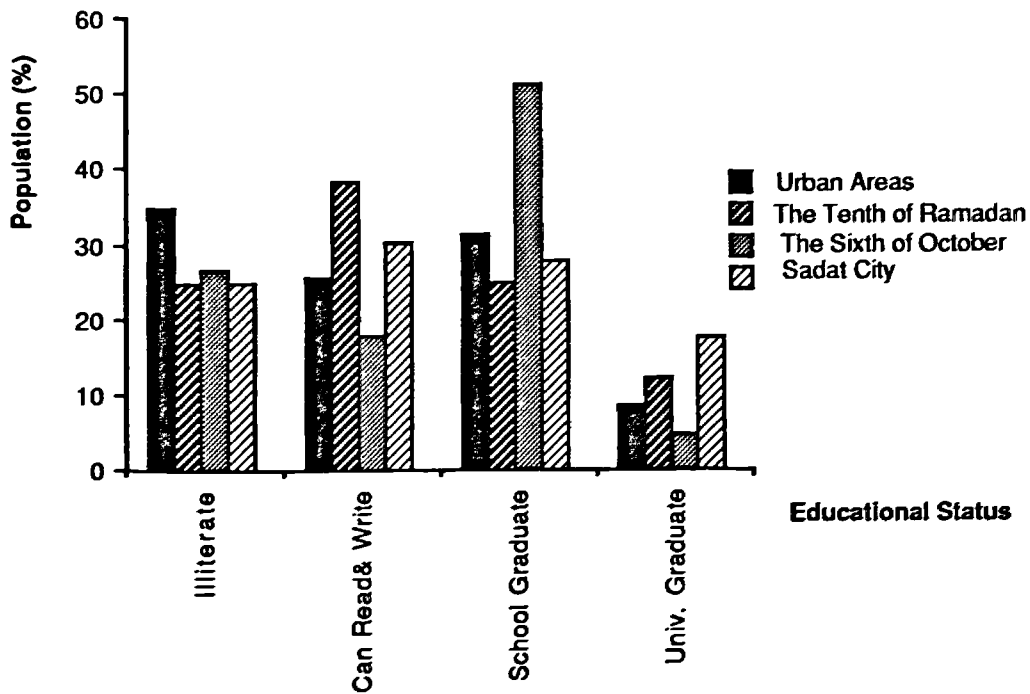


Figure 8-2: Educational status composition of the new towns' population in 1986.  
Source: CAPMS, 1988.

### c- Male/female distribution

In relation to the male/female population composition in Egypt, it was found that the proportion of male population ranged between 51.3% and 51.1% of total population of the urban areas and the rural areas, respectively giving an overall national average of 51.2%.

In relation to the new towns, it was found that only the Tenth of Ramadan had a relatively more balanced male/ female structure compared with other new towns. It had a female population of about 3560 females, representing 41.7% of its total population. The male/ female distribution of the population of the Sixth of October and Sadat City were found to be dominated by male residents, who accounted for 82.5% and 85.3% of total population of these new towns, respectively (Figure:8-3).

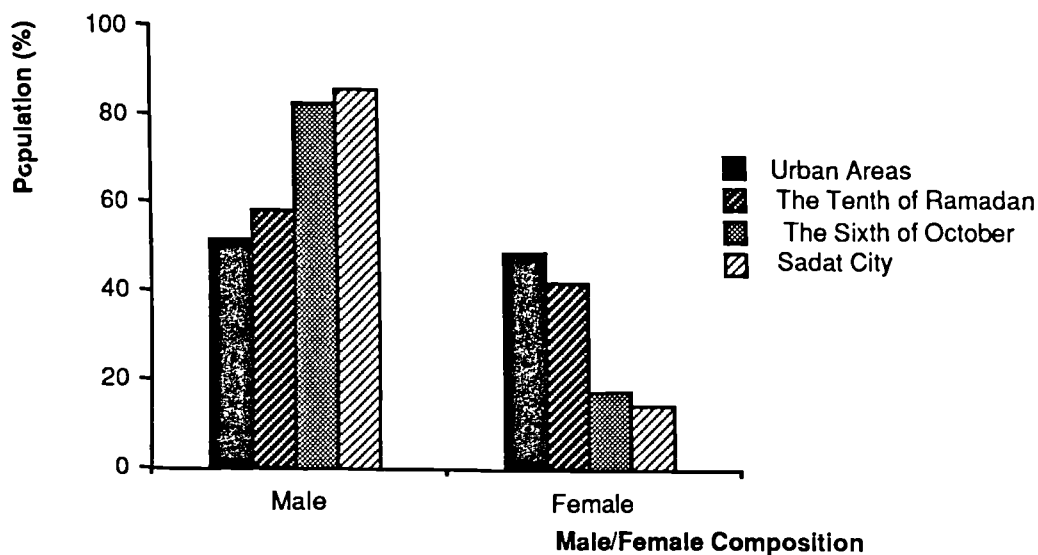


Figure 8-3: Male/female distribution of the new towns' population in 1986.  
Source: CAPMS, 1988.

### 8-2-3 Economic base

For a new town to have a sound economic base, that is one that would enhance and ensure its overall development, it was suggested that it should exhibit economic diversity and contain economic activities with local linkages and substantial growth potential. These three requirements are, therefore, discussed in the following sub-sections.

#### a- Industrial diversification:

As discussed in chapter 3, there are a number of methods and measures used to examine the industrial diversification of an area, and so determine whether it has the essential mix to achieve economic stability. These methods include measures entitled the National Average, Equal Distribution, the Minimum Requirements and the Portfolio. It was concluded that the Portfolio measure was reported to have the strongest explanatory powers, compared with other measures available, but, because the use of the portfolio measure requires time-series data, which was not available in the case of the Egyptian new towns, another measure is to be employed. It was decided that the entropy measure is to be used, as it was found to have performed better than other indices of diversification, except for the portfolio measure, both in terms of statistical significance and explanatory powers. It was also found to be the only measure that can be employed using the information available about the Egyptian new towns.

The entropy measure for economic diversification<sup>(1)</sup>  $D(P_1, P_2, \dots, P_n)$  is

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(1) The maximum value of  $D$  is attained when  $P_1=P_2=\dots=P_n=1/n$  and  $D(1/n, 1/n, \dots, 1/n)=c \log n$ . Further,  $D \geq 0$  and has the value zero only if one of the  $P_i=1$  and the remaining are zero and  $D(1, 0, \dots, 0)=\lim P \log P=0$  (Hackbart, 1975).

given by:

$$D(P_1, P_2, \dots, P_n) = c \sum -P_i \log P_i$$

Where

$n$ ; is the number of economic sectors.

$P_i$ ; denotes the relative employment or output of sector  $i$ .

Since there are ten sectors the logs are taken to the base 10 and  $c$  equaling 1. Thus the maximum value of

$$D(P_1, P_2, \dots, P_{10}) = -\sum P_i \log P_i$$

is one. The diversification or  $D$  value would then range from zero to one.

The entropy measure for economic diversification is applied to the industrial firms operational in the new towns by March 1990. This is intended to provide an indication of the industrial stability achieved by the Egyptian new towns.

In the Tenth of Ramadan, there were three main groups of industries which dominated more than half the industrial employment provided in the town. They were the textile industry, which had forty-nine firms employing some 4,794 workers representing 19.1% of the total industrial employment, the electric and engineering with thirty-one firms and 4,361 workers and the "miscellaneous" group with eighty-eight firms, employing about 4,439 workers, or 17.7% of the total. The remaining industries, shares of employment varied greatly from as much as 2,518 workers in plastic industry, or 10.0% of the total employment, to as low as 908 and 781 workers, or 3.6% and 3.1% of the total industrial employment in paper products and metallic and mechanical industries, respectively. The entropy measure for industrial diversification was 0.87.

In the Sixth of October all of the ten industrial types found in the Tenth of Ramadan were present, but with relatively large differences in terms of their employment shares. For instance, the miscellaneous group and the textile industries were found to have nineteen and fourteen firms, employing 1,412 and 1,399, or 17.0% and 16.8% of total industrial employment. They were followed by the wood-working and building materials industries with 1,188 and 1,042 workers, representing 14.3% and 12.5% of the total industrial employment. The metallic industry had seven firms employing some 852 workers, or 10.2% of the total industrial employment. The paper products industry, meanwhile, employed some 120 workers, or 1.5% of the total. This structure, it was found, meant a high degree of industrial diversification, with the entropy measure reaching 0.94.

In New Ameryiah City, the industrial sector was dominated by two types of industries. The first, the wood working-industry, was represented by six firms employing about 608 workers, or 24.2% of the total industrial employment. The second, the textile industry had four firms, employing 518 workers, or 20.7% of the total industrial employment. They were followed by the building materials, metallic, paper products and food industries with 14.0%, 11.0%, 10.2% and 8.3% respectively of the total industrial employment. The plastic and miscellaneous industries, however, were found to have smaller employment shares with 30 and 44 workers, representing 1.2% and 1.7% of the total industrial employment, respectively. The plastic and electrical and engineering industries had no operational plants in the new town. The New Ameryiah City was found to have achieved a reasonable degree of industrial diversification with an entropy measure of 0.85.

In Sadat City, the textile industry was found to have seven firms employing as many as 1,050 workers, or 23.6% of the total industrial employment. There were also three types of industries that had, roughly, the same employment share. The chemical and pharmaceuticals, the metallic and mechanical, and the building



materials industries, employed 629, 629 and 632 workers, or 14.1%, 14.1% and 14.2% of total the industrial employment, respectively. The electrical and engineering and the food industries had some 562 and 474 workers, or 12.6% and 10.6%, respectively. The plastic and the miscellaneous industries were found to have ten and three firms, employing 292 and 135 workers, or 6.6% and 3.0% respectively. The wood-working and paper products industries in the new town had only two firms and one firm employing 20 and 32 workers, or 0.5% and 0.7%, respectively. The industrial diversification achieved in Sadat City, according to the entropy measure, was found to be 0.88.

Overall, the Sixth of October was found to have achieved the highest degree of industrial diversification at 0.94. Other new towns achieved 0.87, 0.85 and 0.88 in the Tenth of Ramadan, New Ameryiah City and Sadat City, respectively. It can be concluded that the industrial diversification achieved by all the Egyptian new towns, according to the entropy measure, was reasonably high and consequently they should be enjoying a fair degree of industrial stability (Figure:8-4).

#### **b- Linkages**

In terms of linkages, it was found that most of the industrial firms in the new towns did not provide forward or backward linkages with other firms located in their towns, which might have enhanced the industrial development of these towns. It was found that out of the fifty-six firms interviewed only twelve firms were dealing with other firms in the same new town or other new towns and 8 of these were in the buildings materials industry. One firm in food processing and one in the Textile industry sold their products to the residents of the new town in which they were situated. The remaining two firms were in the engineering and electrical group, one operational in Sadat City and the other in the Sixth of October. The firm, which was situated in Sadat City and that in the Sixth of October sold 40% and 50% of their production in the same town.

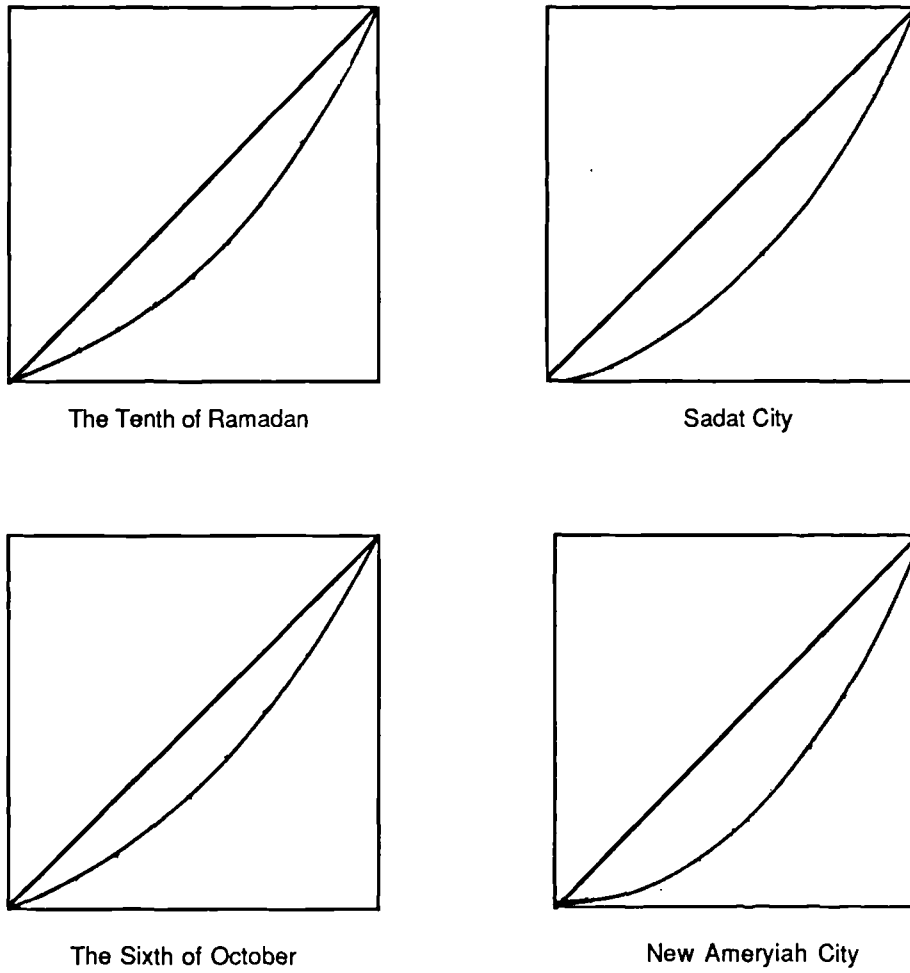


Figure 8-4: Lorenz Curve for industrial diversification  
in the Egyptian new towns.

Source: MHNCU, 1990.

It could be argued, therefore, that there is a need to encourage firms that have forward and backward linkages potential to locate in the new towns, as an encouragement to other related firms, so that all might consequently enjoy the economies of agglomeration.

### **c- Growth**

In attempts to evaluate regional economic policy it has frequently been argued that the proper measure of the impact of policy is neither absolute growth in the assisted areas nor growth relative to the country as a whole, but the difference between the nature and rates of change which actually occurred in the absence of policy. The same logic applies to the new towns programme: the impact of the policy on these towns is properly measured as the difference between the growth which occurred in these towns and the growth which would have occurred if they had not been designated as new towns. The problem in measuring the impact of the new towns programme therefore concerns the choice of an appropriate standard against which to compare the towns. By how much would they have grown, or declined, in the absence of policy?

Moore, Rhodes and Tyler (1977), using this approach to evaluate regional economic policy in Britain, decided to compare the trends within the period under study with the 1950s when the regional policy was most inoperative. Fothergill (1983) when attempting to evaluate the new towns policy in Britain, employed the conventional approach, discussed above, but compared the new towns growth with that achieved by towns not so designated but with similar sizes over the same period (see chapter 3). The designation of the Egyptian new towns from scratch meant that they represented a particular case in that there were no comparable existing towns in Egypt. The Fothergill approach was therefore inappropriate as a form of analysis.

A second possible approach, again one used in evaluating regional economic policy, is to use a simple technique known as "shift-share analysis" to calculate the employment change which could be expected on the basis of the mix of industries, or "industrial structure" in the new towns. Shift-share calculates the employment change which could be expected in an area if employment in each of its industries grew as in that industry in the country as a whole. This "expected" employment change therefore reflects the industrial structure in the area, and the growth or decline of each industry in the national economy. The difference between actual and expected change can in turn be used as a guide to the impact of policy or to other influences on location. In certain contexts an adjustment of this sort for industrial structure is helpful. However, the Egyptian new towns were developed in the desert regions from scratch i.e. had no industrial structure at designation, nor are sufficiently advanced and therefore have no comparable data base to enable the shift-share approach to be used here. Instead, the presence of industries that have managed to achieve rapid growth during the 1980s is investigated as a simple indication of the growth potential of the industrial structure of the Egyptian new towns.

Between 1980/81 and 1986/87, the production value of the textile and the electrical and engineering industries in Egypt had managed to achieve total relative increases of 76.3% and 106.6%, or annual average rates of growth of 10.9% and 15.2%, respectively. The chemical and pharmaceuticals and the food industries had higher total growth rates of 169.8% and 163.5%, or annual growth rates of 24.3% and 23.4%, respectively. The building materials industry had managed to achieve the highest rate of growth, with an overall relative increase of 254.2% and an average annual growth rate of as much as 36.3%<sup>(2)</sup> (Figure:8-5). Taking into

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(2) The view is that a more detailed industrial classification was more desirable to give the right impression about individual industries progress, but a lack in information enforced the use of these industrial classification and categories.

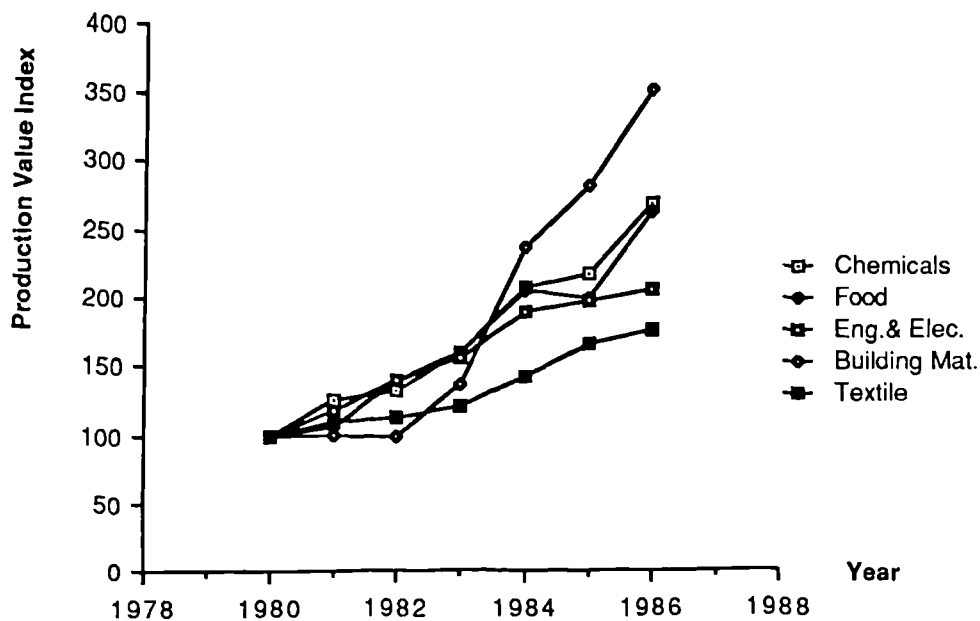


Figure 8-5: Industrial growth achieved during the 1980s- breakdown by sector.

Source: National Bank of Egypt, 1988.

consideration the high rate of inflation experienced by Egypt during the period studied, the huge apparent increases achieved by these industries were in fact small increases in real terms. Still, the changes in the production values of these industries could be used to give an indication of the differences in their performance in relative terms.

The overall industrial structure developed in the Egyptian new towns involved a mixture of industries that experienced a variety of growth rates between 1980/81 and 1986/87. About one-fifth of the new towns' total industrial employment was provided by the textile industry, which experienced the lowest rate of growth of all industries considered. The electrical and engineering industry, which achieved the second lowest rate of growth of all industries considered, was found to provide about 13.6% of the industrial employment in the new towns. This means that these two industries together provided about one-third of the industrial

employment in the new towns investigated. The food and chemical and pharmaceuticals industries, which achieved annual growth rates of 23.4% and 24.3% between 1980/81 and 1986/87, together had about 17.3% of the industrial employment. The building materials industry, which had the highest rate of growth of all industries considered, had only 9.4% of the industrial employment in the new towns.

In the Tenth of Ramadan, more than one-third of the industrial employment was provided by the electrical and engineering and the textile industries, which achieved the lowest rates of growth compared with the other industries considered. The food and chemical and pharmaceuticals industries, which achieved a moderate rate of growth in Egypt, had about 16.4% of the industrial employment in the town. The building materials industry, which had the highest rate of growth at 36.3%, was found to have only 7.1% of the industrial employment in the new town.

In the Sixth of October, the textile and engineering and electrical industries, which had the lowest growth rates of the industries considered, employed 16.8% and 6.9% of the total industrial workers. This means that these two industries had about one-quarter of the industrial employment in the town. The building materials firms, meanwhile, had about 12.5%.

In New Ameriyah City, the textile industry employed 20.7% of industrial workers in the town. The chemicals and pharmaceuticals and the food industries were found to have a joint employment share of about 17.0%, and the building materials industry had about 14.0%.

In Sadat City, the textile industry was found to have the largest employment share in the town, with one-quarter of the industrial employment. The electrical and engineering industry had about 12.6%, the food and chemical and pharmaceuticals together were employing about 24.8% and the building materials industry 14.8% of the industrial employment in the new town.

It can be concluded from studying the industries developed in the Egyptian new towns, that a large proportion of the industrial employment was provided by industries that achieved a low or moderate growth rate in Egypt. This could be due to the absence of any coherent policy by the NTDA's to select or even encourage the development of particular industries in the new towns. Since the NTDA's are not in a sufficiently strong position to be able to select between the industries wishing to locate in the new towns (as they need each and every job opportunity), it may be that a number of incentives should be introduced to encourage the development of certain types of industries, especially those with growth and linkages potential.

#### **8-2-4 Sponsorship**

##### **a- The New Communities Development Authority**

###### **1- Powers:**

For the purpose of securing the laying out and the development of the new towns, the NCDA, in accordance with the New Towns Act, is entitled to:

"... acquire, hold, manage, and dispose land and other properties, and to do anything necessary for the purpose of the new towns."

(The New Towns Act, 1979)

According to the New Towns Act 1979, the New Communities Development Authority (NCDA) was established as a legal entity to:

". . study, suggest, design, implement, and supervise various policies and plans associated with new towns development, in accordance with on one hand the National Economic and Social Development Plan, and the overall policy of the government, on the other." (The New Towns Act, 1979)

The New Towns Act went further by reviewing, in some details but in an ambiguous, repetitive and very broad way, various functions which the NCDA was established to serve. This ambiguity and repetitiveness could be attributed to the

overwhelming influence of legal experts in the formulation of the Act, and the absence of any background work in regard to the planning and development of new towns upon which the Act could be drawn, such as the Reith Committee's reports prepared before the British New Towns Act 1947.

The functions of the NCDA, as suggested by the Act, can be summarised as follows:

- 1- Design various urban development programmes as necessary for the establishment of new towns and co-ordinate between these programmes and other national production and services provision plans;
- 2- Organise consultations with various ministries and authorities working in the reconstruction and development field;
- 3- Carry out all the studies necessary for selecting the most appropriate locations for the establishment of new towns;
- 4- Prepare general and detailed plans for new towns development and follow-up the execution of these plans, or delegate these tasks to the NTDA of each new town;
- 5- Design and execute regional utilities and services necessary for new towns development, using the most economical methods, bearing in mind their appropriateness for the projects and schemes planned in the new towns;
- 6- Supervise the new towns development plans and solve any difficulties which may confront the development process;
- 7- Assist in providing machineries and materials necessary for the execution of various projects and schemes in the new towns;



8- Arrange for and carry out any national or international auctions, offers, deals or direct agreements necessary for undertaking various projects and schemes in the new towns, in accordance with stipulated internal regulations; and

9- Publicise the selling, leasing or renting of land in the new towns to local or foreign investors, in order to attain the economic development objectives designated for the new towns, taking into account the regulations controlling foreign investment (The New Towns Act, 1979).

A more detailed account of the structure of the NCDA follows:-

The appointments of the Board of the NCDA are made by the President of Egypt, depending upon the nominations of the Ministry of Housing, New Communities and Public Utilities (the New Towns Act, 1979). The board of the New Communities NTDA, in accordance with the New Towns Act, consists of the chairman, his chairmen and a number of principal members of the administrative system of the NCDA. Additionally, representatives from the various ministries and authorities associated with the activities of NCDA and a number of experts, are included on the board. Further, any ministry which does not have a permanent representative in the board has to have a co-opted one in attendance during discussion of matters associated with its activities.

The New Towns Act set no criteria for the selection of the board members, leaving the appointment process entirely in the hands of the politicians and the bureaucrats in the MHNCU. Nor did the Act consider or set a limit to the number of board members. This could lead to a considerable increase in the board's size and consequently constrain its flexibility and its efficiency.

The board is to meet at least once a month, at the chairman's request. At the meetings the decisions are made depending on the majority of members' approval. Nevertheless, in the cases of liabilities, leasing land or creating or

joining as partners in enterprises, two-thirds of the members must vote for it to be approved. Additionally, the board may temporarily create one or more sub-committee's from its members to pursue any of its activities. Further, the board may temporarily authorise its chairman to carry out any of its functions or accomplish certain tasks.

The tasks designated for the NCDA represent almost all the functions necessary for overseeing new towns development, leaving no precise tasks for the individual NTDA's to undertake. Furthermore, it was argued that neither the NCDA nor the NTDA's have any coherent system for the planning and budgeting of annual and periodical targets, or any monitoring systems (PPI, 1986). It could be suggested, also, that the NCDA suffers not only from a lack of expertise necessary for carrying out such large-scale development in terms of skilled planning staff to prepare and supervise plans implementation, but also, from the absence of any comprehensive information system to keep the management up-to-date with the development of the new towns.

With seven national government ministers on the board, the possibility of monthly meetings could be constrained. The formulation of committees to deal with various activities pursued by the NCDA could bring in more bureaucracy and create inconsistency in new towns development when each aspect of the development process is dealt with by a separate committee, thus losing the advantages of team work. Allowing for the delegation of the NCDA's powers to its chairman means that he could end up with extensive powers, which could lead to his manipulation of the new towns policy, particularly since most of the NCDA's and the NTDA's members are employed by his Ministry.

## 2- Organisational structure:

The administrative structure adopted in the NCDA, with its particular task of developing new towns, is a "Matrix Structure". Such structure allows for specific objectives to be carried out, and permits more flexibility and speed in the decision-making process.

It was argued, nevertheless, that the NCDA suffers from the usual obstacles experienced by any traditional government agency either in terms of the complexity of its structure or the duplication of functions, leading, inevitably, to over staffing (Sweco,1982). Also, the problem of specialisation of functions arises between a number of divisions, such as that between the Contracts Division, the Technical Department and the Finance Department which duplicate partial functions. Such obstacles lead, inevitably, to delays in the decision-making process, inducing the introduction of checks and regulations and consequently bringing in bureaucracy which further limits the scope for unorthodox and flexible decisions.

The administrative structure of the NCDA was also found to be suffering from inconsistency in terms of its hierarchy or seniority. For instance, the legal division, which is by nature a primary structure division, was designed as a secondary division serving other operational departments (Figure:8-6).

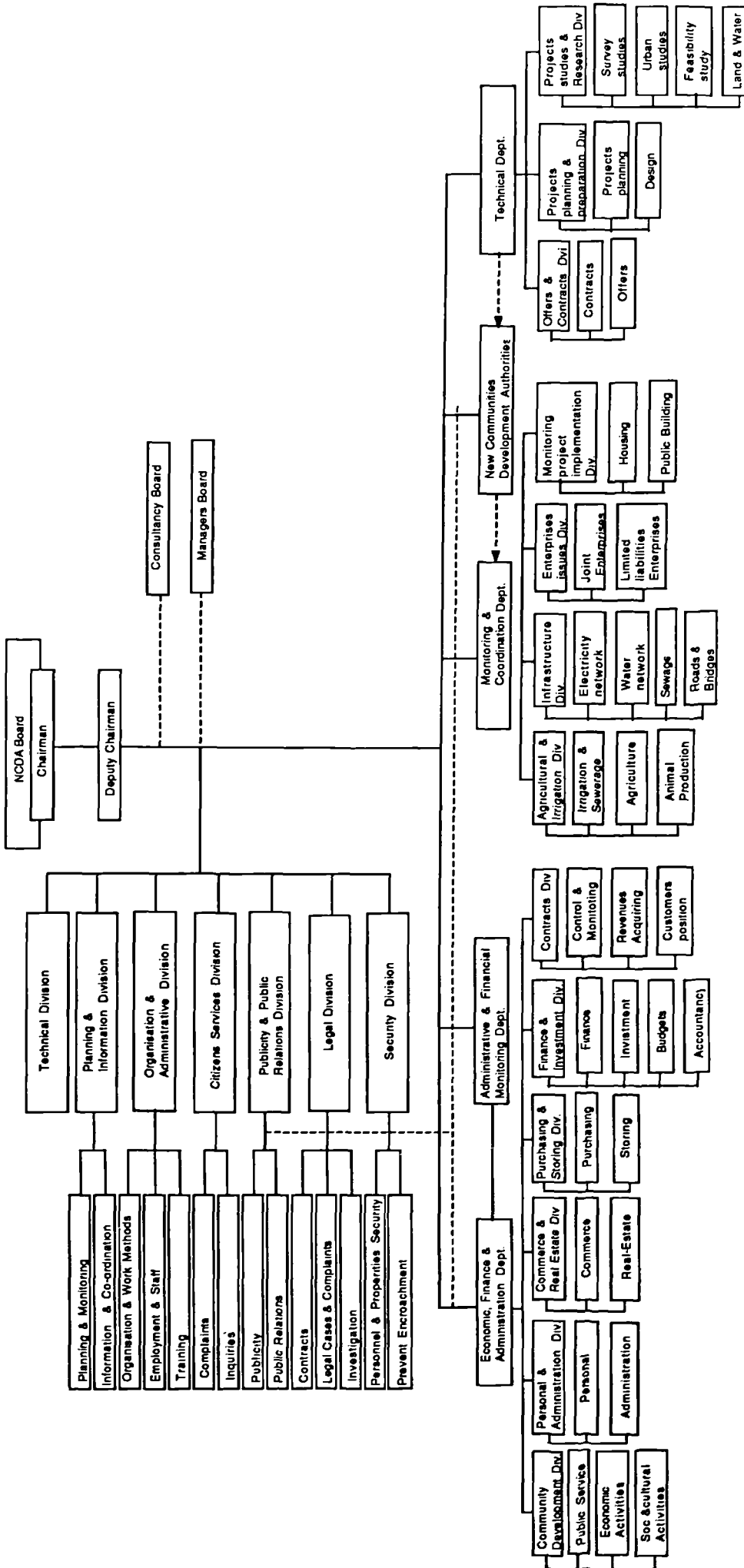


Figure 8-6: The Organisational Structure of the New Communities Development Authority

Source: MHNCU, 1987.

**b- The individual New Town Development Authorities****1- Powers:**

According to the New Towns Act, a NTDA is to be established by the NCDA for each new town for the purpose of developing the town and managing various projects and schemes within the town. The Act does not consider possible functions, powers and responsibilities of each NTDA. It entitles the NCDA to determine, on an individual basis, the powers and responsibilities of such NTDA.

But, a review by the PPI (1986) of the decisions made by the chairman of the NDCA up to 1987, indicated that no decisions to determine the powers and responsibilities of the individual NTDA's have been made, and thus no powers were delegated. Rather, decisions were made on an ad hoc basis for specific and limited cases in each new town. For instance, the chairman of Sixth of October's NTDA was authorised, in 1986, to sign on behalf of the NCDA, the contracts for renting or leasing land located within the new town boundaries (NCDA, 1987). The NCDA is still in entire control of the development of the new towns and consequently the individual NTDA's have no powers to influence their development directly. NCDA decisions vary from policy making to detailed allocation of land for various projects. For instance, the NCDA has decided to allocate land in the Sixth of October for schemes and projects which were not considered either in the master plan or the detailed plans as prepared by the town's NTDA. These schemes include:

- \* The allocation of three residential neighbourhoods to be developed by Housing Cooperatives;
- \* The allocation of one residential neighbourhood for the establishments of embassies;
- \* The establishment of a luxurious neighbourhood in the tourism area; and

\* The addition of a fourth industrial area to the three planned industrial areas.

Furthermore, the NCDA has authorised the establishment of other projects, such as a sports stadium, storage area, and an entire area for TV and cinema production, outside the built-up area (PPI, 1986).

It could be argued that delegating only such limited powers to the NTDA's would result in the slowing down of progress in the new towns development programme. The centralisation of power has led to complicated procedures to be followed before investors are allowed to invest in the new towns. As a result the NTDA's function only as construction agencies, and have little or no control over the lack of balance in the projects to be implemented in their areas.

## 2- Organisational structure:

Although the chairman of the NCDA was authorised, in accordance with the New Towns Act 1979, to designate the appropriate organisational structure for the NCDA as well as that of the NTDA's, the administrative structure for the latter was introduced only in 1982 (Sweco, 1982). Further delays occurred in the process of reshuffling their staff and filling vacant positions. These delays meant slowing down the process of new towns development, and consequently increases in their development costs, particularly with the high rate of inflation experienced by Egypt.

As figure (8-7) illustrates, the organisational structure of the NTDA's started, as with any public construction firm, with two principal departments; namely a Projects department and Implementation department. Later, changes were made in the organisational structure as a result of working experience and needs. A Community Development department was created as well as a department to deal with financial, administrative and properties issues arising in the new towns (PPI, 1986).

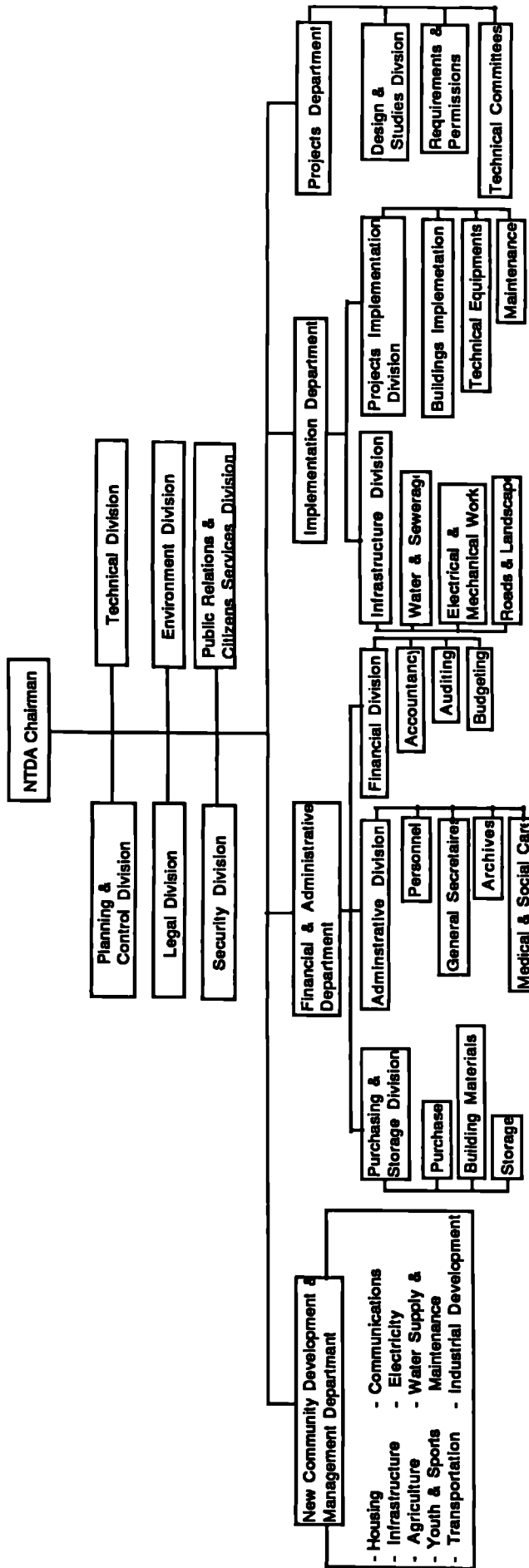


Figure 8-7: The organisational structure of a typical NTDA.  
Source: MHNCU, 1987.

The same organisational structure has been adopted in all the Egyptian new towns, except Sixth of October where the chairman of its NTDA has introduced modifications in the structure mainly by placing more divisions under his direct control and abolishing most of the Development and Management Department subdivisions (Figure:8-8).

This suggests that the organisational structure of the individual NTDA is largely the result of adventurous experiments, rather than being based upon a scientific groundwork founded in turn on other countries' experience in new towns development. Although the administrative structure of the NTDA is simple with a clear span of control, it represents "a Functional Structure", which is a non-innovative structure and, by definition, functionally oriented. Furthermore, the structure is a bureaucratic one, which makes them slow organisations. The structure also suffers from rigidity in the span of control as well as inconsistency in its hierarchy, with duplications in functions. For instance, it was suggested that

"... (the NTDA) has the major characteristics of a government agency... It is heavily staffed, dependent upon government rules and regulations, and tends in general to work as a traditional government organisation. . .These features of the management system occasionally limit the scope for unorthodox and flexible decisions, and the temporary mobilisation of specialised staff and task forces, which tend to characterise the typical needs of efficient project organisation."

(Sweco, 1982)

The adoption of such an administrative structure, the centralisation of powers in the hands of the NCDA and the NTDA's lack of practical expertise, have resulted in the NTDA functioning as constructors rather than developers of their new towns. This has been reflected in the defective setting of priorities for new towns development and consequently inefficiency in resources utilisation and inconsistency in their development progress. Furthermore, reporting of the NTDA's



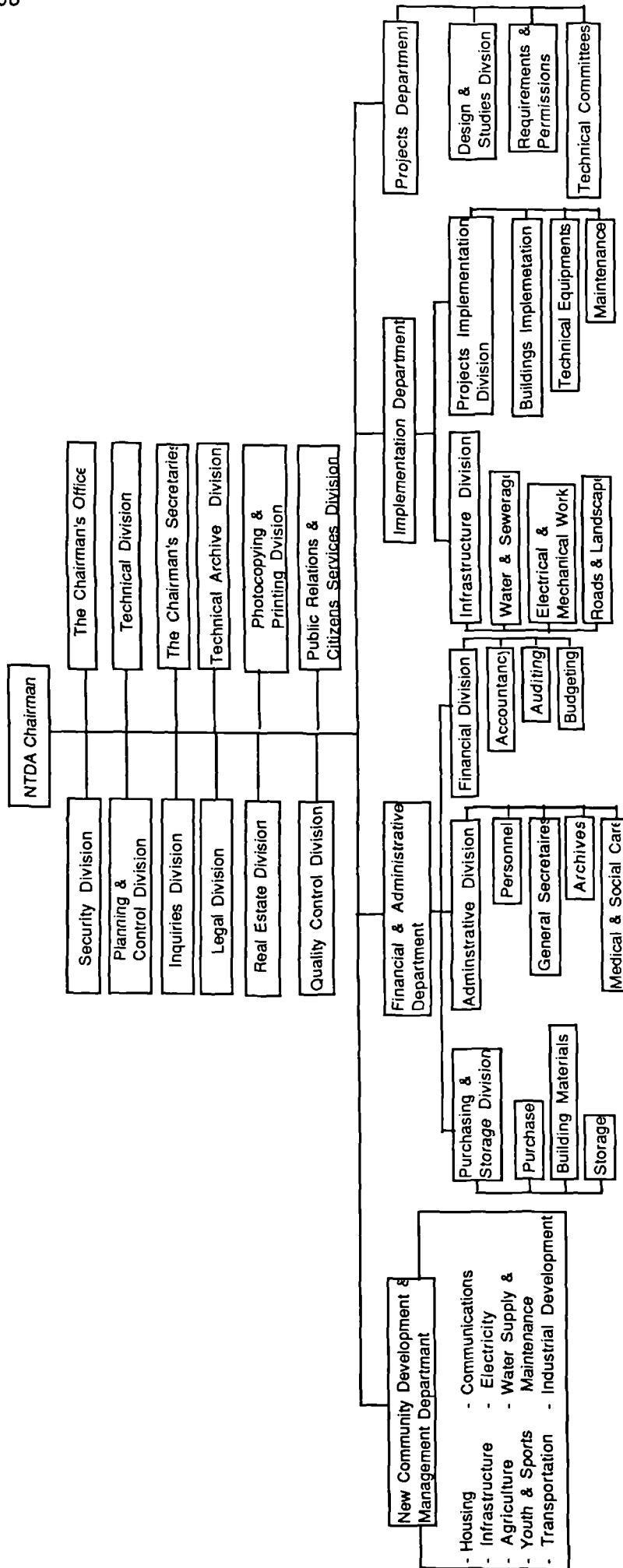


Figure 8-8: The organisational structure of the Sixth of October Development Authority  
 Source: MHNCU, 1990.

to the NCDA seems to be based partly upon ad hoc reports and partly on meetings, rather than a systematic process.

### **c-The Board of Councillors**

In 1986, a Board of Councillors was set up in the Tenth of Ramadan by the chairman of the NCDA. The Board consists of seventeen members, in addition to the vice-chairman of the NCDA for Finance, Administration and Economy who, acts as chairman of the Board. The members of the Board include three members from the NTDA, as well as the heads of the services agencies in the new town. Additionally, six members are appointed to represent the Investors Union in the town, three members to represent the industrial workers and two other members, selected by the chairman of the Board, to represent the housewives and the youths resident in the town. The Board acts only as a consultancy group that meets monthly to:

- (1) Suggest the plans and programmes necessary for certain development projects, supervise them and develop the appropriate work methods for them;
- (2) Assist the NTDA in considering the merits of new town development schemes;
- (3) Participate in developing programmes for services provision in the new town for the welfare of the residents of the town;
- (4) Supervise the development progress of the new town through reports to be submitted by the NTDA concerning projects in the new town and the financial disbursements necessary and authorised by the NCDA;
- (5) Solve the problems and difficulties confronting the residents as well as the investors in the new town, particularly the problems arising from the relationship between the NTDA and other government agencies;

(6) Determine the most appropriate method for increasing the NTDA's financial sources and supervise the schemes which could be financed by the private sector; and

(7) Suggest the most appropriate ways of carrying out balance of development of the new town, in terms of land allocation for industrial, services or residential purposes, taking into account the priorities of such projects in the new town plan, the overall rules governing the investment in the town, the rules to secure the properties of the NTDA and ways to use them efficiently, and the rules by which financial rewards would be distributed to the staff of the NTDA (MHNCU, 1987).

But, with the vice-chairman of the NCDA acting as chairman of the Board, there is more involvement of the central authority in the development of the Tenth of Ramadan and this results in the NTDA working under tougher restrictions, and the scope for unorthodox and flexible decisions is limited further.

### **8-3 Physical characteristics**

#### **8-3-1 Location**

The location of a new town represents one of the major factors which would influence the extent of its success in attaining its objectives. There are a number of considerations which should be carefully taken into account in selecting a suitable site for a new town (see p.26). These criteria are:

- a- The functions which the new town is built to serve;
- b- Availability of water;
- c- Proximity to a large regional population;
- d- Good access to transport and communication networks;
- e- Proximity to a region with development potential;

- f- Reasonable proximity to large markets;
- g- The physical characteristics of the site; and
- h- Availability of land.

All the new towns in Egypt were designated, in addition to other objectives, to absorb overspill population from overcrowded areas .To fulfil this function the Egyptian new towns should be located near the areas that suffer from population overcrowding. It can be argued therefore that if the new towns examined are well located to absorb overspill population, then they are located close to large regional populations. Consequently, the third criterion " proximity to a large population" is not examined as a separate factor, as it is covered by the first criterion " the functions which the new towns is built to serve".

The other criteria are now to be discussed in sequence in regard to the four new towns and both particular and general issues will be raised and discussed as the presentation continues.

**a- The functions which the new town is built to serve**

A range of functions is illustrated in regard to particular new towns:

The basic objectives for the development of the Tenth of Ramadan, as stated by the government, are of two different types. In the first place, the new town can be seen as an industrial project that would increase national and regional income and create new employment opportunities. In the second place, the new town is designated to relieve the population pressure on the Greater Cairo Region.

In order to attain the first objective the new town should attract various types of industries, through, among other factors, an advantageous location. This new town enjoys good access to a variety of transportation means. It is situated on the Ismailia- Cairo highway which provides fast transport to the Greater Cairo

region and the Canal region, as well as access to the national highway network. The Ismaillia canal, which runs close to the new town, provides an attractive link to Cairo and the Canal region with its main port Port Said. The town is located close to the railway that links Cairo and Suez, and when the town is connected to it, there will be an express freight link with these areas.

The site of the town, moreover, offers an enormous supply of developable land for industry. The availability of low cost land was a major incentive provided by the government to spur early industrial development. The new town is located close to the Greater Cairo and Delta regions which, by 1980/81, had about 66.1% of the total number of industrial firms in the country. Such closeness will make it an attractive alternative for investors already investing, or about to invest, in these regions.

In terms of the second group of objectives, the new town is located close to overcrowded regions, mainly Greater Cairo, Sharkia governorate and the Delta region. These areas accommodated a population of 24.31 million persons by 1986 and therefore are a major source from which the new town can attract its inhabitants.

One of the main objectives for the Sixth of October is to reduce overcrowding in Cairo and Giza governorates. It is, also, to attract new investors, as well as firms already operational in Cairo and Giza, to locate their firms in the town and consequently assist in reducing economic over-concentration in these two governorates. The location of the town 17 km from Giza and 42 km from Cairo, makes it a natural substitute for entrepreneurs to locate their firms, particularly with the better environment and facilities it provides.

Further, the new town is to be developed to enhance tourism, through the provision of higher quality tourism services in a more convenient environment. Its location in relation to the Pyramids area, which represents one of the main

attractions for tourists in the country, is advantageous from the point of view of servicing those tourists. Undertaking such a function is enhanced further by the new town location close to Cairo Airport, as well as the main roads to Cairo, Giza and Alexandria.

New Ameryiah City is designated, first of all, to act as a regional services centre for the North West Coast. It was estimated that the size of the population within a distance of roughly 30 km from the new town could be well over 600,000 by the year 2000. About 500,000 of them will earn their livelihood through farming in the existing and future agricultural areas, predominantly living to the south of New Ameryiah City. As desired from the point of view of servicing this population, the new town is centrally located in relation to the agricultural areas.

This new town is also to provide tourism services, in this case for the North West Coast, where tourism development is expected to be concentrated in the beach areas between Agami and El Hammam in the next few decades. It has been estimated that a resident population of about 35,000 will live in the area by the year 2000. This together with the tourists in the holiday seasons, will rely upon the new town for household and consumer services and possibly to some extent, for accommodation. The new town is located more or less central to this tourism zone.

In terms of absorbing overcrowded population from Alexandria, which represents the second most populated city in the country, New Ameryiah City is 55 km to the south west of Alexandria. Such a relatively close location will enable it to absorb overcrowded population from Alexandria as well as re-directing internal migration waves which otherwise might aim for the city. Moreover, locating New Ameryiah City near Alexandria makes it a good alternative area for investors. This is emphasised by the fact that Alexandria, which accommodates about a quarter of the country's industries, cannot cope with the increasing demand for more land for

industrial purposes and suffers from over-pressured infrastructure networks. This means that New Ameriyah City represents an attractive alternative, particularly with the provision of efficient and sufficient infrastructure and the availability of relatively cheap land for possible future expansion.

Sadat City is planned as a major centre for manufacturing industry. The growth of the city as planned depends, to a large extent, on its ability to attract such industries from within and outside of Egypt. To accomplish this the city should offer an environment in which industry can be established and operated at a cost competitive with other candidate locations. The Beheiry Canal, which passes close to the new town, provides excellent links to Cairo and Egypt's principal port of Alexandria. This mode of transportation is extremely attractive to those manufacturing industries which deal with very large quantities of raw materials or bulk goods. Furthermore, the railway line which runs along the eastern edge of the new town boundary provides an express freight link between Alexandria port, Cairo and Upper Egypt. The desert road provides the fastest highway transport between Cairo and Alexandria. These good quality as well as diversified transport links represent a positive factor for Sadat City in attracting a full range of manufacturing industries to the town.

The site of the new town, furthermore, offers not only an enormous supply of land for industry, but it is also developable at a reasonable cost. It was suggested, moreover, that with possible water schemes proposed in the master plan, there would be no water-related constraint on locating a full range of manufacturing industries in the town. The only areas which enjoy a relative advantage over Sadat City in this regard, it was argued, are those located near the sea, where sea-water may be used for cooling purposes. The physical features upon which an industrial base can be developed, are therefore present at this location.

Sadat City is also intended to attract overcrowded population and over-concentrated economic activities from Greater Cairo and the Delta regions. To attain such objectives, Sadat City is situated 95 km from Greater Cairo region and some 100 km from the Delta region. Such a relatively close location should enable the new town to attain this objective without being dominated either by the Greater Cairo region or the Delta region. Giving its location in the middle of the three most populated regions, where most of the economic activities in the country are to be found (namely Greater Cairo, the Delta and Alexandria regions) this town could, if properly developed, become the second administrative capital of the country, as planned.

Generally, the four new towns are located close to the urban regions from which they are to attract overcrowded population and over-concentrated economic activities. Where intended as regional centres, they are located in relatively central positions in the regions they are to serve. It can be concluded that the sites selected for the development of the new towns are well related to the functions they were established to serve.

#### **b- Availability of water**

Because all the new towns in Egypt are sited in the desert, water availability represents a crucial factor in their development. This means that any misjudgment in relation to water availability can lead to bottle-necks in the development of any new town, requiring large and expensive water supply projects to provide water from the nearest possible alternative source. Therefore, the availability of reliable water sources should be considered very carefully when proposing a site for a new town development.

In the early stages of the development of the Tenth of Ramadan, temporary sources of ground water supply were planned to provide the town with its needs, . These sources included twenty wells which, as planned, were constructed and



used, despite their low quality water. The permanent source of water supply from the Ismaillia Canal, meanwhile, was under construction. This involved the construction of water treatment stations, two water towers and two water pumping stations. By 1989 negotiations were underway to allow the new town to continue using the water supplied through a pipeline from Ismaillia city.

In the Sixth of October, the NTDA has, as a temporary measure, used ground water obtained from eight wells some 17 km away from the town, to provide water for domestic, industrial and irrigation purposes. This water, however, was of unacceptable quality so that the NCDAs employees, who used to commute daily would bring their daily needs of water from Cairo. This continued until the end of June 1989, when a permanent supply of water from the Nile was secured through a 30 km water pipeline.

In the case of New Ameryiah City, the master plan dismissed the use of ground water because the top water stratum, about 10 metres in depth, has too low an output to rely upon, whereas at greater depths the water is unsuitable for drinking. In terms of surface water, after considering the capacity of various canals in the area, the quality of the water, the reliability of the source, the investment as well as pumping costs, the master plan recommended building a new water works at the Noubaria canal as close as possible to the new town. This involved the laying down of some 28 km of water pipelines and by 1985 this source provided the new town with water. But, there were complaints about water shortage in the town because of the low capacity of the water pumping station supplying the town. Also the water was of unacceptable quality, which was attributed to a major drainage ditch situated very close to the treatment station. Because of this the inhabitants of the new town as well as the employees of the NTDA are still obliged to bring their water needs from Alexandria. These conditions, if allowed to continue, would cast doubts over the future of the new town.

In Sadat City, the master plan proposed that the water needs of the town could be obtained from two sources. The first is the excellent quality ground water available in the area and the second was to be surface water that could be obtained from a canal to be constructed to connect the new town with the El-Beheiry canal to the east. But, this canal has not been constructed as neither the iron and steel industry, nor any other comparable consumer requiring transport of a large quantity of raw material to economically justify its construction, were established. Even without the canal link, the master plan claimed that surface water supplies, if needed, could be brought to the new town via a 15 km pipeline from the sources located to the east-Rosetta branch of the Nile, Beheiry Canal and the Nasser canal. It was suggested, however, that there has been a shortage of water supply in the town as most of the early wells constructed were in need of cleaning up so that they would be able to continue supplying the town with its water needs.

In general, the locations of the new towns were found to be selected and then the nearest sources of water supply were determined. For instance, in the Tenth of Ramadan after the site of the town was selected and the master plan preparation was undertaken, the planning consultancy group seemed, suspiciously, unaware of the quality of the ground water in the area as they argued in the draft master plan that:

" Various water supply sources have been considered for the new town. The recommended solution is to base the supply of water from the Ismaillia canal. Further investigation may show that ground water of acceptable quality is available in the vicinity of the canal or further away. If such water is encountered it would be a valuable water source in addition to the Ismaillia canal and could possibly be enough for the supply during the first stage development."

Although the new towns were developed in the desert region so as to reduce the dependence on the Nile Valley, all the new towns constructed, except for Sadat City, were dependent upon surface water from the Nile. This highlights the need for

a national comprehensive study on ground water availability in the desert of Egypt. Such study should be undertaken in such a manner that would assist in the decision making concerning the possible locations where new towns could be developed. This would promote further development in the desert, as well as allowing the funds and other resources, allocated for the construction of water pipelines from the Nile to remote areas to be utilised in other productive schemes. It can also reduce the country's dependence on the Nile water, particularly if the recent drought, which reduced the water level in the Nasser Lake behind the High Dam by some 40 metres, should occur again.

**c- Good access to transport and communication networks**

The Tenth of Ramadan is located on the dual carriageway, Cairo- Ismailia desert road, which connects the town with Greater Cairo and Suez canal regions. The new town is also connected with Cairo- Suez highway that runs between Greater Cairo, the Delta and the Suez Canal regions. In addition to these highways, there is a secondary road, 25 km long, which connects the new town with Belbeis.

For freight as well as passenger transport, a railway connection south of the Cairo- Ismailia desert road, was proposed by the master plan to connect the town with Cairo and the Suez Canal region. Furthermore, it was recommended that a small fraction of the freight destined for the Tenth of Ramadan could be transported on inland waterways, through a harbour at Belbeis. For passenger and freight transport by air, the new town is served by Cairo International Airport, which is located 40 km from the town.

The Sixth of October is connected with Cairo-Fayum-El Wahat highway, via a 13 km two lanes road. It is also connected with Cairo- Alexandria desert road with an eight km. long road. This connection provides the new town with an excellent access to Cairo and Alexandria as well as the national highway network.

A railway connection 12 km long was proposed, on Cairo- El Wahat railway line, which at Cairo connects with the Delta railway network to Alexandria. Despite the facilities that such a railway connection could provide, it could be suggested that as the new town is proposed to accommodate light and non-pollutive industries, the highway network would represent a much important access for the town. In terms of freight and passenger transport by air, the new town is recommended to be served by Cairo International Airport, situated some 50 km from the town.

The New Ameryiah City location is served by the three main regional highways which connect the area with the national highway network. These highways are the desert road from Cairo to Alexandria, the Coastal road from Alexandria to Matrouh and Sallum, and the road connecting the desert road with Housh-Eisa, Damanhour and other Delta areas. In addition to these roads, there are four secondary roads, including the road connecting Ameryiah East with Borg El Arab, the road from Borg El Arab to El Hammam, and the two roads connecting the Coastal road with Borg El Arab and El Hammam.

The north western coast has a double railway line of 17 km from Alexandria to El Garaby and a single railway line of 555 km from El Garaby to Sallum. At Alexandria this line connects with the Delta railway network to Cairo. The New Ameryiah City is located close to both the railway stations in Borg El Arab and El Hammam. Despite the fact that the presence of this railway line provides the new town with freight access it needs upgrading as, for instance, its maximum speed is only 85 km/hour.

The ports closest to New Ameryiah City are the ports of Alexandria and Dekheila, which according to the National Port Plan of Egypt, can easily meet the needs of the new town. The existing port of Marsa Matrouh , taking the transportation costs into account, would be too far from the new town to be of any

value. The closest waterway to New Ameryiah City is the Noubaria canal extending from the port of Alexandria to Cairo. This way can be utilised to serve the town from a planned harbour in Ameryiah East. The only civil airport in the vicinity of the new town is the Nouzha Airport, located 7.5 km south east of Alexandria, which is now used by medium sized jets, for local as well as international flights.

Sadat City is bordered on the east and west side by two major highways; the Cairo-Alexandria desert road, and the Embaba-Khatatba-Tawfikia agricultural road. The desert road is a dual carriageway connecting Greater Cairo region and Alexandria. The agricultural road is a two lane highway which runs along the west bank of the Nile up to the Delta Barrage, until it connects to the Cairo- Alexandria agricultural road at Tawfikia.

Railroads exist to the east of the new town at about 30-40 km distance. A 25 km single track spur is proposed to be constructed as soon as possible from the Embaba- Itai el Baroud line, which connects Cairo with the Delta. This proposed track would provide service to the industrial areas along the southern edge of the new town.

The waterways, located immediately to the east of the new town location, would link it with Alexandria, Cairo, Helwan and major centres within the western Delta. However, all canal links between Cairo and Alexandria, with the exception of the Noubaria canal, are crossed by low level bridges which must be opened to allow passage of barge traffic. This factor severely limits the capacity of these links. It was suggested that any water traffic between Alexandria and Sadat City will move through the Noubaria canal and not via any of the other possible routings.

The Egyptian new towns, it could be concluded, are served by good accessible networks of roads, railways and inland waterways as well as by nearby airports. In addition to good accessibility, the new towns are planned with modern

communication systems that would meet the requirements of their inhabitants and investors.

**d- Proximity to a region with development potential**

The site of the Tenth of Ramadan is located in the Eastern- Desert region. The area around the new town lacks any potential resources. But with the Ismaillia canal running nearby the town, the desert could be utilised for agricultural purposes. At present, about 730 hectares have been reclaimed nearby the new town, though it was not considered by the master plan as of great importance for the town development. The development around Cairo, moreover, is proposed to be undertaken around several axes, one of which is Cairo- Ismaillia development axis which involves the development of the Tenth of Ramadan, through the overspill of industrial activities from Greater Cairo region.

The Sixth of October is situated close to the Pyramids, which is one of the main tourism attractions in the country. The area surrounding the Pyramids, therefore, represents a potential development area for tourism service activities, particularly with the increase, during the 1980s, in tourists numbers and tourism nights spent in Egypt. For instance, the number of tourists has grown from 1.253 million tourists in 1980 to 1.795 million tourists in 1987, representing an increase of 43.3%. Tourists nights spent in Egypt have also increased, during the same period, from 7.78 million nights to 15.85 million nights, representing an increase of 96.3%. The new town is, moreover, located close to Cairo and Giza governorates which suffer from over-concentrated industrial as well as service activities. The overspill of industrial and service activities represents a development potential for the new town.

The region, in which New Ameryiah City is located, stretches west from Alexandria to El Hammam and south from the Mediterranean to the western desert. To date the most accessible resources, such as agriculture and quarrying, have

been recognised and subjected to large scale controlled development. All the areas which have been found both suitable and economic for agricultural production have been reserved for cultivation by the Ministry of Irrigation. So far 53,000 hectares have been reclaimed in the area.

The region has large deposits of limestone and gypsum which have been quarried for quite some time. The limestone deposits in the area are generally found on the northern-most ridge along the coast. Gypsum is to be found and is being refined at Gharbaniyat between El Hammam and Borg el Arab. Salt recovery in the shallow parts of the lake Maryout has almost ceased but could be, it was suggested, revived to assist the establishment of chemical industries in the region.

A third and very important resource for future development in the region is the tourism and recreational activities along the Mediterranean coast. The most recent study estimates the number of visitors to the coast, by the year 2000, at 180,000 and 285,000 persons. So far along the coast west of Alexandria only Agami, Hannoville and Marakia have been developed to sizeable resorts. Most of the other beaches areas, however, have been allocated to Cooperatives and, in view of the overcrowding in Alexandria, rapid tourism development can be expected in the area.

Another factor that is contributing to the economic development of the region is the rapidly increasing overspill of industrial activities from Alexandria City. The city is running out of territory and can only expand in a south western direction across lake Maryout. The pressures for development in this direction are very noticeable in the number of industrial and commercial establishments that are being constructed or planned in and nearby Ameryiah-East.

Sadat City is located close to the Delta region, with its rich agricultural land and large amounts of agricultural products that can be processed. It is situated near Wadi el Natroun, which has a variety of resources that can enhance the economic

development of the town. These resources include large deposits of natural gases as well as sandstones and mudstones that can be utilised for brick production. The new town is, moreover, located on the Cairo- Alexandria desert road which represents another proposed development axes around Cairo. Furthermore, large areas around Sadat City are suitable for agricultural production.

**e- Reasonable proximity to large markets**

There are two types of markets that could be considered in relation to this factor; the first type is the market for consumer goods. The second type is the market for raw- materials and semi-processed products which would be demanded or supplied by other economic activities.

In relation to the first type of market, all the new towns investigated are situated close to large population gatherings (as discussed in section 7-3-1 a), which are potential markets for consumer goods produced in the new towns. In terms of the second type of market the new towns had to be located near areas with large industries that would demand the intermediate products as well as suppliers of such products needed as inputs for the industries developed in the new towns. For instance, the Tenth of Ramadan is situated in Sharkia which, by 1980/81, had 171 firms. It is located close to Greater Cairo region which had about 2,880 firms. Another close by region is the Delta region which by 1980/81 accommodated some 995 firms. This means that the new town is located close to an area which contained 4,006 firms, representing 68.4% of the total number of firms operating in Egypt in 1980/81.

The Sixth of October is located in Giza governorate, which by 1980/81 had 378 firms. It is, also, situated about 32 km from Cairo, which had 1,944 firms. This means that the new town is located near a large market for raw- materials as well as semi- processed products. New Ameryiah City is situated 55 km to the south west of Alexandria . By 1980/81 this city contained a total of 812 firms.



This new town also has good access to the Greater Cairo and the Delta regions, which had about 66.1% of all firms operational in Egypt. This brought the total number of firms located within an hour travel from the new town to 1,807 firms. Sadat City is developed in Behera governorate which had 179 firms. It is also located on the desert road which provides it with good access to Greater Cairo and Alexandria which means an access to about 63% of all the firms in Egypt. Also, it is situated near the Delta region with its 955 firms (see p.111-12).

Additionally, all the new towns investigated were also found to be situated close to the main agricultural region in the country, which is the Delta region. Thus, all of the four new towns are located near large economic regions, which means that they have potential markets for their raw- material and semi-processed materials.

#### **f- The physical characteristics of the site**

The physical characteristics of a site proposed for a new town could affect the costs of its development. For instance, flat areas and good soil conditions are attractive for economic development, particularly in the initial stages of new towns development. Less favourable soil conditions, or topographic characteristics, would, in terms of building construction, necessitate deeper foundations and consequently more expensive buildings. It would also markedly increase the cost of laying down underground service infrastructures.

In relation to the Tenth of Ramadan, the topography of the site is characterised by a gentle slope from south to north. The hydrology is characterised by the large Wadi al Gafra and Wadi Muftah, and a large number of smaller wadis. The stormwater in the larger wadis was taken care of in the master plan by leaving open areas between the residential districts and in the town centre, to falls similar to the directions of existing stormwater flows. The drainage from the area south of the site and within the site has been considered in the detailed planning. The soil

conditions within the site generally are favourable, except for the eastern part where foundations would have to be deeper and construction thus would be more expensive. It was pointed out that the less favourable soil conditions extend towards the northeast, which limits the possibilities of any future economical expansion of the town in that direction. It was recommended, moreover, that protective planting should be arranged, on the south and the south west of the new town, against sandstorms rising from the south.

The Sixth of October is located on the top of a medium- height hill. This hill stands 180-190 metres above its surroundings from the east, south and west and has a gradual rising gradient in the north west direction. Such height provides natural protection for the new town from sand movements. But, a massive sand-hill which lies no more than 1800 metres parallel to the south western boundaries of the industrial area, represents a potential source of sand movements. In order to reduce the effects of such movements, the master plan recommended a heavy shield of trees, of a width of no less than 40 metres, to be planted on the south western boundary of the industrial area. More trees, the master plan suggested, should be planted in the north western and northern sides of the town, to protect the town against sand storms and sand movements. In relation to the soil conditions of the new town site, it is believed to be suitable for economic construction of buildings and infrastructure.

From a topographical point of view, the area of New Ameryiah City presents no particular constraints for urban development. The availability of flat areas makes buildings and infrastructure construction more economical, while the higher ridge locations provide pleasant views and the development of the ridge, it was suggested, would add to the visual variety of the town.

The sub-soil strata consists of sandstone that is likely to have an adequate bearing capacity for high buildings, so conditions are considered to be suitable for

urban development. But in areas where the sandstone or rock is very close to the surface, the laying of underground mains and services would be more costly. The top-soil, it was pointed out, is generally very well suited for landscaping purposes and needs little or no soil improvement. The loamy and clay soils, nevertheless, do not easily absorb stormwater. This necessitates the investment in an adequate drainage system to collect stormwater run-offs to minimise the risk of flooding, particularly at the foot of the slopes and in flat, low-lying areas.

The prevailing wind direction is north to northwest, particularly in the summer. The occasional spring storms (Kamassen wind) blow predominantly from the south, which means that they would pass through the future agricultural areas to the south of the new town. This is expected to reduce the amount of sand carried by the wind. Moreover, the master plan recommended that green shelter belts be planted to reduce the effects of the wind force.

The site of Sadat City is relatively higher than its surroundings areas. It is a generally flat area with gentle slopes and is characterised by the absence of any sharp topographical features. The natural slopes match the gradients required in the drains and sewerage pipe network and this will assist in reducing the capital costs of the installation as well as the operational costs of the sewerage disposal system.

The soil within the site consists of sandstone which would allow for economic construction of buildings and infrastructure. The site, however, faces sandstorms from the north and northwest, while the occasional spring storm (Kamassen wind), which carries large amounts of sand with it, blows from the west in this case. The master plan, intending to reduce the effects of such sandstorms on the town, recommended a protective planting, of reasonable width, to be arranged on the south west of the new town.

It could be argued, from the above discussion of the topography, the soil conditions and sand movements, that the physical characteristics of the areas have been taken into consideration while selecting the sites for the new towns. Yet, it was found, while visiting these new towns, that they encounter sandstorms that reduce visibility and cause considerable deterioration in weather conditions. Such poor conditions were attributed either to delays in planting the green shelter belts or not following the recommendations of the master plans concerning the width of such protective planting. It could be suggested, however, that locating the new towns close to areas suitable for reclamation would improve their images, accelerate land reclamation and enhance the diversity of economic activities as well as reduce substantially the amount of sand carried by the winds.

#### **g- Availability of Land**

Desert features prevail in the whole country, except in the Nile valley and its delta, which is characterised by the fertile soils and over-crowded population. The Nile river brings down into Egypt sufficient volumes of water to support the dense agricultural and urban population in the Valley and the Delta. The average width of the flat alluvial floor of the Nile valley is about 10 km., flanked by the desert on both sides.

The Egyptian desert is divided by the Nile valley into the Eastern and Western deserts, while the Sinai peninsula lies in the north eastern part of the country between Al Aqaba and the Suez gulfs. The Western desert extends from the west of the Nile valley and the Delta to the Libyan borders, and from Sudan to the Mediterranean sea. This desert represents more than two thirds of the total area of Egypt, with an area of about 670,000 sq. km. The land of the region slopes gently from the farthest south west, to the north and north east. The realisation of petroleum, land reclamation and tourism potentials and related projects could assist in developing the Western desert.

The Eastern desert of Egypt extends eastward from the Nile valley to the Suez Canal and the Red Sea Coast. It has an area of about 220,000 sq. km. This desert consists mainly of a great backbone of high mountains running parallel to the Red Sea. It was suggested that the Eastern desert is one of the least polluted areas in the world. Thus it was recommended that there should not be any industrial development, especially near the coast which should be kept for tourism development.

The Sinai Peninsula is separated from the Eastern desert by the Suez Canal and the Suez Gulf. It has a total area of about 60,000 sq. km, stretching for 400 km from north to south and 200 km from east to west at its widest part. The Peninsula represent a potential source for natural resources development as well as tourism development (Attia, 1984).

The availability of land, as a factor in determining the locations of new towns therefore could be dismissed in the case of Egypt, as an element of little influence, except for the specific local physical conditions of the land. All the desert land, where the new towns are to be developed, is owned by the state. Yet, despite the vast supply of desert land, the overlapping of powers and areas of control as well as the conflicts of interests between various authorities and ministries can lead to serious disputes that could severely delay and disrupt the development of the new towns. The most obvious case is El O'bour. The proposals for its development were put forward at the end of 1978. But in 1986 the Ministry of Defence proposed a new site for the town, with a total area of about 2,100 hectares, which is half the original designated area. It also set limits on the height of buildings in the town, which the NCDA agreed to follow (see section 4-4).

### Investors' opinions of the locations of new towns:

As the group which would be affected most by the location of a new town, the investors in the new towns were asked, in the field study, to express their opinions about their locations. They were asked to rate the location of the new town in which they invested. It could be said that the locations of the new towns, on a scale from one (for very satisfactory) to five (for very dissatisfied) have been rated highly, with a score ranging between 1.75 points for Sadat City and 1.85 points for the Tenth of Ramadan.

In the case of New Ameryiah City, the location was considered as satisfactory only, with a score of 2.3 points. This relatively low rating could be due to the fact that about 29% of the investors interviewed expressed their disappointment with the poor quality of the public transport available between the new town and other areas. It can be argued, nevertheless, that on average the locations of the new towns have been considered by the investors to be satisfactory.

### **8-3-2 Size**

Considering the question of size with respect to services available to the population, it has been argued that a minimum size could be about 200,000 persons. It was suggested, therefore, that a new town of half a million inhabitants can be expected to be large enough to cater for nearly all the requirements of its population. In terms of specialised services which cannot be supplied in the town, they would be attainable in the parent city. In this respect, the four new towns are all to be of larger sizes than the proposed minimum, as they will eventually range between 350,000 inhabitants in the Sixth of October and about 500,000 inhabitants in the Tenth of Ramadan, New Ameryiah City and Sadat City. This means that they

will be well placed to cater for all but the most specialised service requirements of their population.

In relation to per capita costs for infrastructure and other utilities, it was claimed in the Tenth of Ramadan draft master plan that:

" (it) can be assumed to be sufficiently low as the size of the city in any case will be large enough to take advantage of economies of scale"

It can be argued, however, that the costs of constructing and operating the infrastructure would be expected to vary from one new town to another, in accordance with the topography of the site of a new town. Such variations mean that the size of the population that can sustain a sufficiently low per capita cost would vary from one new town to another. This is reflected in the projected cost differences between the infrastructure and housing per capita cost in the Tenth of Ramadan, Sadat City and the Sixth of October. The per capita cost in the Tenth of Ramadan, for instance, is estimated to account for 160% of the per capita cost in Sadat City and 138% of the per capita cost in the Sixth of October (Table:8-3). Yet, the Tenth of Ramadan, New Ameryiah City and Sadat City are planned for an ultimate population target of about half a million inhabitants. It has been suggested that New Ameryiah City and Sadat City could expand to accommodate about one

New Town	Infrastructure & Housing Per Capita Costs (£.E.)
The Tenth of Ramadan	3,868
The Sixth of October	2,805
Sadat City	2,390

Table 8-3: Estimated infrastructure and housing per capita costs of the new towns.

Source: MHNCU, 1980.

million inhabitants each. This could lead to the cost analysis for the new towns moving to the rising side of the infrastructure and utilities costs curve and consequently their NTDA's would be burdened with an increasing per capita cost with population increase.

Furthermore, the functions which each new town has been established to serve vary from one new town to another and would normally imply different sizes of population. For instance, Sadat City and New Ameriyah City are to act as growth centres, while the Tenth of Ramadan and the Sixth of October were to have a more limited role as new towns that would mainly concentrate on attracting overspill population and industrial activities from Cairo. Yet, such differences in their functions had no effect on their planned sizes.

The size proposed for Sadat City was an outcome of an exercise to determine the distribution of urban population among urban centres within Egypt in the year 2000. The approach adopted was to consider the rank size distribution of urban centres in Egypt and to make alternative assumptions about the behaviour of the distribution dependent upon the dominance of Cairo and Alexandria.

The population of the urban settlements, as a percentage of that of Cairo, was plotted against the rank of the settlement for the year 1960, 1966 and 1975. It indicated:

- \* The increasing dominance of Cairo and Alexandria,
- \* The relatively small size of the second order cities ( rank 3 to 10); and
- \* The relatively balanced hierarchy among the smaller settlements.

The relationship between size and rank was projected to the year 2000, using Zipf's law <sup>(3)</sup>, to give population sizes for individual urban settlements. It

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<sup>(3)</sup> It assumes a linear relationship between the size and rank of a settlements.



was concluded that the population of Sadat City could range up to a high of around one million and that a planning target of 500,000 inhabitants was reasonable. Despite that, the master plan admits that no evidence was available from elsewhere in the world to indicate whether or not Zipf's law can be applied to desert settlements. Yet the master plan used it, assuming that it will apply in the future to Egypt even though some of the proposed settlements, particularly the middle size ones, are to be located in the desert. It has been suggested that Zipf's law is too insensitive to be used to compare the actual and predicted size distributions (Richardson, 1973). Furthermore, he suggested that the predictions of all current models for the distribution future of city sizes are too insensitive to be used to compare the actual and predicted size distributions.

The determinants of the sizes of the four new towns are not clear, except in the case of Sadat City. The size decision did not depend solely on economic and demographic principles which should in theory determine the size of any new town. This is emphasised by the case of the Sixth of October, which was initially planned for a population of 350,000 inhabitants, then increased by the national Physical Planning Authority to 470,000 inhabitants and finally to 630,000 inhabitants in the detailed plans prepared by the NTDA. It was suggested that the reasons behind such a huge increase in the size of the new town were:

- 1- The anticipated huge demand on the residential as well as industrial establishments in the town;
- 2- The attractiveness of the location and the weather of the town;
- 3- The need for providing as much residential and industrial land as possible to attract the residents of Cairo.

#### 8-4 Summary

The Egyptian new towns were designated, as stated in their master plans, as self-contained communities, both in terms of employment as well as services and facilities provision for their residents. They were, nevertheless, found to have failed to achieve any degree of self-containment, with the vast majority of those working in the new towns investigated commuting daily. Additionally, it was found that a large number of service premises were constructed in the new towns but most of them were left unused because the responsible governmental authorities refused to provide the services, either because of the small number of inhabitants in these towns or the lack of funds allocated to such provision.

The populations of the new towns in Egypt were found to be mostly imbalanced in terms of their age structure, socio-economic composition and male/female distribution. But, with these towns having achieved a very limited population increase since designation, such imbalance can have no significant effect yet on the provision of services and facilities in the new towns.

The industrial structures developed in the new towns were found, according to the entropy measure, to have achieved a reasonable degree of industrial diversification which can lead to the attainment of a degree of industrial stability. In terms of linkages, it was found that there were no significant backward or forward linkages in existence between the industrial firms investigated in the new towns. The industrial structures of the new towns were also found to include a considerable number of industries that achieved low or moderate growth rates between 1980/81-1986/87. This highlights the need for the introduction of incentives to encourage investors to invest in industries with growth as well as linkage potential.

The new towns investigated were found to be well located in relation to the functions they were established to serve and were found to be close to large markets. They are situated in locations with good access to transport and communication networks, and their sites have reasonable physical characteristics. All the new towns investigated are also situated close to regions with development potential. But, being in the desert, it was found that they were badly situated in relation to the availability of water. This meant that the new towns were to depend, initially, on unsuitable ground water to supply the needs of their residents and industries. In later stages, the provision of a permanent water supply involved spending vast amounts on obtaining water from remote surface water sources. The locations of the new towns were also found to have been selected without taking into consideration the availability of land suitable for agriculture and reclamation activities.

In terms of the new towns sizes, it was found that they were not determined using coherent economic, or demographic criteria. The sizes of the Egyptian new towns were rather determined according to political, peripheral and superficial reasons.

## **Chapter 9**

### **Conclusions and recommendations**

#### **9-1 Introduction**

The government expected the new towns policy in Egypt to affect national population distribution and the directions and potentials of future economic development and urbanisation. The study, however, revealed that the effects of the current new towns policy in Egypt have been minimal in the fourteen years since initiation, and the programme lags far behind in achieving its objectives. An overall review of the new towns policy is considered essential.

The ultimate aim of this research is to develop guiding principles to assist the new towns development agencies in Egypt to review their policy and meet their initial terms of reference. The study, therefore, started by setting a background for understanding the "new town" concept and its implementation process. This involved studying various definitions and theoretical features of the "new town" concept. This was followed by an examination of the British new towns policy, both in terms of transforming the concept into a public programme, and the performance and achievements of that policy. The attention then turned to the Egyptian new towns, with the examination of the overall policy and the financial and administrative systems adopted to implement it. The performance and achievements of the Egyptian new towns, both in terms of their own economic and demographic objectives and the universal conceptual features of the new towns, were examined and evaluated. This examination was undertaken while bearing in mind the need to point out and highlight the weaknesses as well as the strengths of the Egyptian new towns experience.

This chapter begins with the results of the studies of the new town concept and the British new towns policy. Then the findings of the examination of the

Egyptian new towns policy, in terms of the overall aims and the administrative and financial aspects involved, are discussed. This is followed by an evaluation of the new towns performance as well as their economic and demographic achievements so far. The final section considers the possible recommendations that may secure and enhance new towns development programme.

## **9-2 Summary and general conclusions: the research findings**

Finding a single universally approved definition for the new urban settlement concept was not an easy task. A variety of definitions was produced for a variety of concepts describing large-scale urban development. The confusion associated with the complexities of the concepts and possible definitions led to the introduction of a particular definition for adoption in this study which incorporates the essential features of the "new town" concept. These features were grouped into two categories; the first, "the functional features", included "self-containment", "balance", "a sound economic base" and "sponsorship" issues. The second category, "the physical features", included "location" and "size". The significance and desired incidence and degree of these features were the cause of some misunderstandings.

The results of investigation of the British new towns performance and achievements disclosed the absence, from the very beginning, of any initial policy guidelines for the overall number, sizes or locations of the new towns to be developed in Britain. There seemed to be a lack of a national perspective in regard to the policy. Even in the later stages, when the new towns were designated as regional growth centres, only Milton Keynes was planned as part of a regional structure plan; but the overall national perspective was still missing.

The creation of a "Development Corporation" to be responsible for a new town development, was largely successful, except for the lack of a formal approach for co-ordination and cooperation between the Development Corporations themselves

and between them and various governmental agencies. When the development of a new town was complete, its Development Corporation was wound up and the assets it had developed were transferred, mainly to the New Towns Commission which was set up to manage and sell those assets. Financially, the British new towns policy was a success, with not only the re-payment of all long term loans received from central government but also with the securing of ultimate profits generated by the New Towns Commission from selling assets developed by the Development Corporations.

The British new towns progressed rapidly in terms of both employment provision as well as population growth. This led to several increases in the population targets of a number of early new towns and increases in the projected population targets of later new towns. But, the new towns contribution to the decanting of existing, older economic activities from over-crowded conurbations was limited, the basis of their growth stemming from the preferential factors for new industrial and trading activities.

The British new towns achieved a relatively high degree of self-containment, compared with existing towns of similar sizes. But, because of age-structure imbalances, the Development Corporations had to provide extra facilities for the age groups that dominated in certain phases of in the new towns growth; mainly for young couples and young children at the beginning and teenagers at later stages.

The British new towns managed to maintain a steady and rapid rate of employment growth, compared with other towns of similar sizes. Also, they had in most cases achieved a reasonable degree of industrial diversification and consequently economic stability, except in the cases where their economic bases had been dominated by one type of industry, as in the case of Corby, or where the

employment provision was dominated by too large a number of vulnerable branches of large firms, as in the case of Skelmersdale.

Overall, the British new towns were successful in accomplishing their individual objectives both economically and demographically, within the time limits set for them. It was learnt from studying the British experience that one of the main factors in developing new towns successfully lies in the formulation of a tight and efficient administration. The administrative system adopted in the British case involved the establishment of autonomous Development Corporations, with simple and efficient organisational structures. These Corporations had all the staff expertise necessary for designing as well as implementing large-scale development schemes. In turn, the Development Corporations were closely monitored through annual reports which each Development Corporation had to submit to the Department of the Environment, charting its progress and achievements as well as the problems confronted.

The second major factor underlying the successful development of new towns, was the adoption of an efficient and closely monitored financial system. From the very beginning, even when new towns development was not expected to generate substantial profits, the funds advanced from central government to the Development Corporations were provided as long-term loans and not as grants. The Development Corporations therefore had to ensure that these loans were spent efficiently as they had to repay them from the funds generated. This approach was consolidated in the late 1960s, with central government emphasising the undertaking of projects which promised to have significant income generating potential. Additionally, in order to ensure a financially sound, systematic and consistent development, the Development Corporations concentrated their obligatory spending upon infrastructures in carefully phased stages immediately prior to major development schemes.

The Development Corporations were also required to produce an annual financial statement of their current and planned spending and revenues, summarising their current financial positions for the Department of the Environment. These statements were monitored and inspected regularly by the Audit Office to ensure efficiency and effectiveness in the accountancy systems which controlled and recorded spending flows as well as revenue receipts.

The Development Corporations knew that the success of the new towns depended upon their ability to attract private sector investment, particularly in the late 1960s when it was recognised that the government alone could not sustain the cash flow needed for new towns development. The Development Corporations took into consideration the involvement of the private sector in their development schemes, ensuring through promotion and negotiation that public and private investment complemented each other, so that the development process was undertaken efficiently. It also helped that the national economy was on an upturn during the sixties and early seventies.

But in regard to the Egyptian new towns policy which started some fourteen years ago and has so far designated some ten new towns, the performance and progress achieved is quite insignificant. The new towns have failed to attain their stated objectives for they have not achieved any significant progress either economically or demographically. It was found that the main factors which led to such failures were the inefficiencies in the administrative and financial systems adopted. Corrective measures will be difficult because of the currently depressed state of the national economy, but the following sections consider the key issues and the weaknesses found, and offer some guidelines for future action.



### **9-2-1 Overall new towns policy**

(1) The new towns policy was adopted in Egypt without prior preparation of regional plans which might have provided a rational basis for the determination of the optimum number, locations, sizes and functions of the new towns to be designated. Decision making is controlled totally by politicians who are faced by implacable short-term problems of all kinds, and this could endanger the rationality of the grounds according to which the new towns are designated.

(2) The new towns policy was not integrated into overall national and regional economic development strategies. Instead, the new towns were treated as a separate development option for which special funds were allocated in the National Economic and Social Development Plans.

(3) There were no precise procedures to be followed when designating a new town. There was therefore no statutory process which might have allowed professional experts and the public to participate in the final decisions.

(4) A satellite towns development policy was pursued parallel to the new towns policy as a means of relieving the over-crowding in the major cities. The progress achieved in this programme has been limited, despite the government's emphasis on the "designation and planning" of further satellite towns. Only one satellite town has been developed so far and this has coalesced with the outskirts of Cairo. This policy is expected to run counter to the desired effects of new towns development, particularly as the two policies are competing for the limited financial resources, construction capabilities and administrative and professional workforce of the country.

### **9-2-2 Administrative aspects**

(1) The New Communities Development Authority (NCDA) was given all the powers and functions necessary for undertaking new towns development, leaving the New Town Development Authorities (NTDAs) with no precise powers or functions to undertake. This resulted in the NTDAs acting as construction agencies, undertaking development in the new towns under instruction and to the designs and programmes set by the NCDA, whether well planned or not. .

(2) The structures of the NCDA and the NTDAs suffered from the usual obstacles experienced by any bureaucratic governmental agency. The complexity in their structures and duplications of divisional functions led to clerical over-staffing and lengthy checks arising from complex sets of bureaucratic regulations. The NCDA and NTDAs also suffered from a shortage of expert staff necessary for the planning, supervision and monitoring of such large-scale development schemes.

(3) Neither the NCDA nor the NTDAs have a coherent system for physical planning or financial budgeting, with annual and periodical targets supervised by a monitoring system that can take into consideration any changing priorities, for example, the lack of population for whom housing, services and infrastructure were supposedly constructed.

(4) There is a lack of a comprehensive information system to keep the management, as well as the public, up-to-date with the progress achieved in the new towns.

(5) The NTDAs are undertaking infrastructure and services provision without consultation with the local or regional authorities responsible for operating and maintaining the services. Such unnecessary conflicts cause problems and delay the utilisation of these services, denying the public the use of the facilities and incurring substantial "opportunity costs"

### **9-2-3 Financial aspects**

(1) The NCDA and the NTDA's approached new towns development as a financially non-profit making process. This approach was fostered by the generally accepted arguments that new towns development was not expected to yield any significant financial revenues. It was appreciated that the investment in new towns development could have a positive impact on society as a whole and might substantially change the structure of the economy and the geographical distribution of population.

(2) The financial system adopted in the Egyptian new towns lacked any form of control or criteria to determine spending priorities. The system was rigid and inefficient, similar to that adopted by other bureaucratic governmental agencies. This inefficient financial system, coupled with the absence of any comprehensive and consistent short-term planning, has led to mis-management, reflected in inconsistent and excessive provision of infrastructure, services and housing well in advance of the current, or even near future, needs of the new towns residents or industries, leaving these costly facilities either under-utilised or unoperational.

(3) The NCDA and the NTDA's employed a budget system which stressed the traditional budget functions of control and accountability for individual projects and placed major emphasis on the physical objectives and their organisational responsibility for expenditure, rather than the evaluation of alternative, less expensive options.

(4) In terms of programme monitoring, the activities of the NCDA and the NTDA's were monitored by an annual expenditure targets system, according to which the NCDA and the NTDA's were allocated certain amounts of public funds to invest during a particular year on new towns development. The NCDA and the NTDA's had to spend all the funds allocated to them in order to be regarded as achieving their financial targets, underspending being seen as a sign of slackness and inefficiency.

(5) Compared to the other new towns the Tenth of Ramadan and the Sixth of October were given substantial sums to invest. The remaining sums were spread between a large number of new towns, with some towns receiving marginal amounts, which affected commercial perceptions of public directions and limited capital investment and therefore their chances of attaining any significant returns. Additionally, each NTDA was allowed to re-invest in its town the sums it generated. Despite being an incentive for the NTDA's to improve their performance, this gave an advantageous edge to the towns that had received substantial sums to invest in the first place.

(6) The NCDA's have depended mainly on selling serviced land in general, and serviced industrial land in particular, in order to raise their own funds. The land sold was offered at significantly subsidised prices to encourage development. But, substantial proportions of the funds generated by the NCDA's from selling land were not paid by the due date, nor were debtors actively pursued. Other possible sources for internal fund generating were found to be very limited.

#### **9-2-4 Economic aspects**

(1) The new towns had a limited effect on economic decentralisation in the country. A small number of firms had been pressured to move by lack of space for expansion and the lack of services and infrastructure in their original locations, as well as the unsuitability of their original premises. Even then these premises were once again used for industrial activities similar to those of the former occupants. Such replacement was encouraged by the absence of any form of control over the vacated premises.

(2) Although the new towns were expected to assist in developing the natural resources available in the desert regions, this objective was not given the necessary attention either in locating or planning the new towns.

(3) The availability of cheap land was considered to be one of the permissible incentives to attract investors to the new towns. Indeed, the provision of cheap land represented the main motive for entrepreneurs to invest in the new towns. Yet, most firms bought this cheap land in excess of their current needs, and it is a reasonable assumption, based upon past practices, that this was for speculation purposes.

(4) Concerning the tax reliefs introduced to encourage investment and consequently new towns development, there appeared to have been no fundamental study underlying them, as they were offered excessively to investors in the new towns, especially those whose activities had tendency towards high profit margins in any case.

(5) Industrial development in the new towns lags substantially behind their proposed employment targets. The NTDA's have also failed to achieve the balanced industrial structures proposed in their master plans. These proposals, which anticipated precise and very detailed employment projections, were recommended despite the fact that in a "mixed" economic system such as that adopted in Egypt, it is not possible for government to direct industrialists to locate in one town rather than another.

(6) The entrepreneurs wishing to invest in the new towns were required to obtain a large number of permissions from different ministries and governmental authorities, which caused considerable delays for these would-be investors. This was exacerbated when the start of production by the firms which eventually located in the new towns was held up by bottle-necks in infrastructure and utilities supply.

(7) A large proportion of the industrial structure of the new towns involved industries that achieved low or moderate growth rate in Egypt during the 1980s. Nevertheless, the structure achieved a reasonable degree of diversification which

can provide a degree of industrial stability. In terms of linkages, there were no significant backward or forward linkages between the industrial firms in the new towns.

(8) There was no evidence of any coherent criteria by which the NTDA's selected or even encouraged the development of certain industries in their new towns.

(9) Employment provision in the service and the tourism sectors was almost absent from all the new towns because of the NTDA's over-emphasis on industrial development as the sole means for developing employment potential in the new towns. In regard to employment opportunities in the community facilities (which were to be developed parallel to population growth) the small number of inhabitants living in the new towns meant that those facilities are only marginally developed.

#### **9-2-5 Demographic aspects**

(1) The new towns have so far completely failed to achieve their projected share of the growing population of Egypt, and consequently have no significant effect on the geographical distribution pattern of the population, perhaps because the political sponsors were confused about the prime functions and stated goals of the new towns movement.

(2) The poor performance of the new towns in attracting more inhabitants was partly due to the slow rate of employment growth at the beginning of their development process. Most of the people working in the new towns commute daily from nearby governorates.

(3) As far as journeys to work are concerned, the new towns were found to be nowhere near achieving any degree of self-containment. Also, in terms of the second meaning of self-containment (that is the provision of a wide range of facilities) the new towns lacked any form of social life because the services and built facilities

which might have encouraged and fostered this objective were either scattered over large areas within the new town, or left unused.

(4) The daily commuters employed in the new towns are of relatively low income groups who cannot afford to buy or lease a housing unit in the new town in which they work. The tenure system of rented housing units adopted in the Egyptian new towns created a sense of insecurity in the occupants, who have to move out of their houses when they leave their jobs in the new town.

(5) Another reason which contributed to the poor population increase in the new towns could be the NTDA's heavy concentration on construction activities without a parallel development of the necessary social fabric to inculcate a sense of belonging in the labour force.

(6) Although housing construction rates were behind the targets set in the master plans, this cannot be taken as a reason for the poor performance of the new towns, as a large number of the housing units were, and still are, unoccupied.

### **9-3 Recommendations**

For the Egyptian new towns to progress efficiently and achieve the targets set for them a number of recommendations are made. These recommendations are believed to be within the known capabilities and resources of Egypt, so that they can be taken into consideration by those responsible for both existing and future Egyptian new towns. The recommendations are categorised according to the key issues discussed in the previous sections.

### **9-3-1 Overall new towns policy**

(1) There is a need for comprehensive studies to be undertaken, both at national and regional levels, to determine the optimum number, locations, sizes and functions of the new towns to be designated in Egypt. At an intellectual level these studies should take into consideration financial and economic capabilities of the economy to support the development of such towns, and at a practical level the crucial importance of ensuring sustainable water supply from nearby sources for new towns development in the desert regions. The outcome of these studies should be considered by the cabinet and agreed upon by all ministries and governmental authorities involved in new towns development. A coherent, consistent policy must be declared and organisational structures should be designed to ensure effective co-ordination of the efforts of all departments.

(2) Economic development strategies and new towns policy are both concerned with the creation of conditions conducive to sustainable economic and social development. Therefore, the linkages between economic development strategies and new towns policy should be recognised and strengthened, so as to enhance their individual and combined contributions to the process of raising standards of living and the quality of life. Improved integration would also assist in overcoming some of the problems associated with resource allocations.

(3) The designation of new towns in Egypt should follow agreed, pre-determined procedures that allow the public and professional experts to participate in decision-making. This could be achieved by setting up a public inquiry in the region where the new town is proposed for development. Such an inquiry should be chaired by an independent expert and be well publicised in such a way as to attract the experts and the general public interested to attend.



(4) The development of satellite towns should be abandoned in favour of concentrating financial and economic resources as well as the nation's construction capabilities on new towns development.

(5) Comprehensive national strategies for rural development and urban renewal should be adopted and implemented parallel to the new towns policy. These strategies should concentrate on improving the provision of facilities and services and on restructuring the economic bases of rural and small and medium sized towns, so as to reduce out-migration movements and enhance their contribution to regional and national development efforts.

### **9-3-2 Administrative aspects**

(1) A transfer of powers from the NCDA to the NTDA's should be undertaken in order to enable them to become active planning and development agencies with flexibility in developing their new towns. Such statutory powers should be accompanied by the setting of precise responsibilities and tasks for the NTDA's to undertake. For this process to succeed, the NTDA's should be provided with the necessary staff from various professional disciplines who have expertise in town and urban planning. In turn, the performance and achievements of the NTDA's should be closely monitored and evaluated by the NCDA.

(2) The NCDA should act as a central consultancy agency that can, if asked, provide technical assistance to the NTDA's and co-ordinate and facilitate systematic cooperation between different NTDA's on one hand and between the NTDA's and different ministries and governmental authorities and agencies involved in new towns development, on the other.

(3) The organisational structures of the NCDA and NTDA's should be reviewed and re-structured in a simpler structure that will allow for flexibility and speed in decision-making. The re-structuring process should also enable the NCDA and

NTDAs to shake out the clerical over-staffing which has occurred over the past ten to fourteen years.

(4) Coherent planning, budgeting and monitoring systems with annual and periodical economic and demographic targets, and not only construction ones, should be set up within the NTDAs. As a part of this effort a comprehensive information system that can provide up-to-date information, both to different departments within the NCDA and the NTDAs as well as the public, should be introduced. Under this system, the NTDAs should provide regular reports on their financial status, the progress they have achieved, in terms of economic, social and demographic development, as well as the problems they have confronted to the NCDA. In particular they should conduct regular surveys covering residential and economic activities in the new towns, in order to assess their success, and obstacles confronting them. Reports assessing the results of such surveys should be published and made accessible to the professional experts and the general public.

(5) A co-operation and consultation relationship should be formulated between the NTDAs and local and regional authorities responsible for operating and maintaining the services and facilities to be provided in the new towns. This must be done as early as possible in the initial design phase in order to avoid possible conflicts and obstacles in operating and maintaining these services and facilities.

### **9-3-3 Financial aspects:**

(1) The conception of the new towns development as a non-profit making process should be altered. This does not mean approaching this process from a solely financial perspective, rather it should be viewed from a policy standpoint according to which the social and essential needs of the new towns residents, the economic activities and all profit generating activities, are balanced.

(2) There should be a comprehensive review of the financial system adopted in the Egyptian new towns. Such a review should involve the introduction of sets of criteria that can be used to determine spending priorities, as well as an efficient monitoring approach that relates spending to the benefits, both financial and social, derived from them. This can only be made possible by integrating the financial management within comprehensive short, medium and long-term development programmes.

(3) The NTDA's should introduce a budget system that can be used as an instrument for project evaluation, programme control and resource allocation after the evaluation of alternative options for action.

(4) The traditional programme monitoring should be replaced by a new programme that not only monitors annual expenditure targets but also the benefits, both direct and indirect, to be derived from such expenditure. The new programme should also monitor the expenditure made by the NTDA's from a wider perspective, one that takes into account the effects of such expenditure on other activities undertaken in the new towns.

(5) Instead of spreading the funds between a large number of new towns, the funds and efforts should be concentrated upon fewer new towns so as to increase the chances of achieving balanced development and generating relatively significant revenues from such development. Additionally, the system of allowing each NTDA to re-invest the funds it generates should continue, but guarantees are required that all the new towns will be allocated, at least proportionally, the public funds they require and consider necessary for starting and sustaining the development process. As the new towns mature, the NTDA's will be able to become more financially independent.

(6) The land pricing policy should be reviewed so as to reduce price subsidies as much as possible, particularly with the large number of people reported to have

shown interest in buying land in the new towns. Also, land sales should be undertaken gradually so that the NTDA's can benefit from land price increases which will occur as the new towns progress. The NTDA's should look for ways and means other than selling land for revenue generation. This could include widening the range of services and assistance they offer to new towns residents and economic activities and encouraging actual land development.

#### **9-3-4 Economic aspects**

(1) The new towns should not be considered as independent entities offering a good environment for investment, but rather as an integrated part within the overall national economic efforts. This means taking into consideration the fact that investors in the new towns are subjected to the overall national economic climate in general and the towns' economic difficulties in particular. Therefore, in order to encourage new towns economic development, ways and means of improving the overall economic climate nationwide should be adopted. Given the current state of the Egyptian economy it may be that all development time-scales may have to be revised.

(2) Having regard to the British experience, the new towns are not likely to play a major role in attracting existing economic activities from existing major cities. Therefore, there should be more emphasis on the establishment of new projects outside of the over-crowded areas in general and the new towns in particular. This will require the introduction of industrial development control in over-crowded areas, as well as the allocation of public funds for industrial as well as other economic development activities in National Development Plans, which with regional perspectives in mind, will give priority to the new towns as locations for new economic activities and projects.

(3) There should be a review of the tax relief system which has been adopted to encourage more investment in the new towns. Such a review should be considered

with the formulation of a coherent set of development policies, as a necessary precondition for the development of a useful set of special tax incentives that will be worth the effort and costs of designing and implementing them. Until such a strategy is elaborated, tax incentives can only be revised so as to appear to work towards the general ends of increasing "productive" investment in modern, rapid-growing, largely value-added or labour-intensive sectors of the economy. Similarly, the importance of encouraging exports should be explicitly addressed. For that purpose a special subsidy exchange rate for export-producing firms is considered to be the favoured method, because of its administrative simplicity, flexibility certainty, and proved efficiency.

(4) The NTDA's should be provided with guidelines determined by the Ministry of Economics, the Ministry of Industry and the Ministry of Planning, in regard to the approval of the types of economic activities which will best enhance national benefits if located in the new towns. Entrepreneurs should not then have to travel around to obtain permissions from different ministries and governmental agencies, the powers having been delegated to the NTDA's.

(5) Similarly, with the sort of cooperation and consultation approach suggested between the NTDA's and local and regional authorities responsible for operating services and facilities in the new towns, entrepreneurs who wish to establish their firms in the new towns should be permitted to process their requests for supplies of services or facilities, such as water or electricity, through the NTDA's, who will liaise with the concerned authority. To prevent this approach causing further delays to entrepreneurs, a time limit for the processing of such requests should be set and any delays should be dealt with severely.

### **9-3-5 Demographic aspects**

(1) The acute problem of very limited population growth achieved by the new towns necessitates a comprehensive survey in the highly populated areas in Egypt with the sole purpose of discovering features such as the forms and types of housing, services and facilities, that can attract people to move to new towns. This will allow the NTDA's to approach new towns development in a comprehensive manner, instead of the current project by project approach, taking into consideration the particular characteristics and abilities of population they need to attract to the new towns, so that population growth can be sustained in parallel with new employment opportunities.

(2) Housing prices should be reviewed in the light of the estimated financial capabilities of the workers so as to provide some match between them, in order to allow them to acquire accommodation there. Failing this the core-housing system, established in the Tenth of Ramadan and recommended for Sadat City, but not implemented, should be re-considered as a system which could reduce unit costs and therefore the financial burden of social housing on the government. Such a system also allows the owner of the house to extend it according to his own ability and consequently might create in such an owner the feeling of belonging to the town.

### **9-4 Final conclusion**

Currently, the rapid rate of population growth, the drift of the population to the main cities and the concentration of economic activities in large cities are continuing. All these factors have contributed to more acute problems from which Egypt's main cities suffer and which need to be confronted, as they impose a mounting threat to the stability and prospects for life in Egypt. Finding a means to control such urban development is crucial.

The only viable alternative to be pursued as an effective means of controlling urban development and achieving structural changes in the geographical distribution of population and economic activities, without encroaching on agricultural land, is a revised new towns policy. Instead of "designating and planning" more and more new towns, this policy should concentrate on developing the early new towns where the development process has already progressed, namely, the Tenth of Ramadan, the Sixth of October, New Ameryiah City, Sadat City, New Damietta and New Sallehia. As for the other designated new towns, a moratorium should be imposed upon them for the time being. When the early new towns start to achieve reasonable progress and they can depend largely on the funds they themselves generate, then attention should turn back to the second generation new towns. Until that time, unless there is a substantial improvement in the national economy, they must mark time and make do with minimal investment to consolidate and hold their current positions only.

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### Legislation:

#### Britain:

The New Towns Act, 1946.

The New Towns Act, 1959.

The New Towns Act 1976.

The New Towns Act 1982.

Egypt:

The New Towns Act 1979.

Investment Act No.34 for 1974.

Investment Act No.32 for 1977.

Investment Act No.230 for 1989.

### Appendix 1

The progress and achievements of the Egyptian new towns policy, it was found, was surrounded by mystery and confusion. Such confusion was due mainly to three factors; the first of which was related to the very restricted amount of information available from different ministries, government agencies and authorities.

The second factor which caused confusion was that the limited information provided by the Ministry of Housing, New Communities and Utilities was in a very primitive format of tables mainly containing overall and general figures without much useful breakdown. The formulation of the information in this way meant that elaboration and analysis was difficult if not impossible. In particular official in the Ministry, the New Communities Development Authority or the New Town Development Authorities could justify or explain the differences between various figures. For example, when the officials in Sadat City were asked to explain the £.E. 10.3 million spent on studies and plan preparation for the new town development they first disputed the figure, but when told that the source was the Ministry they checked their records and found it there, but still could not explain it.

The third and final factor contributing to the confusion surrounding the new towns development was the contradiction between the figures provided for the new towns progress. For instance, the Ministry of Planning in its annual reports between 1981 and 1989 suggested that the new towns development received a total of £.E.1148 million, compared with £.E. 1839.7 million stated by the Ministry of Housing, New Communities and Utilities. Such contradictions were found to exist not only between the figures obtained from different sources but also between those obtained from one source. For example, according to the Ministry of Housing,

New Communities and Utilities report in 1988 some £.E. 47.79 million had been spent on water supply schemes undertaken in New Ameryiah City since designation. The 1990 report of the Ministry however suggested that the total amount spent on water supply schemes undertaken in New Ameryiah City since designation was £.E. 23.026 million. Similarly, total spending on infrastructure construction in New Sallehia since designation was given as £.E. 18.296 million in the 1988 report, compared with £.E. 17.710 million in the 1990 report. The most confusing case in which the figures were found to be manipulated in regard to the total area of serviced land (see Tables:1 and 2), is given below:

(million sq.m.)

Serviced land	The Tenth of Ramadan	The Sixth of October	New Ameryiah City	Sadat City	New Damietta	New Sallehia
Residential	4,035	4,462	1,365	3,051	1,328	1,700
Industrial	10,0096	7,006	2,145	2,120	901	1,500
service & commercia	1338	1,908	2,025	1,463	240	800
Total	15469	13,376	5,535	6,634	2,469	4,000

Table1: Total area of serviced land until 1988

Source: Ministry of Housing, New Communities and Utilities

(million sq.m.)

Serviced land	The Tenth of Ramadan	The Sixth of October	New Ameryiah City	Sadat City	New Damietta	New Sallehia
Residential	4,000	9,122	148	1,668	1,328	907
Industrial	10,104	9,700	2,145	2,786	891	869
service & commercia	1,338	4,395	59	---	240	300
Total	15,442	23,217	2,352	4,454	2,459	2,076

Table 2: Table 2: Total area of serviced land until 1990

Source: Ministry of Housing, New Communities and Utilities





- 3- Marketing difficulties.                      4- The firm in trial period.  
5- Importing difficulties                      6- Others (specify).

**2 EMPLOYMENT:**

(7) Employment structure and residence in the town:

(a) Employment structure:

Illiterate	Employees
Can read and write	Employees
Secondary school graduate	Employees
University graduate	Employees

(b) Occupational categories

	Administration		Skilled		Unskilled	
	resident		resident		resident	
	In	Out	In	Out	In	Out
Male						
Female						
Total						

(8) Do the employees who travel from outside the new town come mainly from:

**(Ask about the numbers if possible).**

- 1- Cairo.                      Employees  
2- Alexandria.              Employees  
3- Belbeis.                    Employees  
4- Ismailia.                    Employees  
5- Elsewhere in Egypt (specify).

(9) Does the firm provide means transportation to the plant? YES. NO.

If the answer is (Yes) ask:

\* What is the proportion of your employees who use this transportation service?

(10) Does the firm provide accommodation for its employees? YES. NO.

= If the answer is (Yes)ask:

\* What are the types and the conditions of the accommodation they provided?

1- Family accom.		Range of monthly payment	
(a) Houses	no. of units	Rent/sale	£.E.
(b) Flats	no. of units	Rent/sale	£.E.
2- Singles' accom.	no. of units	Rent/sale	£.E.
3- Shared accom.	no. of units	Rent/sale	£.E.

\* What is the proportion of your employees for whom you have provided this accommodation?

= If the answer is (No)ask why not?

(11) Considering this plant, has it been:

(a) newly established in the new town

(b) moved from somewhere else

Continue if the answer is (b) , otherwise go straight to

Section -4-

**-3- PREVIOUS LOCATION:**

(12) Where was the previous location of this plant?

- |                      |                  |
|----------------------|------------------|
| 1- Cairo.            | 2- Alexandria.   |
| 3- Sharkia.          | 4- Canal region. |
| 5- Others (specify). |                  |

(13) Why it was decided to move?

- 1- Unsuitability of the building in the previous location.
- 2- The lack of services and amenities.
- 3- The high costs associated with the previous location.
- 4- The lack of space for expansion.
- 5- Others (specify).

(14) Did the firm take into account the need for key workers to move their work place from the old to the new plant before deciding to move?      Yes      No

*If the answer is (Yes) ask:*

\*How?

*If the answer is (No) ask:*

\* Why this was not necessary?

(15) What is the current use of your previous location?

- |                         |                                |
|-------------------------|--------------------------------|
| 1- Same activities.     | 2- Other industrial activities |
| 3- Vacant.              | 4- Residential purposes.       |
| 5- Commercial purposes. | 6- Others (specify).           |

(16) How many of the old plant's employees are now working here in the new plant?

Number employees ( %of old plant's employees before the move).

(17) How have costs been changed by the move?

---

Increased	About the same	Reduced
-----------	----------------	---------

---

- Labour cost.
  - Transportation costs.
  - Production costs.
  - Others.
- 

(18) Is labour more or less efficient than the previous location?

a-More

b-About the same

c-Less

\* Why?

1- Timekeeping.

2- Absenteeism.

3- Turnover

5- Skill shortages

4- Others(specify).

#### **-4- CHOOSING THE CURRENT LOCATION:**

(19) What other locations were considered for moving/establishing this plant?

(if any)

1- None

2- Cairo.

3- Alexandria.

4- Sharkia.

5- Canal region.

6- Others (specify).

(20) How did you you first became aware of the opportunities for establishing this plant in the new town?

(21) Why it was decided to move/establish the plant in the new town?

- 1- Availability of land for possible future expansion.
- 2- Availability of sufficient services and amenities.
- 3- Availability of comparatively cheap land.
- 4- The tax allowances given to the firms in the new towns.
- 5- Others (specify).

(22) When did the plant became operational in the new town? Date / /19 .

(23) What were the main difficulties confronting the management while moving " before start working in the new town" ?

- 1- The large number of permissions needed for the move/ establishment of the plant.
- 2- The lack of cooperation from the new town Development Authority.
- 3- The shortage in skilled workers supply.
- 4- Others (specify).

(24) How much has been invested by your firm in this plant (including site)? £.E.

**-5- OBTAINING INPUTS:**

(25) How much of your main inputs, approximlly by value, are:

- |                               |                      |
|-------------------------------|----------------------|
| (a) Raw materials             | % of the total input |
| (b) Semi- processed materials | % of the total input |
| (c) Processed materials       | % of the total input |

(26) Where are the sources for the plant's main inputs?

AREA	Raw materials	Semi-processed	Processed
1- Cairo.			
2- Alexandria.			
3- Sharkia			
4- Canal region.			
5- The new town itself.			
6- Overseas.			
7- Others (specify).			

(27) What are the main difficulties associated with obtaining the inputs?

- 1- The necessity of dealing with governmental bureaucracy.
- 2- The shortage in the inputs supply locally.
- 3- The inputs' high prices.
- 4- The main inputs needed to be imported.
- 5- Supply unreliable.
- 6- Others (specify).

**-6- MARKETING:**

(28) What are the proportions of your products sold in?

- |                 |                   |
|-----------------|-------------------|
| 1- Cairo.       | % of total output |
| 2- Alexandria   | % of total output |
| 3- The new town | % of total output |
| 4- Sharkia      | % of total output |



1      2      3      4      5

e- Skilled workers supply.

|-----|-----|-----|-----|-----|

Satisfactory

Very unsatisfactory

(31) Would you advise other firms to move to the new town?   YES      NO

=Why ? ( write the reply in full)