



HAI EL SALAM PROJECT

AN UPGRADING

AND

SITES-AND-SERVICES PROJECT

ISMAILIA, EGYPT

ISTANBUL, 1996 – “The City Summit”
United Nations Centre for Human Settlements (Habitat) Nairobi, 1994

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GOVERNMENTS WILL HAVE TO DEVISE ALTERNATIVES TO THE INFORMAL PROCESSES OF LAND SUPPLY THAT HAVE ASSISTED MANY LOW-INCOME FAMILIES IN THE PAST BUT THAT MAY NOT BE ABLE TO SUPPLY LAND TO MEET FUTURE NEEDS.

Informal processes of land development now play a crucial role in making land available to low-income and disadvantaged groups, particularly in the face of rapid urbanization in developing countries. The high cost to developers and individual households of acquiring land for shelter through the formal sector as well as the high standards for preparing that land have made it very difficult, if not impossible, for the poor, homeless and disadvantaged to gain access to legitimate housing on legally acquired land. There is, however, considerable doubt that established informal processes can continue to meet needs (even if it were desirable to look on informal supply as the permanent *de facto* policy of the government). Therefore, some form of intervention by government may be necessary.

The Global Strategy for Shelter to the Year 2000
(UNCHS, 1990:32)

FOREWORD

The Hai El Salam project, Ismailia, Egypt, has become a classic example of solid professional work applying innovative concepts in the field of upgrading, community improvement and the provision of land for lower income groups. The project itself and its implementation provide a variety of lessons to be learned ranging from the methodological approach to the problem, the inception of the physical planning concept, to its implementation and occupation. Internal cross-subsidy, sites-and-services, upgrading, community involvement and participation, the creation of a project implementation agency are areas where innovative approaches and techniques were applied in the project. For these reasons, the Hai El Salam project represents an example of successful management of the human settlements development process and, as such, has been selected for inclusion in the catalogue of best practices for the 1996 United Nations Conference on Human Settlements, Habitat II.

This study discusses the various facets of the project. This includes the existing situation, the proposed plans, their implementation and an evaluation of what actually happened 15 years after the launching of the project. The format follows the stages of the project: Strategy; Physical Planning; Community Facilities; and Roads and Utilities. Each of these aspects is discussed in terms of the analysis of the existing situation, proposals, implementation and an evaluation highlighting the "lessons learned" throughout the process.

This case study has been prepared as part of a series for use in the Housing and Development workshops and seminars, jointly organized by UNCHS (Habitat) and the Post Graduate Centre Human Settlements, of the Katholieke Universiteit Leuven, Belgium, funded by the Belgian Administration for Development Cooperation. The collaboration of Dr. Mohamed El Sioufi and the assistance of Dr. Reinhard Goethert with UNCHS (Habitat) Training Section Staff, in the preparation of this publication is gratefully acknowledged.

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SUMMARY

The case study -the Hai El Salam project, Ismailia, Egypt -presented is rich in concepts that illustrate positive examples of the role of government institutions as enablers in the housing process. Intervention is minimised to the component level (i.e., the provision of new plots and infrastructure) and the access to resources (i.e., legalising land tenure and providing technical assistance).

The project was completed 15 years ago, and gives a unique opportunity for a retrospective review of the project performance. This review does not intend to be an exhaustive study but is intended as a brief overview to highlight key issues. A definitive, in-depth study would still be useful as a comparative reference for other projects. The project is of particular interest and importance since many of the concepts accepted as everyday givens were first developed and given form in the Hai El Salam project. Projects throughout the world have adopted many of the principles first tried in Ismailia.

Egypt's urban population is expected to increase to 45 million by the year 2000. The high rate of urbanization of about 3.6 per cent annually has resulted in an acute housing demand. Consequently, spontaneous settlements were created producing large unplanned areas with substandard services and utilities.

Ismailia City had a population of some 175,000 in 1975. The rapid urbanization and the devastation of war set the need for reconstruction and the provision of housing in the city. Hence a master plan for the city was commissioned with the aim of participating in relieving the urban pressure from other large cities and providing for the rehabilitation of the city.

Hai El Salam, the case study discussed here, is one of the demonstration projects that were proposed to illustrate the implementation of the master-plan concept. The Hai El Salam project area was an unplanned northern extension of Ismailia on desert land. The majority of its population belonged to the very low to low income groups. The project combines both upgrading of the existing settlement and the development of its unbuilt fringe.

The master plan proposed a housing policy to provide the housing units needed to meet the growing demand. The Government was to "redirect its housing efforts away from direct provision and towards the encouragement of the private and informal sectors". The informal sector, characterized by progressive incremental construction of housing by small contractors and the owners themselves, is well established and has many advantages in the Egyptian context (El Sioufi, 1981). A thorough understanding of the housing system was a prerequisite to the implementation of the policy outlined above. The Hai El Salam demonstration project has proved to be successful in meeting many of the goals it set out to achieve. It provides several lessons for future application in similar projects in Egypt and elsewhere. The "lessons" from the case study are summarized below.

Proposals for upgrading projects should be based on rigorous research to understand the "natural" housing process. Proposals should be relevant to carefully targeted income groups; implementable with minimal subsidy; based on a strong understanding of the existing situation; able to be administered without the need for a high level of sophistication; realistic; implementable as soon as possible; and capable of modification with experience; and replicable.

Community participation should be encouraged, as much as possible, in all the phases of the project including: data collection; community leader selection; selection of alternatives; implementation; and financing. The involvement of special groups in the project should also be encouraged, for example: community youths and politicians. This ensures a shouldering of responsibility by the community as well as political support from officials and a high degree of credibility of the intentions of the project team.

A project agency that has the authority to implement upgrading projects should be created. The major objectives of the creation of such an agency include: management and implementation of the project; decentralisation of project administration; being semi-autonomous; and the creation of proficient local cadres of professionals and administrators through training.

Affordability through the self-financing of upgrading projects, if achieved, would alleviate the financial burden from governments. Several concepts could be combined to finance projects including: minimising external funding; self-financing through the sale of land to settlers in return for legal tenure and improvement; reduction of initial costs by staging upgrading; internal project cross- subsidy where funds could be raised by the sale of newly developed land at market prices; and generating income from housing for the inhabitants by allowing mixed use.

Land management such as the allocation of undeveloped, peripheral land to an upgrading project, if available, is a key element to solving various problems within a project area. This land could be used for the provision of: prime commercial plots for sale at market value; sites for community facilities; compensation sites for inhabitants who need to be relocated; new plots to address the increasing demand; and landscaping areas to ameliorate the urban environment.

Incremental implementation of upgrading should be planned. This helps meet the real present needs of inhabitants as well as suit their financial means. The following should be taken into consideration: initial provision of the minimum acceptable levels of infrastructure and services; provision of higher levels of service as needed; incorporation of initial minimal infrastructure into the higher levels of service so as not to waste resources; incremental implementation of infrastructure as funds become available; and provision of higher levels of services and utilities for salable plots for cross-subsidy to occur and to generate more income.

Professionals can facilitate the process of these types of projects; their role includes: the improvement of market responsiveness; the establishment of new routes for the supply of services; the creation of legal frameworks supportive to local initiative; the monitoring and evaluation of the production factor markets, of service systems and of the housing process; the development and management of service systems that could be adjusted to incremental provision; urban planning and subdivision design; technological innovations focusing on construction materials, components and methods; and design and implementation of new processes and structures.

Flexibility is necessary during the different phases of upgrading and sites-and-services projects so as to ensure a high degree of success. Alterations to different aspects of the project to accommodate local conditions, changing situations and the community's requirements have proved fruitful. Some examples of changes include: administrative and structural changes; widening of the agency's involvement in other problems in the area; relaxation of procedures; design changes in response to user demands; and new building regulations.

Replicability is one of the main goals of a project. To assist in making the project a success and therefore a model to be replicated it is necessary to conscientiously achieve rapid success to maintain a certain momentum and to encourage those involved. Certain factors should be taken into consideration to ensure a rapid and visible success to the pilot project. These include: ease of implementation; short time frame to show initial results; and implementation of visible project components that give dignitaries political satisfaction.

The lessons learned from the Hai El Salam case study confirm the housing philosophy outlined in the Global Strategy for Shelter to the Year 2000 adopted by the United Nations that emphasizes the role of government as an enabler rather than a provider of housing. It reinforces the concept that there is a very significant potential in the informal sector that should be acknowledged, encouraged and guided to obtain optimum results in the housing process.

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GLOSSARY OF ARABIC TERMS

'imara	Small block of apartment walk-ups from three to five storeys, with one or two apartments per floor.
Amlak	Government land agency under the General Agency for Land Reclamation which registers claims and collects rents for <i>hekr</i> land outside the City Council boundaries.
Gama'ia	Cooperative
Hekr	The system whereby vacant desert land may be claimed (<i>wada 'yad</i>) registered and an annual rent paid for its use (<i>tahkier</i>); leasehold.
raba'	Single-storey housing consisting primarily of rented rooms (tenement).
tahkier	The tax paid on hekr land.
wade'yed	Laying the hand", the mechanism for claiming <i>hekr</i> land.
zakat	The concept of donating from one's profits and extra income to subsidise the needs of the poorest members of society.

ABBREVIATIONS

DBST	Double bitumen surface treatment
GOPP	General Organization for Physical Planning
km	Kilometre
KV	Kilovolt
KVA	Kilovolt ampere
£E	Egyptian pound
MOH	Ministry of Housing
NAPWAS	National Authority for Potable Water and Sewerage
SCA	Suez Canal Authority
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
US \$	United States dollars

Currency equivalents		
Year	United States dollar (US\$)	Egyptian pounds (£E)
1977-1980	1	0.7
1990	1	2.7
1992	1	3.3

OVERVIEW

Developing countries are witnessing rapid growth of their urban populations as a result of migration from rural areas and rapid natural growth. Consequently, the provision of shelter for such large numbers constitutes large-scale urban problems. Government policies aimed at the provision of housing for the lower income groups vary in the level of intervention. These have been identified by J.F.C Turner* at three levels: the provision of housing (assemblies); the provision of components; and increasing access to resources. +

* J.F.C. Turner is a strong proponent of the role of government in housing as an enabler versus a provider. He has published his theories in various influential publications. Interestingly, Turner was involved as one of the consultants in masterminding the approach and concepts applied in the Ismailia project.

+ Turner, J.F.C., *Issues and Conclusions in Building Community*

Provision of housing (assemblies)

The provision of housing implies complete assemblies (ready-to-occupy or turn-key projects.) A minimal version of such projects would consist of a site, access routes connecting it to other urban areas, water supply and shelter. A full-fledged version of these types of projects are mass housing projects. These are usually beyond the financial means of the lowest income groups unless they are heavily subsidised. In the majority of the cases this type of government intervention is limited in number and does not reach the original low-income target groups.

Provision of components

This type of intervention addresses components of settlements such as the provision and/or upgrading of services and infrastructure. The provision of potable water in the form of communal water taps or upgrading sewage disposal from pit latrines to a water-borne sewerage system are examples of components within a settlement. Such a level of intervention takes the form of sites-and-services and upgrading projects.

Increasing access to resources

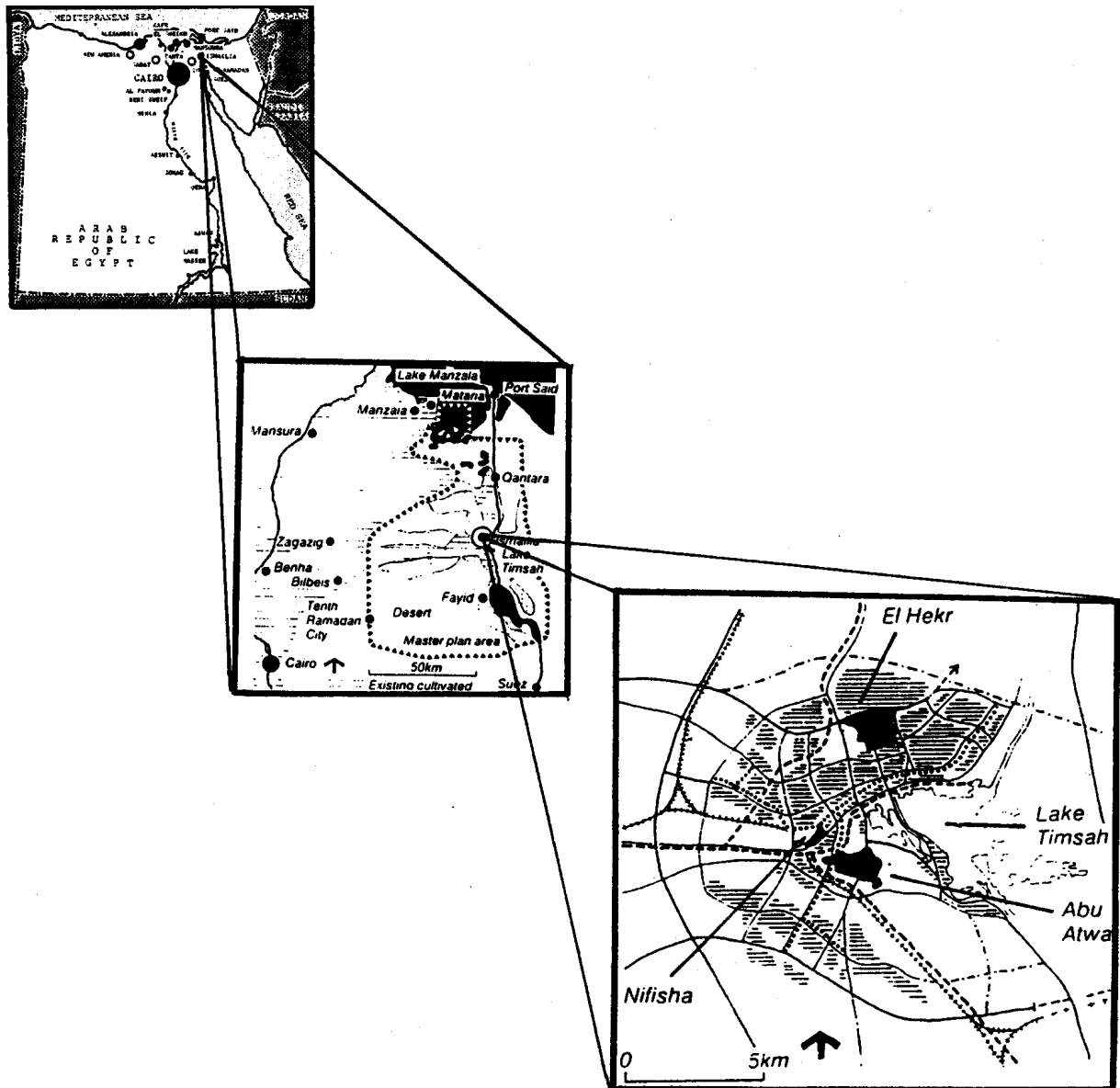
Increasing access to basic resources (such as land, labour, time and building materials) that constitute parts of the components is the main concept of this level of intervention.

The three levels reflect the attitudes and roles of governments *vis-à-vis* the housing issue. In the case of provision of assemblies, the government usually plays a central role both in the construction and management of such projects in addition to the provision of extensive subsidies. The second and third levels tend to reduce the role of governmental agencies and they imply a shift in attitude from government as a "provider" of housing to government as an "enabler". In addition the involvement of the settlers themselves and the private sector is encouraged. Such a switch is currently being embraced by many countries, particularly after it has been established that the role of provider of housing has generally failed except in atypical controlled contexts such as Singapore. The United Nations Centre for Human Settlements (Habitat) has been advocating the philosophy of government as an "enabler" via the Global Strategy for Shelter concept that it generated.

The case study presented here, Hai El Salam -a settlement in Ismailia, Egypt, represents an example in which many of the concepts outlined in the second and third levels mentioned above have been implemented. For example, the project involves the provision of new plots and the upgrading of existing areas in the settlement (provision of components.) In addition, it involves the legalisation of land tenure and the provision of technical assistance (access to resources).

Many of these concepts are well established by now and are widely implemented and accepted. The Hai El Salam project helped pioneer many of these concepts and gave form to them through a variety of techniques. Many successes have been experienced. The "lessons" are analysed and presented in this case study, many of which could be applicable in other contexts around the world.

I. INTRODUCTION



EGYPT: NATIONAL CONTEXT

The urban population of Egypt nearly tripled between 1947 and 1977 (from 6.2 to 17 million). It is expected to increase to 45 million by the year 2000. This high rate of urbanization is attributed to four major factors:

- Rapid population growth with an annual growth rate of 2.6 per cent;
- Scarcity of agricultural land with limited job opportunities in the already high ratio of labour per acre;
- Concentration of services in urban centres, particularly Cairo;
- Migration to urban centres in Egypt, particularly to Cairo.

The high rate of urbanization of urban centres at about 3.6 per cent annually in Egypt, resulted in an acute housing shortage with a demand of about 119,000 housing units per year. The public and private sectors together could not satisfy this tremendous demand. Consequently, squatting on desert land and informal settlements on agricultural land spontaneously produced large unplanned areas that lack services and utilities.

ISMAILIA: URBAN CONTEXT

Ismailia City was established in about 1875 as the headquarters of the Suez Canal Authority (see figure 1.1). It was laid out with a "European quarter" (tree-lined boulevards and parks) and an "Arab quarter" with a narrow grid layout.

The Suez Canal Authority is the largest employer in the city. Other employment includes small-scale shipbuilding, light manufacturing and service industries. There has never been long-term stability -variations in employment being related to major construction works or politics. For example, high points have been the construction of the Suez Canal and the establishment of the headquarters of the British Army; the low point was the evacuation of the city for seven years between 1967 and 1974. It is thus not possible to extrapolate statistical trends from the past - there are no statistically reliable trends.

The city has the advantages of a beautiful site on the north shores of Lake Timsah, an attractive "garden city" layout, and good communications with Cairo. It has a good water supply from the Sweetwater Canal which runs from the Nile and also serves Port Said and Suez.

The rapid urbanization and the devastation of the war set the need for reconstruction and the provision of housing in the city. Hence a comprehensive study for the city, a master plan, was necessary. Ismailia City in 1975 had a population of some 175,000.

Ismailia Master Plan

Master plans for both the Ismailia Area (see figure 1.2) and the City of Ismailia (see figure 1.3) were commissioned by the Government of Egypt (GOE) and the United Nations Development Programme (UNDP), in 1974, to Clifford Culpin and Partners, Chartered Architects and Planners, assisted by other firms. The goal was that the Canal Zone and its cities should play a positive and increased role in the development of the Egyptian economy, and participate in relieving the urban pressure from the congested cities of Cairo and Alexandria and other large cities in the Nile valley and delta, as well as provide for the rehabilitation of the city.

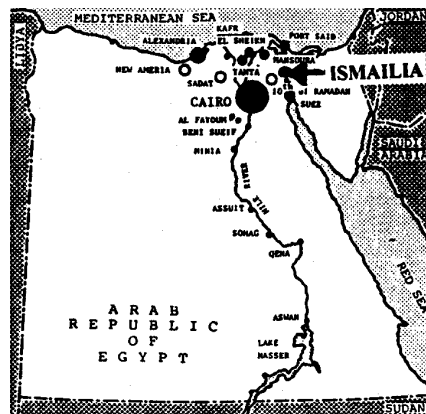


Figure 1.1. Egypt: Location of Ismailia

Source: El Sioufi, Mohamed, 1981

Approach

The consultant planning team was convinced that to ensure the success of the project, the plans had to be rooted in what existed, have achievable targets and obtain local support. Therefore one of the key aspects was the housing situation. A limited number of "in-depth" interviews were conducted with randomly selected families to provide insights into the working of the "housing system".

Master plan proposals

The research led to the following sectoral proposals:

Employment

Support small industries, increase development of the Canal University, transfer of some central-government jobs and allow limited development of tourism.

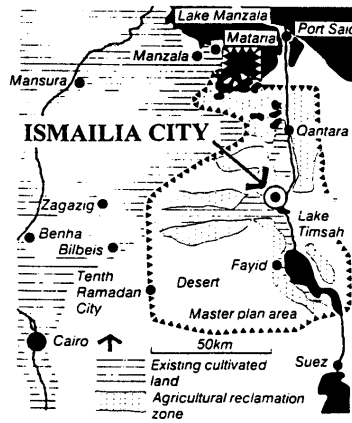


Figure 1.2. Ismailia area master plan

Source: Davidson, Forbes and Geoff Pane (ed.), 1983

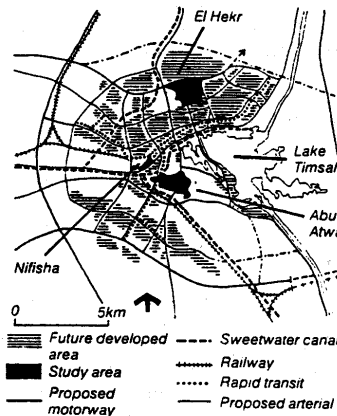


Figure 1.3 Ismailia City master plan

Source: Davidson, Forbes, and Geoff Pane (ed.), 1983

Housing

Provide new subdivided land, roads and infrastructure. Upgrade traditional and informal areas.

Physical planning

Develop a new centre west of the existing one on land to be vacated by the Government.

Tourism

Develop tourism primarily for the domestic market, on Lake Timsah.

Agriculture

Reclaim land in areas between the Canal Zone and the Nile valley.

The master plan also proposed several demonstration projects to illustrate the implementation of the master plan concepts.

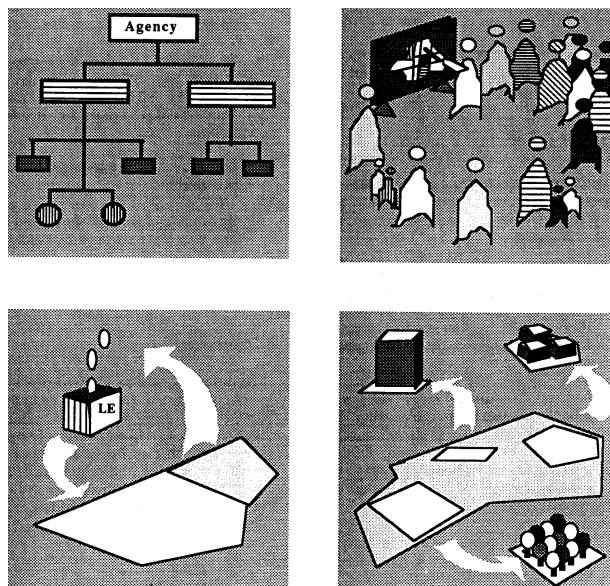
HAI EL SALAM: CASE STUDY

The demonstration projects called for in the master plan comprise the detailed designs of two areas. The first area, El Hekr, later called Hai El Salam, combines the upgrading of existing spontaneous housing with new housing development. The second area, Abu Atwa, is devoted to the creation of an estate for light industry. This case study discusses the first of the two demonstration projects and it will be referred to as Hal El Salam.

Importance of the case study

The Hai El Salam project has become a classic example of solid professional work applying innovative concepts in the field of upgrading, community improvement and the provision of land for lower income groups. The project itself and its implementation provide a variety of lessons to be learned ranging from the methodological approach to the

problem, to the inception of the physical planning concept, and its implementation and occupation. Internal cross-



subsidy, sites-and-services, upgrading, community involvement and participation, and the creation of a project . implementation agency are among the areas of innovation in the project. Indeed for these reasons, the Hai El Salam project might be one of the most documented projects today.*

* Numerous papers, studies, and a manual, among others, have been published regarding this project (refer to bibliography). Each paper deals with one or more of the aspects related to the project such as sites-and-services, upgrading, implementation, financing etc. The *Urban Projects Manual* presents a guide to preparing upgrading and new development projects accessible to low-income .groups based on the methodology used and experience gained in the Hai El Salam project.

This study discusses the various facets of the project. It starts with the existing situation, the proposed plans, and their implementation with an evaluation of what actually happened 15 years after the launching of the project. The format follows the stages of the project: concept, physical planning, urban design, housing and architecture. Each of these aspects is discussed in terms of the analysis of the

II. STRATEGY

HAI EL SALAM PROJECT CONCEPT

The Hai El Salam project area is an unplanned northern extension of Ismailia on desert land which lies one to two kilometres from the centre of town (see figure 2.1). To the east and south it abuts built-up areas of the city, to the west agricultural land and to the north desert land. Hai El Salam is a traditional informal housing area. The built-up fabric of the project area ranges from a densely developed, mainly housing area to the south to a sparsely inhabited desert fringe in the north.

The original name of Hai El Salam, "El Hekr", came from the Arabic word for the tax which is levied on informal settlers to give them temporary rights to stay on the land. The area has been renamed "Hai El Salam" literally meaning "District of Peace" by the local council in 1977 when it was designated as a demonstration project by an administrative order of the Governor under the Local Government Law 52 of 1975 (a law that aims at the decentralisation of administration and the strengthening of governorates).

Project rationale

The Hai El Salam project combines both upgrading of the existing settlement and the development of its un-built fringe for the following reasons:

- Upgrading usually entails the removal of some dwelling units for street alignment or the provision of services or utilities, hence there would be a need to relocate their inhabitants which could be done preferably near the site.
- Services, requiring large sites such as schools, are lacking in the existing area and could be provided for in the new extension.
- Implementation of both upgrading and new development could be undertaken by one organization.
- Development of a new area adjacent to the squatter area provides a legal alternative that could prevent further

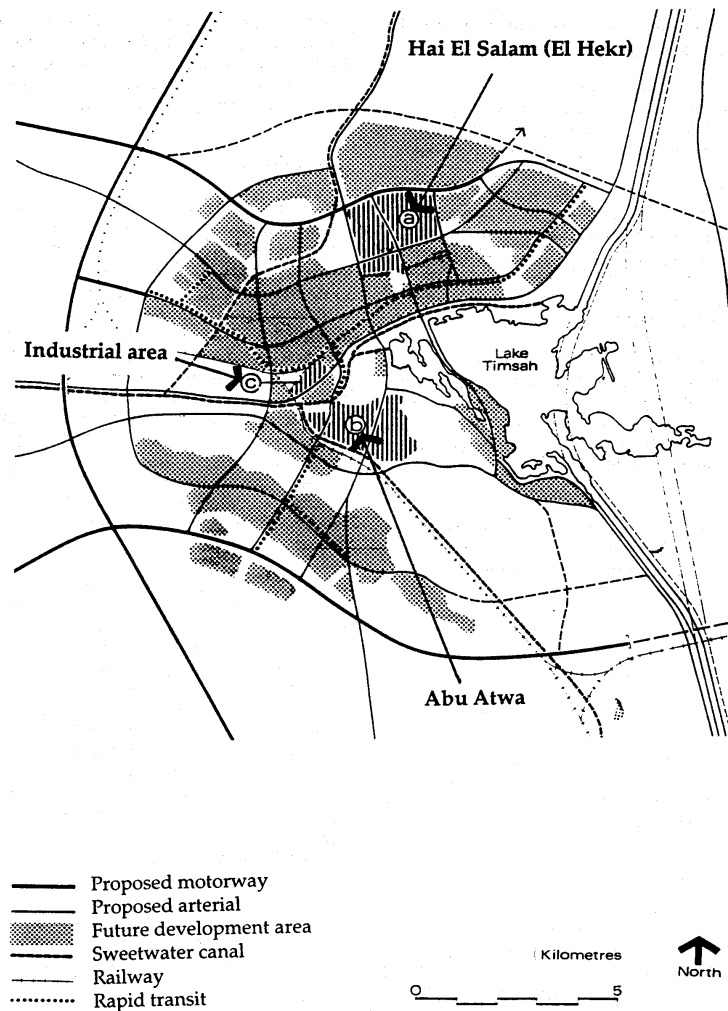
squatting.

Objectives

The objectives for the project were derived from the Master Plan, and may be stated as follows:

Proposals should:

- Be relevant to low-income groups, which form the majority of the population.
- Be capable of implementation with minimum subsidy.



- Be based on the best possible understanding of the existing situation in its social, cultural, economic and physical aspects.
- Be able to be administered without the need for a high level of sophistication and continued support from outside expertise.
- Be realistic, i.e., should be implementable within the existing administrative and executive structures and not require fundamental legal or organizational reform.
- Be capable of implementation as soon as possible.
- Be capable of modification from experience and with changing external factors.
- Be replicable, in form and content, at other sites in the future.

Approach

The housing needs of low-income groups in particular were intensely researched, and options for levels of services to be provided with respect to affordability were considered. The ability to pay being an important factor made it obvious that there was a need to improve the economical situation of these lower income groups by providing new income-generation potentials.

Figure 2.1. Location of Hai El Salam (El Hekr)

Housing policy

The master plan proposed a housing policy to provide the housing units needed to meet the growing demand as follows:

"The most effective level of government action for housing is an indirect one, concentrating on providing access to the necessary resources and on the provision of infrastructure at levels and times which match users' preferences and demands. This implies that government should redirect its housing efforts away from direct provision and towards the encouragement of the private and informal sectors."

The informal sector, characterized by progressive incremental construction of housing by small contractors and the owners themselves, is well established. The advantages of this system of housing provision are fundamental to both the user and to the country:

- Owner-built, incremental construction tailors the house to the household's priorities and allows flexibility to meet changes.
- The system allows the household to treat housing as an investment and regard it as an income-generating product.
- Informal construction is cheaper than formal construction and utilises appropriate materials and technologies.
- Incremental, informal housing is accessible to low-income groups without subsidies.

Research

A thorough understanding of the housing system was a prerequisite of the approach outlined above. Consequently, the research comprised a three-stage survey. Questionnaires were designed, based on case studies carried out during the Master Plan phase. First, a "scanning survey" comprising a short questionnaire with basic demographic and economic questions was used on a medium-sized random sample of Hai El Salam population. Long in-depth interviews of 15 families, used as case studies, were then conducted, based on the first survey which served as a framework. The case studies served as a tool to get a better understanding of the housing history of those families and their aspirations. "Detailed studies" then followed as a more systematic approach. From these three levels of survey, a basic housing policy was developed.

Replicability

The Hai El Salam project aimed at demonstrating, first, the applicability of this approach to Ismailia's housing problems and, secondly, its suitability as a model for the central ministry to adopt for other urban areas within Egypt. Within Ismailia the administration accepted the idea as a general principle. A second project at Abu Atwa was slow to start in the late 1970s, but partly due to the success -at least from the Governorate's point of view -of the Hai El Salam project, it has been given full encouragement. Further areas had also been identified for upgrading, including the worst housing area of Ismailia (Manshaat Shohada). Certain factors, however, made replicability in a wider sense harder to achieve.

First, Hai El Salam was chosen as a first demonstration project area partly because it was expected to be easy to implement. It had no physical or tenure problems which would hinder the planning process or require sophisticated technical solutions. Secondly, both the Hai El Salam and the Abu Atwa projects had benefited from small amounts of "inception" capital and technical assistance provided through the British Overseas Aid Programme. While these conditions may not be repeated, it would seem that the Hai El Salam project had indicated an alternative method of providing access to housing at minimal cost to the Governorates.

The Hai El Salam project concept is widely implemented today in Ismailia as a large number of urban and rural areas have been designated as projects to follow the same principles as those in the pilot project. Several urban upgrading projects are being implemented while plans, are being made for five more urban areas. Five additional rural areas are earmarked for the creation of similar projects each in turn including two to four villages.

Flexibility

During the first three years, the project experienced changes in its administrative structure, organization and contents. The standard plot shapes were altered to comply with pressure from the plot awardees. Alterations had been made in

the way applications were handled to give the Agency more flexibility and to enable more to participate in the draw for plots. New building regulations were also enforced, and as a result block layouts and footpath widths were altered. These alterations also facilitated easier surveying for the less-skilled technical staff. In addition, the Agency broadened its involvement into other problems in the area including waste disposal and maintenance. A new organizational structure evolved to cope with these changes.

SOCIAL PROFILE AND TARGET POPULATION

Surveys were carried out by the consultants to identify the socio-economic characteristics of the existing population and to identify the target population for the future development of the area. Surveys were carried out by a team of teachers from the area under the guidance of social workers during the summer school vacation. This ensured easy accessibility and acceptability by the residents in addition to a high degree of reliability in the results of the survey (see "Community participation" later in this chapter).

Population

Hai El Salam was first occupied in 1937, and had grown to an estimated 37,000 people at the time of the survey. It was anticipated that the population of the combined existing and new development areas would increase to approximately 90,000 by the year 2000. This population estimate assumes that all designated land is developed before 1990.

Table 2.1 Overall projected level of population	
Year	Population
1977	37,000
1980-1985	58,250
2000	89,700
<i>Source: Arab Republic of Egypt, 1978: vol.2</i>	

Households have an average size of 5.6 persons, and have tended to settle and reside in Hai El Salam in related groups. This gave rise to sections that were still predominantly occupied by family groups or groups of families with common origins elsewhere, many of them from Upper Egypt. The population of Hai El Salam as a whole was slightly younger than that of Ismailia.

Over half of those interviewed in the scanning surveys, which covered the whole of Hai El Salam, have lived there for more than 10 years. One fifth have lived in the area for less than two years, principally moving to Hai El Salam to own a house of their own, or to save so as to be able to achieve home ownership eventually.

The distribution by neighbourhood of the existing and projected populations are shown in figure 3.4. Gross densities in the existing areas, in 1977, were estimated to range from 200 persons per hectare to 500 persons per hectare in the southern area of *imaras* (apartment buildings) and were expected to range from 400 persons per hectare to 650 persons per hectare by 2000. In the new development area, gross densities were 270 persons per hectare at initial occupation and increased to 400 persons per hectare after 10-15 years.

Economic characteristics

The ability of the exiting and projected populations to pay for improvements, and similarly the ability to pay for plots and superstructure in the new development areas, has been determined by analysis of the income and expenditure characteristics of the existing populations of the project areas. It has been assumed that the incomes of this target population will remain constant in real terms over the following 15 years. Estimates of the proportions in income groups which are economically mobile and which have a propensity to consume in terms of housing improvements or new plots have been made on the basis of the occupational structures and income groups in the areas.

In Hai El Salam, having taken into account the high proportion of government employees and the proportion of informal private-sector employees (and employers) who tend to have higher incomes, the following estimates were made in 1977. 57.3 per cent of the households were of very low income (less than £E25 per month (1977, US \$35.7) with no expectation of an improvement in their status. Households with very low to low incomes (between £E26 and £E39 (1977, US \$37 and \$55.7) experiencing or expecting an improvement in their status were estimated to make up 28.5 per cent of the population. Thirdly, households with low to moderate incomes (£E40-£E69 per month (1977, US \$57-\$98.5) with no expectation of an the improvement in their status were estimated to make up 12.6 per cent of the population. Finally, 1.6 per cent of the population were of moderate incomes (£E70+ per month (1977, US \$100),

experiencing or expecting an improvement in their status.

Employment for the population is found principally in central Ismailia, including Arashia, adjacent to Hai El Salam. Half of all earners in the area are in government employment which, although lowly paid, secure and provides regular incomes. The private informal sector provides employment for a further third of all earners, though this sector appears to be relatively under-developed in the area. Most people working in central Ismailia walk to work.

Most households live in individual houses but one fifth occupy shared dwellings. Approximately one quarter of households rent accommodation, including 15 per cent renting individual houses.

From the surveys there was a clear consensus in the area on priorities for improvements. While the condition of the housing in the area is generally not felt to be a problem by households (though they aim to make improvements when they can afford them), the provision of water, surfaced roads and sewerage were felt to be the priorities for government-aided improvement. The land tenure of nearly all households in Hai El Salam is provisional, but despite this a land market exists. Security of land tenure is an underlying concern for people throughout the area.

Hai El Salam is very deficient in the provision of facilities. There is only one primary school in the area although a preparatory school is currently being built. Limited schools exist in adjacent Arashia. One small social unit in Arashia serves Hai El Salam partially, and public health services for the area rely entirely on the hospital in Arashia.

Target population

The target population was taken as the existing population of Hai El Salam which falls mostly within the 30 per cent income bracket of Egyptian population (see figure 2.2), with a mean household income of £E25 per month in 1977 (1977, US \$35.7). The project, however, was not designed exclusively for this income group as families with higher income levels in Ismailia also required plots for housing. This was seen as a good opportunity to undertake cross-subsidy of the plots for lower income groups. This meant that a certain proportion of plots would be sold with few restrictions at a higher price, and the "profits" would allow lower prices to be charged for plots for the lower income groups. An income "ceiling" was proposed for the subsidised plots. The different prices related to different locations and standard of services.

In addition to the benefit of cross-subsidy, allowing access to higher income groups helps to remove the pressure which they would otherwise bring to bear to replace or buy out the low-income groups. This is a phenomenon which has been recorded in many low income housing projects in third-world countries. Yet another advantage is that instead of developing a large single income-group ghetto, a reasonably balanced section of the city can develop.

Figure 2.2 Hai El Salam household income, size and employment distribution – 1977

Source: Davidson, Forbes, and Geoff Pane (ed.), 1983

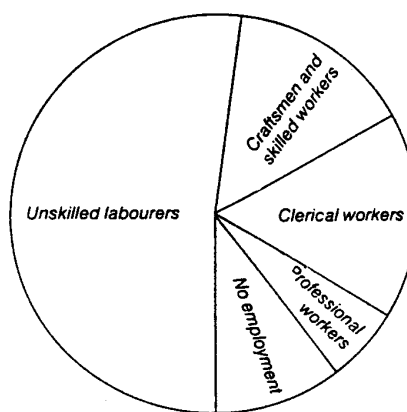
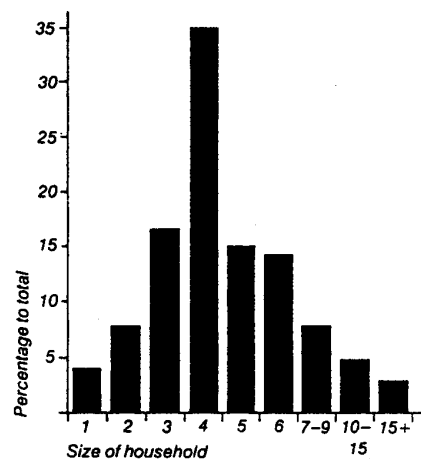
ADMINISTRATION

Existing agencies in Egypt traditionally involved with urban development (the Ministry of Redevelopment, the Governorate or the City Council) lacked the needed funding to undertake large-scale projects and were constrained by their centralised nature of operation. To address these issues a new organization in the form of a development authority was proposed by the master plan. Local Government Law 52 of 1975 empowers the Governor to establish semi-autonomous agencies to plan and manage the development of projects within the Governorate. Thus, this new organization, a project agency, was to have the power to recycle funds locally thus becoming capable of running the project.

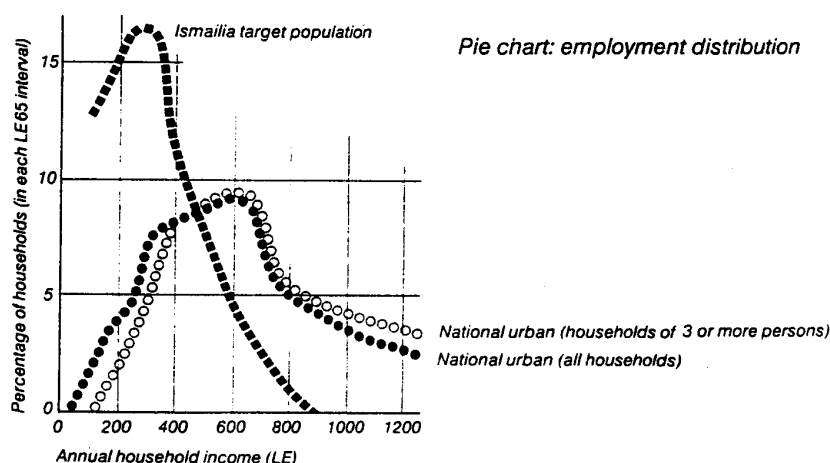
Project agency

The project agency, in order to manage the project successfully and implement it speedily, needed to be able to operate

Bar graph: household size



Pie chart: employment distribution



Linear graph: annual household income

free from the restrictions of the local bureaucracy. The proposed organization for the Hai El Salam Project Agency is shown in figure 2.3. This mandated autonomy not only from the responsible department within the central or local government for the decision-making process, but also financial independence. Thus the Agency would acquire the power of buying and selling land, entering into contracts and managing its own budget. The Agency, it was acknowledged, could not act in total isolation without cooperating with various existing authorities and agencies responsible for the control and development of land and utilities. Therefore it was suggested that the Agency should be governed by a board of directors, who could act as the governing board for other similar project agencies, and who would include senior representatives of the Governorate, the City Council, the Housing Directorate, Amlak Department (the department responsible for land), the local office of the Ministry of Finance and the Project Manager.

This Board would be directly answerable to the Governor.

The responsibilities of the Agency included:

- The complete detailed planning of layouts;
- The survey, allocation and sale of plots;
- the drawing-up of contracts;
- The collection of payments and the borrowing of money;
- Negotiations with the Agencies responsible for the provision of utilities and co-ordination with the City Council;
- The representation of inhabitants' needs to the authorities responsible for the provision of social facilities;
- The provision of technical assistance to plot holders.

The Engineering Office was perceived mainly as a supervisory office, handling contracts and providing technical assistance to plot holders. The Legal Affairs Office was to be concerned with the preparation of contracts for plot holders and most essential in the first two to three years of the project. The Finance Office was to focus on the recollection of payments, budgeting and all financial transactions in addition to setting up any building loan programme. The Public Relations and Applications Office would be the "front" office, accepting applications and answering queries. About 10 of the 36 persons making up the Agency would be professionals.

Project Agency Board

The Project Agency Board and the Agency itself were not established until 1978, a year after Hai El Salam was first declared a project area. Control over the development, purchase and disposal of the land was given to the Board. It initially consisted not only of the people proposed in the consultants proposal, but also the Chairman of the City Council who replaced the General Secretary of the Governorate, the Chairman of the District Council, the senior representative of the Ministry of Construction and New Communities, a representative from the Survey Department, members of the Party, the Governor's Chief Engineering Advisor and the Agency's Legal Advisor. In 1979 the Board was further extended to include representatives of the Suez Canal Authority and the Electricity Supply Company.

The Board's functions initially were:

- To authorise the development programme and any resulting expenditure by the Agency;
- To ensure that the agencies and departments responsible for the delivery of certain services were aware of the needs of the project and so ensure their co-operation;
- To decide on all matters of policy affecting the project;
- To provide the Agency with professional expertise which it either lacked or was in short supply.

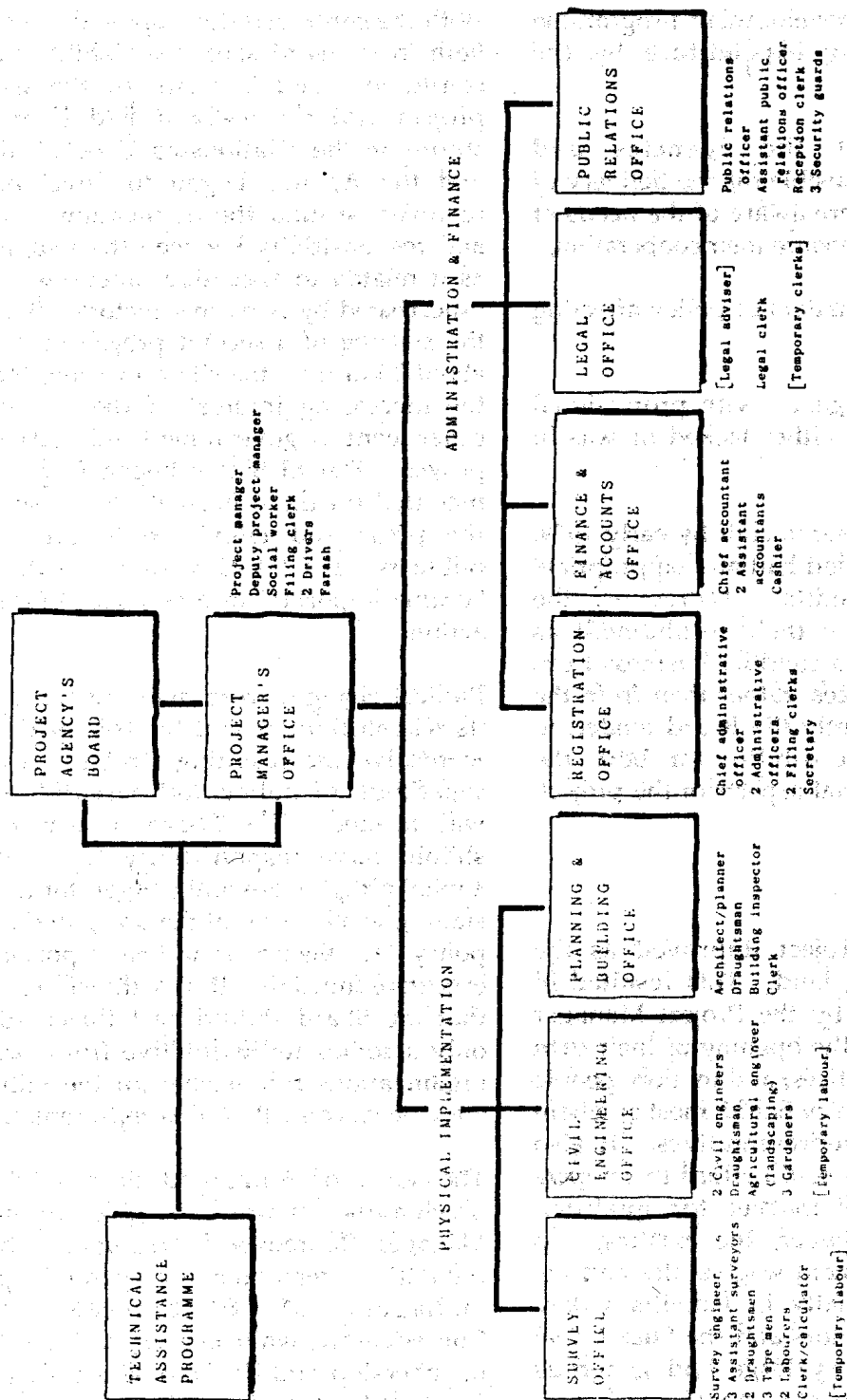


Figure 2.3. Initial proposed Hai El Salam Agency organization

Source: Arab Republic of Egypt, 1978: vol.1.

The Agency had a skeleton staff by early 1979. However, those seconded had an inappropriate level of technical skills. Moreover, the management staff saw their secondment as temporary and tried to conduct business from their Governorate offices, rather than from the site office. Consequently the Board tended to assume greater responsibility for both the technical and managerial aspects of the project.

Agency evolution

The status of the project improved as the Agency began selling land. This resulted in increased attendance by the Project Manager (further enhanced by the opening of their own custom-built project offices) and in more people being added to the Agency Board, most of whom were local political representatives. It also meant that the Agency could

afford to compete in the private-sector market for qualified technical staff. However, the existing gap between local-government wage scales and the private sector, especially in Ismailia where both the Arab Contractors and the Suez Canal Authority (SCA) -very large and generous employers of technical personnel -are based, was so great that even with the secondment bonus of 50 per cent of base salary, it meant that the engineer needed to be paid as much or more than the Project Manager. Consequently, little effort was made by the Agency or Board to pursue prospective employees. When, eventually, due to considerable pressure from the technical assistance programme and a realisation that in-house engineers would be cheaper than hiring their own consultants, they did hire their own engineers, the role of the Board changed little and the technical staff tended to be under-utilised.

With the continued development of the Agency both in terms of staff, their abilities and self-confidence, and in terms of the size of the project and the work it had to undertake, strains in the relationship between the Board and the Agency began to develop. These revolved around the delineation of authority and responsibility between the two, especially as it related to executive functions. This was exacerbated by two other factors. The first was the starting of a second project in Abu Atwa, about 3 km from the city centre and the second, the increasing interest of the Governor and other central-government ministries in the project. Hai El Salam began to be regularly included on the official tours of Ismailia and the press and television began to give it publicity. For the Governor and the Party, it became important as a symbol of Governorate action.

Radical changes were made to the Board and its responsibilities and the role of the Agency to resolve the resulting strains. A complete separation of policy and executive functions was needed. The Board, it was proposed, should have responsibility for: approving annual programmes and budgets for the Agency; staffing levels; special bonuses; and matters of policy. The agency would be responsible for all executive functions. It was, therefore, suggested that the Board should be reduced to include only a senior representative from each of the organizations responsible for the utilities plus a few local council or area representatives.

The Governorate opposed this as it felt that too much authority would be given to the Project Manager. Moreover, it was pointed out, fiscal regulations restricted the spending power of managers of Governorate projects. Consequently, while cutting back on the Board membership and developing a separate board for each Project, the revised structure did not include all the technical people required to vet authoritatively the proposed programmes and budgets. Instead, executive committees were created to control day-to-day expenditure for each Project. The new executive committees consisted of the Board Chairman, the Project Manager and the Project's Finance Director.

The full Board was responsible for the approval of the programmes, the budget and matters of policy and was to monitor the progress of the work, but did not interfere with any executive function.

One consequence was the loss or restriction of one channel of participation by the public in the project through the local council representatives on the Board. However, it is culturally acceptable for individuals to make representation to the highest levels directly and informal contacts and relationships influence many decisions.

Agency concept evaluation

Advantages

The concept of creating an agency proved successful in the Ismailia case in that it provided a management approach which shifted from development inertia to a much more active role. Consequently, six new project- specific development agencies, similar to that at Hai El Salam, were created within Ismailia.

The location of the Agency in the project area had many positive implications. This meant that the team of seconded government staff had to work together away from their normal offices, thus building motivation and teamwork. Physical and social problems were being witnessed daily by the team. In addition, the staff on the team became very accessible to the population of the area.

Technical assistance and training from the consultants and later from the Regional Planning Office formed by professionals seconded from the General Organization of Physical Planning (GOPP) played a positive role in upgrading the capacities of local professionals on the Agency team. The local staff helped to develop the new pattern of routines and working culture. This made management very robust and its success is witnessed in its continuation and expansion even without further external assistance. Different skills were transferred to local staff as they were provided with formal training sessions that were related to real local situations and problems.

Disadvantages

Since senior members of the Agency held positions within the Governorate they perceived -it seemed -that the project posed a threat to their future careers. They believed their promotion was jeopardised by their absence. Since they saw the secondment as a temporary one, they tried to conduct business from their Governorate offices, rather than from the site office defeating somewhat the purpose of location of the Agency in the project the site.

The growth of the Board, due to the need to include representatives from different agencies and political figures, meant that it became unwieldy and decisions were difficult to reach. Most proposals put to the Board were delegated to ad-hoc sub-committees or taken by the Board Chairman.

COMMUNITY PARTICIPATION

The Hai El Salam area was created and developed entirely by the efforts of the community that resides in it. Any professional intervention would have to include that community to be ensured success. The involvement of the residents of the area from the initial stages of the project, together with the involvement of key political figures such as the Governor, proved to be very fruitful.

Planning stage participation

The consultant team emphasised the importance of community participation from the planning stages. School teachers from the community, for example, were recruited to conduct the socio-economic survey of the inhabitants. This proved to be useful during the data-collection stage in many ways: teachers were trusted by the community; they had instant access to the families of the pupils they taught; they collected data more accurately; and they served as good communicators whereby they informed the inhabitants about the project and were able to get their cooperation.



Photo 2.1 Community and politician involvement – Ismailia's Governor distributing title deeds



Photo 2.2 Project Agency new building in main centre (left)

Representatives were selected from the area residents to coordinate with the Agency. These representatives were usually natural social leaders within the community identified during the surveys. These representatives acted as a liaison between the residents and Agency and had an active role in defining problems and obstacles and resolving them. Community representatives, who formed a people's committee, were instrumental in pay for upgrading costs.

Discussion of proposals

Once proposals were formulated by the consultants, the Governor and the area citizens discussed planning alternatives. This approach immediately gave the project a high status of credibility and interest by the residents, and guaranteed a high degree of cooperation. The citizens were encouraged to select one of the options presented. Although the community's participation in the decision-making meant that more time would be spent on the process, it was regarded as extremely important institutionally by the consultants.

Community feedback on various project aspects led to design alterations. Roads, for example, were designed to resemble traditional alleys where they had irregular shapes and, in some instances, had dead ends, the intention was to encourage traditional patterns of living and the provision of open play space. The residents preferred straight streets that they thought portrayed a more "modern" and legal image. This resulted in implementing wider and more straight streets than those designed originally.

Plot sizes in the new extension which were designed to have a frontage of 6m for reduced infrastructure costs, were regarded as too restrictive in the design of buildings. The frontages were therefore increased to 7.5m not making a significant change to the infrastructure costs incurred by each plot but improving the development options of the plots themselves.

The project became more defined with the residents' involvement. This was a key issue in the timely implementation of the different stages. For example, those residents that had to give up their land for the improvement of the street network in exchange for another plot were cooperative and even participated in the demolition of their old structure. They recycled the building components and were helped by the Agency in moving their belongings.

Communication

Communication played an active role to ensure the involvement of the community. The location of the Project Agency's office within identifying the realistic ability of residents to the settlement was a vital aspect ensuring the continued communication with the community and its participation. Access to the project staff and the plans played a positive role in the participation process. Several means of communication were utilised during the different phases of the project. These included:

- Word-of-mouth in public meetings, via the community representatives and in meetings with individuals;
- Project documents, fact sheets and information bulletins displayed at the Agency office;
- News media, including newspapers and television, were ceremonies of deed distribution and the such were broadcast.

Participation of politicians

Participation of the politicians also played an important role in the project implementation. Being associated with a project that has a high profile and a large number of beneficiaries is very appealing to politicians particularly if it entails media exposure. On the other hand, the involvement of politicians helps achieve goals as political clout is necessary to motivate various agencies that provide services to the community. As the project developed, it became a showpiece and dignitaries were invited to visit the settlement giving it increased strength and credibility.

The participation of a mix of beneficiaries from different social strata in the project played a positive role in the success of the project. Members of the middle class have a louder political voice than lower income groups that could be tapped to help implementing the project.

The people's committee of community leaders is encouraged by the Governorate to continue participating in running the project once the community is fully-fledged. The Governorate is seeking to increase the participation of its citizens in the management of their residential environment.

FINANCING: COSTS AND SUBSIDIES

The implementation of the project's concepts was made possible through the sale of land. The land on which the existing settlement was located, as well as its extension to the north, was originally government-owned land transferred to the project by Gubernatorial Decree No.811 of 1978. Thus a major source of funding for the project came from the sale of land to the original settlers and to the newcomers to the extension. Cross-subsidy between the different income groups in the project was proposed to make housing accessible to the lowest income groups.

The involvement of the Central Government through the Ministry of Housing (MOH) has been mainly supportive

through the provision of technical assistance. It was represented on the Agency Board through the Director of Housing who was responsible to his central Ministry. Under the Local Government Act of 1979, the Governorates had total responsibility for meeting the housing needs within their areas and so had greater autonomy in financial and planning matters. The Housing Department came under the direct control of the Governor, but the size of budget available still depended on the decision of the Ministry of Planning on the National Budget and the proportional allocation of resources determined by all Governors. The degree of autonomy was limited to additional funds from the Governorate's own revenue-raising activities, such as the sale of land. The 1989 Local Government Act specified that all monies from the sale of urban land should be placed in a special Housing Fund to be used for the development of "economic housing". "Economic housing" tends to refer to traditional public housing of a certain limited floor area (72m²). However, the Law has been interpreted quite broadly, in spirit if not in word, in Ismailia.

The role of the Governorate in housing -and specifically the Governor, through the People's Council (the principal elected body for the Governorate) -has been strengthened; in other areas of urban development and infrastructure the Law is too vague or completely fails to address itself to the problem. In Ismailia, water is provided by the Suez Canal Authority(SCA) over which the Governor has no control and only limited influence. Electricity is supplied by an autonomous public-sector company which is likewise beyond the direct control of the Governor. Responsibility for sewerage and drainage lies with the City Council and the National Authority for Potable Water and Sewerage (NAPWAS). While sewerage development can be controlled indirectly by the Governor through the City Council, the existing legislation makes little provision for independent action or initiative. Local sources of revenue, outside the sale of land, do not generate sufficient capital to enable the Governorate to initiate work outside that approved at central-government level. Consequently, the Agency was unable to act quickly in the development of the utilities and it was for that reason that representatives of both SCA and the Electricity Company were brought on to the Board. One consequence of all this was that the original assumptions on which the pricing of the project were based have been changed. For example, the project was expected to pay for the distribution system for electricity within Hai El Salam, including the trunk lines and the transformers. Likewise, the SCA agreed that only it should provide the water network, yet to a lower level of provision than in the plan. When negotiations between the Agency, and the organizations responsible for the utilities failed to reach agreement, the only way open to the Project Agency was to appeal to the Governor to use his authority within the Party.

Table 2.2 Costs per plot of options for different levels of infrastructure provision in new areas			
Level of infrastructure provision	Costs per plot (1977 LE)**		
	72m ² plot	108m ² plot	135m ² plot
Level I			
- administration, markers, compensation. Registration	17	25	31
- pit latrines (includes capitalised running costs)	105	105	105
- standpipes	14	21	26
- stage I local roads	17	26	32
Total	153	177	194
Level II			
- Level I plus:	153	177	194
- Electricity	53	53	53
- Landscaping	3	5	6
Total	209	235	253
Level III			
- Level II plus:	209	235	253
- paved district streets	11	16	20
- stage II local roads	27	41	51
Total	247	292	324
Level IV			
- Level II (less pit latrines) plus:	104	130	148
- reticulated water network*	34	50	62
- water connections	65	65	65
- reticulated sewerage network	53	79	79
- sewerage connections	95	95	95
Total	351	419	469
Level V			
- Level IV plus:	351	419	469
- paved district streets	11	16	20
- stage II local roads	27	41	51

	Total	389	476	540
Level VI				
- Level V plus:		389	476	540
- trunk sewers		36	54	68
- trunk water mains		36	54	67
- paved access roads		41	61	76
	Total	502	645	751
Level VII				
- Level VI plus:		502	645	751
- service core		163	163	163
	Total	665	808	914
* (excludes standpipe provision)				
** (In 1977 1 LE = £ 0.75 Sterling)				
Source: Davidson, Forbes, and Geoff Pane (ed.), 1983				

Table 2.3 Ability to pay for different levels of infrastructure			
Level of infrastructure provision	Percentage of households affording each level		
	72m ² plot	108m ² plot	135m ² plot
Level I	96	93	87
Level II	87	81	78
Level III	79	72	66
Level IV	41	30	23
Level V	35	21	15
Level VI	17	11	6
Level VII	10	4	1
Source: Davidson, Forbes, and Geoff Pane (ed.), 1983.			

The system of costing was based on assumptions about the level of income of the target population and the proportion of the income that could be spent on housing, both for the land and the building with all services. A system of pricing was established differentiating between the existing area and that for new housing. A base price was fixed and an additional premium added in the new areas for plots fronting main roads. The income expected from the sale of plots was estimated to be sufficient for the project to pay for the running of the Agency, the development of transitible roads, low-tension electricity distribution systems and street lighting and a water reticulation system serving communal water faucets on a 100m grid throughout the area. Sufficient capital would be available after this to pay for either some improvement of the water-supply system, the paving of roads or the introduction of some sewerage reticulation. However, it was pointed out, this choice would need to be made early in the project to ensure no waste, such as the destruction of paved roads when installing main pipes or sewers.

The division of costs was based on the general rule that off-site and main distributors of utilities would be paid by the utility company and would be recovered through user charges. Local on-site distribution would be paid by the plot holder. The incremental nature of the housing system was strongly considered in the land allocation and infrastructure provision. Additional future storeys, and improvement of, sewage disposal from initial pit latrines or septic tanks to a waterborne system are allowed if and when such changes become feasible. Table 2.2 shows the different levels of infrastructure provision and the cost per plot for each option. Table 2.3 shows the ability to pay for different levels of infrastructure by household. While the Agency would provide land for the community facilities, the construction costs would be covered by the responsible ministry or department.

While this meant that those given plots in this area paid a far higher proportion of the construction and servicing costs than those in traditional government housing, there were still elements of subsidy, internally through the differential land costs and the sale of some choice plots on the open market, and externally with the Governorate providing the land.

The reorganisation of the local-government responsibilities, the rapid rate of inflation and the lack of local-government financial autonomy has resulted in various changes. First, the base price for land was raised to take account of inflation. The differential price system for the land was modified to be more sensitive to the shadow price of land in different parts of the project site. This was later standardised according to the width of roads.

The distribution of costs between the Project Agency and the local-government departments and utility companies was

changed. Although the city administration was responsible for street lighting and sewers and the Suez Canal Authority was responsible for water, the Project Agency paid the major part of all costs for street lighting and water. No decision had been made on how the costs of the sewerage would be borne, for the city alone could not afford the development of the system. While Ismailia was a subject of a United States Agency of International Development (USAID)-funded water and wastewater upgrading and extension project, the estimated costs of the work in Hai El Salam were considerably more than the costs estimated in the demonstration projects. This was in part due to inflation, and in part due to the conditions of the USAID.

Another unplanned cost borne by the Agency was for some of the community facilities. The cost of the main mosque, the market and part of the costs of the youth centre, and police and fire stations had been paid by the Agency. The Agency had also had to pay some money back to the Governorate. However, as the major part of the staff were seconded and, hence, partly paid for by the Governorate, this could be seen in lieu of payment.

Overall, while the expenditure system had not followed the original plan exactly, in effect through a rather random and approximate way the actual burden of costs had not departed "in spirit" from the intention of the plan.

Project financing status, 1990

The Governorate of Ismailia issued a study in May 1990 entitled *The Development and Upgrading of Urban and Rural Areas. Case " Studies (Hai El Salam - Fanara Village)*. This study was presented at a seminar on the exchange of experience and replicability of local development projects within the Suez Canal Region. The study summarises the project and gives an account of the achievements to date.

Sources of funding

The project funding policy depends on several funding sources.

Sale of land to squatters

The first source of funding Comes by legalising the situation of squatters and selling the land to them in return for legal tenure and the provision of services. This applies to the old sector of the project and Covers about two thirds of the project area. These plots were cheaply priced with 10-year payment plans. 5488 plots were sold with a total area of 895,249m² generating an income of £E 2,014,311 (1980, US \$2,877,587).

Sale of newly-developed land

The second source of funding comes from the sale of developed plots in the new extensions, about one third of the project area. Sale of newly- developed land would occur according to two mechanisms:

- (a) Sale by auction
Prime lots, located on main streets and with a potential of economic activities were sold by auction. 215 plots were sold with a total area of 38,191m², generating £E 3,215,566 (1980, US\$ 4,593,666).
- (b) Sale by lottery
The Governorate made land available to the residents throughout the city at low prices ranging from £E2 to 4/m² (1980, US \$2.85 to5.7/m²) and reaching up to £E 10/m² (1980, US\$14.3) for the prime lots. 2065 plots were sold with a total area of 1,086,846m² generating an income of £E 1,421,120 (1980, US \$ 2,030,171).

These funds were placed in a special bank account under the disposition of the Project Agency, separated from other governorate funds. The monies collected were earmarked for the implementation and improvement of infrastructure and the provision of services.

Table 2.4 Revenues from sale of plots				
	Number of plots sold	Area of plots sold (m ²)	Income generated (£E)	Income generated (1980 US \$)
Sale to squatters	5,488	895,249	2,014,311	2,877,587
Sale by auction	215	38,191	3,215,566	4,593,666
Sale by lottery	2,065	1,086,846	1,421,120	2,030,171
Total	7,768	2,020,276	6,650,997	9,501,424
<i>Source: Ismailia Governorate, 1990</i>				

III. PHYSICAL PLANNING

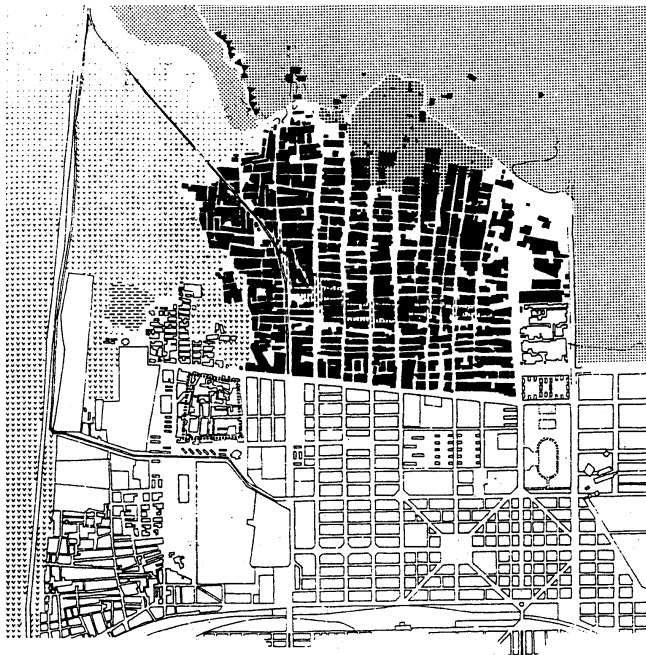
Photo 3.1 View looking north along Damanhour Street - 1977

Photo 3.2 View looking north along Damanhour Street - 1992



Figure 3.1 Hai El Salam topography

Source: Arab Republic of Egypt, 1978: vol.1.



- Area of high water table
- Plateau area: desert
- Desert fringe
- Valley area: desert
- General urban development in study area
- Old rubbish tip
- Irrigated area
- Marsh
- Steep slope

0 1 km

COMMUNITY PLAN

Existing situation in 1977

Physical basis

The results of the survey of Hai El Salam conducted in 1977 showed that the area presented no absolute physical constraints to urban expansion, although there were a number of aspects which affected design (see figure 3.1). There were no steep slopes to constrain the development of effective internal road patterns or external links, and the general lie of the land was conducive to the eventual installation of such mains services as gravity sewerage systems.

The most adverse physical characteristic was the dominance of uncompacted surface sand, as the area was part of the northern desert fringe of Ismailia. This phenomenon was particularly noticeable in the "valley" area; it constituted a constraint on accessibility throughout the principal urban area of Hai El Salam.

The soil report, however, has shown that the entire area could carry at least four-storey structures if appropriate foundations were built. In addition the high water table in the southern portion of the site had to be taken into consideration in the foundation design.

The south-east area, which was a former refuse tip, was not included in the project area as developing it would have entailed dealing with soil instability problems.

Land use

The western quarter of the study area was predominantly agricultural, being essentially low lying ground, irrigated from the adjacent Sweetwater Canal. This area was not suitable for urban development. Equally, the south-east corner of the study area was occupied by the Suez Canal Authority nursery and an agricultural college, in addition to housing. This section of the study area had been excluded from the project area for technical and administrative reasons.

An estimated 58.4 per cent of the project area was built up and of the remainder, in the north and north-east, 20 per cent was completely undeveloped and 21.6 per cent contained scattered buildings at a very low density. Of the built-up area, 56 per cent was predominantly devoted to residential use, containing within it shop and workshop uses (see figure 3.2). These activities were concentrated along principal streets and in particular Talaatini and Tanta Streets, and further shops were scattered more or less evenly throughout the residential areas. Larger industrial or commercial uses were few in number. The area south-west of the junction of Talaatini and El Bahri Streets, just outside of the project area, contained a bus repair garage, government workshops and store. The only significant premises within the project area were a bread factory, a timber yard and a grain store in the commercial area concentrated along Talaatini Street.

General circulation took up 43.5 per cent of the built-up area. This proportion of land was more than what would have been needed for circulation in the final project. The availability of a portion of this land for open space and social facility uses underlay the improvement proposals. Public facilities took up 0.5 per cent of the built-up area, and comprised mosques, a church and a small school.

Proposals

The project area of Hai El Salam at the time of the preparation of the proposals was the principal direction and area accommodating Ismailia's expansion. According to the Master Plan, Hai El Salam was planned to occupy a relatively central location in the future city area. Its population in 1977 consisted of 37,000 people and it is expected to reach nearly 90,000 by the end of the century. Nearly 40 per cent would then live in new neighbourhoods.

The project area of the community plan covers 226 hectares (see figure 3.3). Of this, 132 hectares were classified as built-up and were designated to be the subject of an improvement programme involving layout rationalisation, street improvement, provision of utilities, services and social facilities, landscaping and support and encouragement for the improvement of individual houses. Some recommendations were also given for improvement of individual houses.

The proposals consisted of completely planned neighbourhoods with social facilities and basic utilities that were capable of being improved incrementally.

The area for new subdivisions, the community centre and for schools and other facilities was 93 hectares. Of this, only 50 hectares were completely unbuilt. On the remaining 43 hectares, there were scattered houses at low density on very large plots. Wherever possible the new subdivision layouts have been adjusted to save these existing houses, but in most cases, plot boundaries were modified.



Figure 3.2 Hai El Salam existing land use

Source: Arab Republic of Egypt, 1978: vol. 1.

One of the main objectives of the project area plan was to ensure that the Improvement area and the new subdivision was to form an integrated community. Street layout, centre structure, area spatial composition and phasing have been planned to achieve this objective.

Neighbourhoods

The community plan divided the project area into 15 neighbourhoods (see figure 3.4). They range in area from 6.4 hectares to 20.9 hectares and in target population from 3850 to 8100. The initial population was to range from 3250 to 5400. The smaller neighbourhoods were designed to share social facilities initially.

Neighbourhoods were planned to be smaller in the older area of Hai El Salam, where the street network was concentrated, construction density already high, and where, because of lack of space, only smaller schools with little or no expansion potential could be provided. Larger neighbourhood areas were proposed in the new subdivision and in newer existing areas where there were no, or fewer, constraints for complete provision of the neighbourhood facilities.

Implementation

The phasing of the community improvement plan (see figure 3.5) is being implemented. The community plan is materialising as plots and facilities are being constructed. There is continuous change as time passes. The majority of the plots are now constructed. The provision of facilities is discussed in chapter IV.

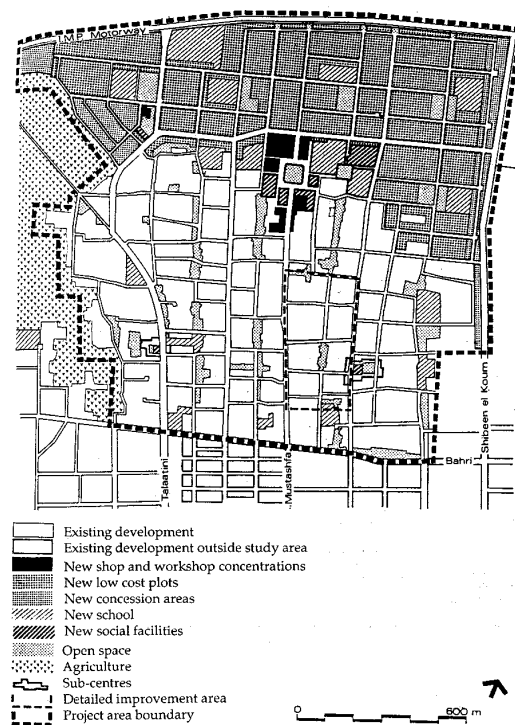


Figure 3.3 Hai El Salam community plan

Source: Arab Republic of Egypt, 1978: vol.1

Table 3.1 Community plan summary			
Existing situation	Project proposals	Implementation/ evaluation	Lessons learned
Deficiencies 58.4 per cent of the area was built-up.	Existing built-up areas were to be improved and new subdivisions were to be provided, a main centre and services in the extension area.	Most of the plots are already constructed.	Upgrade urban areas in combination with new development areas to provide housing and community facilities.
Potentials 20 per cent of the land was undeveloped, 21.6 per cent contained scattered buildings.			

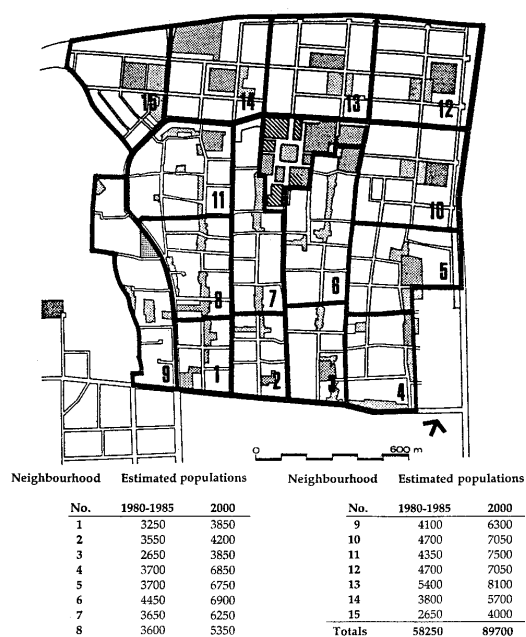


Figure 3.4 Hai El Salam population distribution

Source: Arab Republic of Egypt, 1978: vol. 1

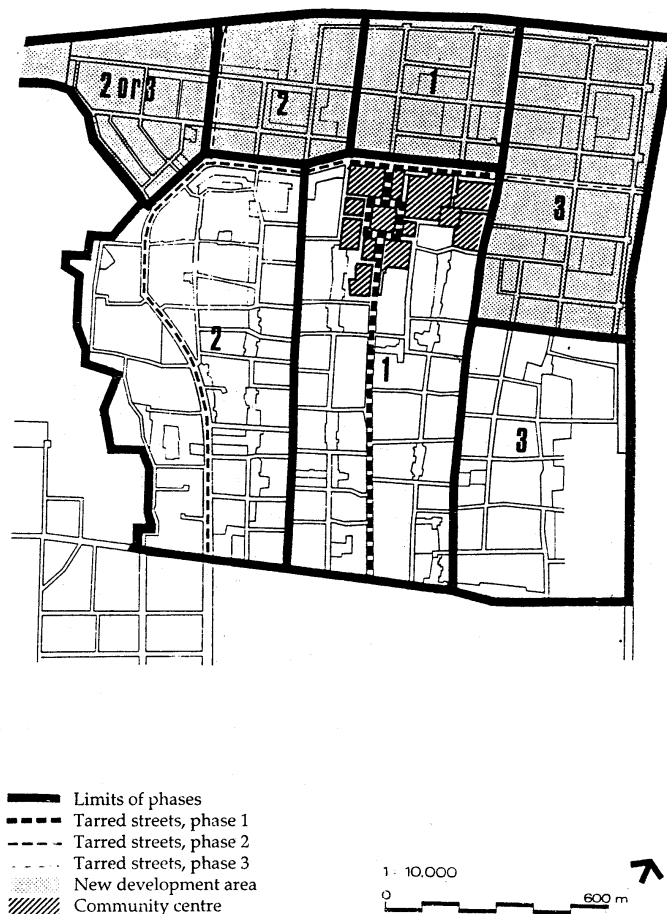


Figure 3.5 Hai El Salam phasing new development and initial provision

Source: Arab Republic of Egypt, 1978: vol. 1

COMMUNITY AND INDUSTRY

Existing situation in 1977

Deficiencies

- Some of the workshops created undesirable noise.

Potentials

- Mixed use was common as commercial activities and workshops were opened by the landlords where heavy pedestrian traffic passes. These activities are income- generating and improve the quality of life of inhabitants.

Proposals

It was proposed that commercial and workshop activity in Hai El Salam be permitted and throughout the site; existing or new settlers may devote a portion of their plots to commercial or workshop premises provided that they obtain the necessary permits. Settler plots of commercial potential, a type found particularly in Phase One of the new development because of its proximity to the community centre, were to be assessed a surcharge on the 'price' of the plot.

It was also proposed that certain commercial and workshop plots in the Hai El Salam community centre would be reserved for future sale on the open market, and that a small number of shop units would be built by the Project Agency for rental. In addition, a covered market for fruit and vegetable vendors was proposed in the community centre. The areas for these activities are as follows:

Activity	Area (m ²)
Shops	3810
Workshops	3087
Covered market	390
Total	7187
<i>Source: Arab Republic of Egypt, 1978: vol. 1.</i>	

As another component of the community centre, there were to be 3549m² of larger "concession plots" and 7542m² of "primarily residential plots reserved for future sale. These spaces were also intended to contain a certain amount of commercial activity, some of it large-scale, i.e., department stores and a cinema, and this gave the Project Agency flexibility in managing the uptake of all plots in the community centre, depending on future market demand.

The strategy was to create a new and viable commercial area at the Hai El Salam community centre, the attraction of which would be reinforced by the many community services which were to be located there and by public transport links. From a financial point of view, it was important that the Project Agency obtain maximum revenues from the future sale of plots, but it was also important to attract, in the first years, investors who would build substantial premises; then it was proposed that 10 per cent of the shops, "concession", "primarily residential" plots be immediately sold "at cost", i.e., at a metre-square cost which only recovers the imputed infrastructure costs provisionally estimated at £E6/m² (1977, US \$8.6). For investors or settlers interested in workshop plots even more attractive terms were offered for 25 per cent of all plots, in order to attract a nucleus of workshop activities. Occupation of such plots would be required within six months of signing contracts.

The amount of shop/workshop units to be built for rental depended on the Project Agency's future perception of financial feasibility, as it was not intended that the Agency carry the burden of subsidised rents. However, to stimulate commercial activity in the first year it was proposed that the Project Office itself would contain a small number of shop units to be let at modest rents.

Implementation

The landlords established their businesses in the ground floors of their dwellings and certain roads have emerged as shopping spines. These economic activities create jobs for the inhabitants as well as provide services to its community.

Table 3.2 Community and industry summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies Some workshops created noise. Potentials Mixed use allows income generation.	Commercial uses were permitted throughout the site. Certain plots would be reserved for sale, and a few rental shops built by the Agency.	Landlords established their businesses. Certain roads have become shopping spines providing jobs as well as services.	Treat housing as an income-generating agent as opposed to being a commodity.

CENTRES

Existing situation in 1977

Deficiencies

- The whole area had no urban structure: no focal points or centres existed.

Potentials

- New extension land would provide the opportunity of creating a centre for the whole community.

Proposals

In Hai El Salam one main community centre, three sub-centres and 15 neighbourhood centres were proposed.

The community centre

The centre was planned to provide social, commercial, industrial and public facilities for the current and projected populations of the new and existing areas. In order to serve both existing and new areas best, the centre was planned

as near as possible to the geographical centre of the whole area, and astride principal vehicle and pedestrian routes. It was planned as an extension and termination of the main north-south spine road and to provide a hub to the whole development. The principal design concept was the recognition of Ismailia as an example of the synthesis of the Arab traditional urban form and French town planning of the nineteenth century, with its accent on open spaces and tree-lined avenues. The main square of the proposed centre was provided immediately to the north of the shopping centre, and provided the setting for the principal mosque as a focal point viewed along Mustashfa Street. Figure 3.6 shows the layout of the centre.

The main buildings of the centre were to be grouped in their main categories as follows.

Group one

Shops, market, workshops, a bank, post office, implementing office and cooperative shop.

Group two

Police station, fire station, ambulance station, polyclinic, social unit. Land had been made available for a cinema or similar use, and the main mosque has been sited in the main square.

Group three

Preparatory school, primary school (to serve the immediate neighbourhood) youth centre, and sports club. In addition, an area has been reserved for recreational open space, car parking, bus terminus and taxi ranks.

It was anticipated that existing commercial uses in the south of Hai El Salam would extend northwards naturally over time along Mustashfa Street, and the southern part of the centre was planned to take account of this. In the eastern section 61 shops and a covered market were planned. Forty-one shops were provided west of Mustashfa Street, together with six workshops with an area for further subdivision. The main square provides the setting for the service and social buildings with some concession sites in prominent positions. The schools and recreational buildings were planned on the fairly open and more level land extending to the east. Space schedules and costs were based on examples of similar buildings in use nearby.

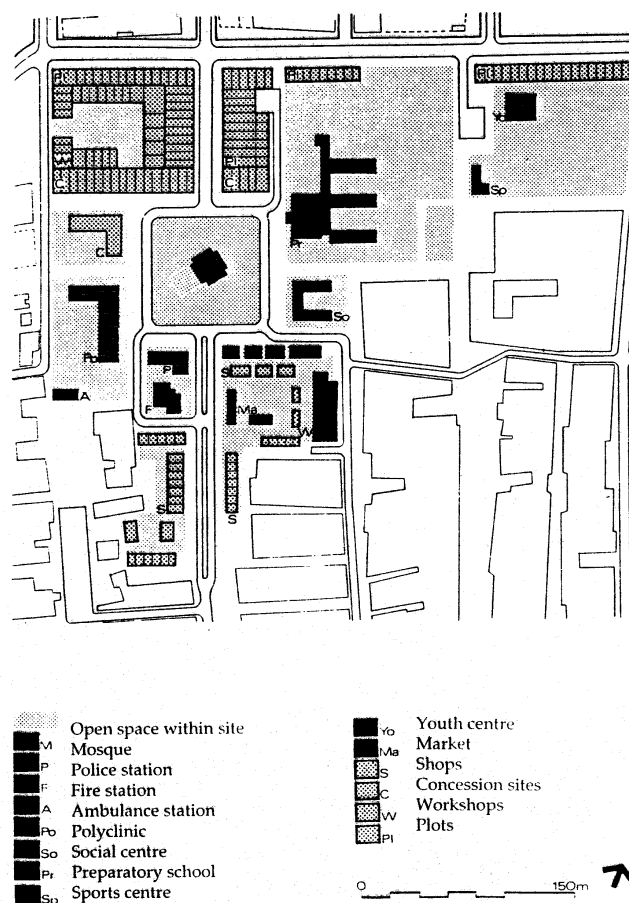


Figure 3.6 Hai El Salam community center

Source: Arab republic of Egypt, 1978: vol. 1.

Sub-centres

Three sub-centres were planned for the whole area, one in the new development area in the north, and two in the existing area (see figure 3.3). They were planned to provide an intermediate level of service between the main and neighbourhood centres, and at the intermediate level health centres and minor social units were planned. The sub-centre in the new development area contains a number of concession plots which were to encourage commercial provision, and each sub-centre in new and existing areas were planned to contain a large mosque and more open space than was planned for in a neighbourhood centre. The sub-centres in the new development area and on Talaatini Street were also associated with neighbourhood primary schools. The two sub-centres in the existing area were developments of existing social and commercial areas, and their establishment was assured. Sub-centres would become more important as consolidation and development continued.

Neighbourhood centres

Each of the neighbourhood centres was planned to serve a population of 4000-7000. They included a primary school on whose catchment areas the neighbourhood was based, a mosque and public open space. In the existing areas it has not been possible to accommodate all of the land uses on one site because of the lack of available land and the policy of minimising demolition. In these cases the neighbourhood facilities were provided on disaggregated sites. With the mosque and school as the main visual element, each centre was expected to provide an identity focus for the population of the neighbourhood.

Implementation

The land for the centres was set aside and they are developing in different stages depending upon the rate of urbanization. Some of the services are currently being implemented (see Chapter IV).

Table 3.3 Centres summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies The area had no urban structure or centres.	A community centre, 3 sub-centres and 15 neighbourhood centres were proposed to provide different levels of services.	Land was allocated for the centres that are developing according to the rate of urbanization.	Utilise vacant land to restructure the area and to provide centres.
Potentials Extension could provide a centre.			

HOUSING

Existing situation in 1977

Deficiencies: factors affecting construction

Ground conditions

Three features of the existing ground conditions affected the installation of utilities and have been borne in mind when preparing cost estimates:

- Sulphate attack on concrete, mainly in the, southern half of the project area
- High water table, mainly in the southern half of the project area
- Loose or soft ground

All concrete located below the upper level of capillary rise would require sulphate-resisting cement. In areas of loose or soft ground, trench sides would require adequate support and in excavations below the water table, dewatering methods would need to be employed. In parts of the south and west of the area well-pointing has been necessary.

Existing buildings

Houses undergo incremental improvement and consolidation over time. All the two-, three- and four-storey houses were concentrated in the oldest southern portion of Hai El Salam. The proportion of modern materials is also highest in the older areas gradually decreasing in the newer areas of Hai El Salam (see figure 3.7).

The highest quality buildings were almost all multi-storey, and/or of modern materials and built by the use of more

sophisticated structural systems such as reinforced concrete frame construction. The quality of structures made from traditional materials and with traditional techniques was generally good.

Poor-quality buildings tend to predominate in the fringe areas of the western part of the project area. These areas appeared to have originally been agricultural settlements of greater age than the urban settlement that has begun to encompass them.

Particular care was necessary when excavating trenches near existing buildings -especially where dewatering was proposed. Settlement of the underlying ground had been feared to cause structural damage leading, in extreme cases, to building collapse. In practice this was a significant problem only in areas of multi- storey development -generally single-storey mud-wall buildings would tolerate some degree of settlement without causing undue problems. Building behaviour was carefully monitored as work progressed.

Access

The low level of vehicular activity would enable temporary street closures to be made without difficulty during the installation of utilities. Pedestrian access was maintained at all times. Precautions were necessary to ensure the safety of the public, particularly at night.

Potentials

Hai El Salam provided in 1977 the main supply of low-cost land for owner-builder construction and a large proportion of new low- and moderate-cost rental accommodation. The land was, however, mainly in insecure tenure and was unserviced. The low-cost rental accommodations were scarce, of poor quality and remotely located. The moderate cost units were scarce too, and their services were deficient and rents were rapidly rising.

Project proposals

The project proposals were to strengthen and improve the role of Hai El Salam in the Ismailia housing market by providing surveyed plots, both partially and completely serviced, by improving levels of services in the existing areas, and by facilitating and supporting construction, improvement and expansion of houses in existing and new areas for own-family use and for rental.

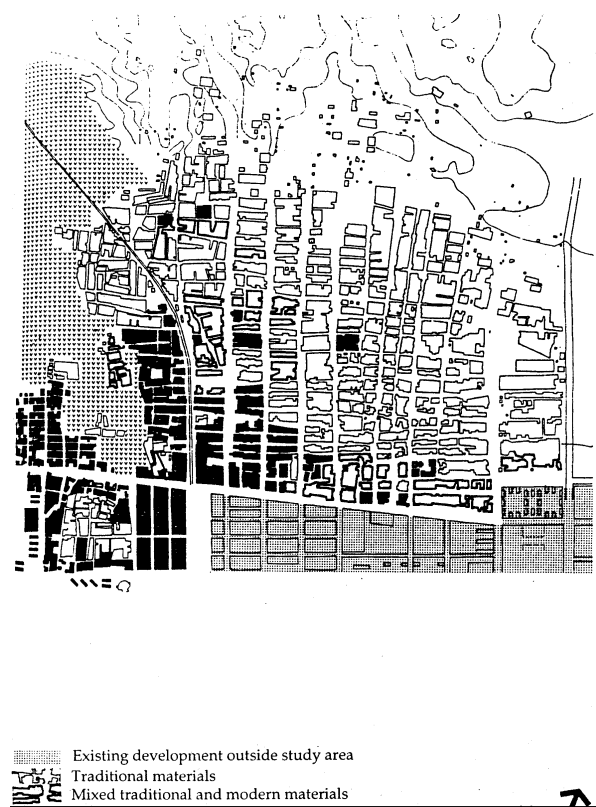


Figure 3.7 Hai El Salaam building materials

Source: Arab Republic of Egypt, 1978: vol. 1

Policies of support were discussed separately. They included land tenure regularization, simplification of plans and permit requirements, improvement of supply of building materials, availability of credit for low-income owner-builders, and provision of services on terms affordable by the population. No direct construction by the Project Agency was proposed.

New development area

Low-cost plots

In areas of new low-cost subdivisions the plots range from 72m² to 162m² (see table 3.4). Modular sizes of plots, blocks and clusters permit broad adjustments of proportions of plots of different sizes offered in the subdivisions without the need to redesign the area. Monitoring of the effective demand during the implementation of the first phase showed the nature and extent of adjustments which would be needed.

The subdivision consists of about 50 per cent of plots of 108m², 30 per cent under 108m², and 20 per cent over 108m² (see figure 3.8). The average plot size is 107m². 65 per cent of the plots were planned with 6m frontages and 35 per cent with 9m frontages. In total 3527 low cost plots were planned in five neighbourhoods. 55 of these included existing houses that were incorporated in the layout design. In 28 cases this has required provision of plots larger than those in the planned range.

The first phase of new subdivision consisted of 977 plots, 25 of these included existing houses, 13 of which are on the large-size plots. Larger plots are located mainly in the areas of commercial or rental potential such as in main streets, on corners, near the community centre and community sub-centres, or near the public open spaces. Smaller plots were mainly within the clusters and further away from the centres of activity.

No attempt was made, however, to follow these guidelines rigidly and some plots of different sizes were provided throughout the area to enable social mix and spatial variety and to increase the available choice.

The orientation of plots and clusters was designed mainly as a function of the topographic characteristics of the area to lower costs and to reduce the technical problems of sewerage mains and to facilitate a better use of public spaces.

Concession plots

Besides the low-cost plots, the new subdivision offers at commercial prices 169 plots ranging from 15x24m to 24x24m. In two concession areas, 59 in north-western and 110 in the eastern portions of the project area. These plots were planned to be sold fully serviced. An additional 2 hectares in the north-west of the area could not be surveyed because of military use. Due to its attractive location, they would provide additional concession land as a continuation of the north-western concession area when developed.

The entire northern strip of the new subdivision immediately south of the proposed university was subdivided into plots of 6x18m and 9x18. This was based on the assumption that if demand for market-price concession plots would be high and demand for low-cost plots lower, they could be converted into concession plots of 18x18m.

Improvement area

Improvement proposals for rationalisation of the layout of streets and for creation of plot clusters around the communal spaces were meant to result in changes of the boundaries of some plots and enable provision of new infill plots in the sporadically developed areas. Detailed design of the layout of infill plots in these areas required a complete survey of all existing houses, including positions of all doors and windows on outside walls. This example of infill design was provided in the neighbourhoods adjacent to the new development area (see figure 3.7). The first kind of infill plots were those with attractive, potentially commercial frontages created by the construction or rationalisation of main distributor streets. 49 such plots were planned in Neighbourhood No.11 along the new east-west distributor street and the extension of Talaatini Street.

The second kind, infill plots around a cluster, are shown in Neighbourhood No.5. There were 67 low-cost infill plots planned in the northern section of this neighbourhood, 25 of which have frontages towards the communal space within the cluster, 14 concession plots (18x24m) facing Shibeem El Koum Street, were also planned as a part of the infill of this neighbourhood, bringing the total of residential concession plots in the project area to 183.

Implementation

By the year 1990, most of the plots in the older area had been rationalised and deeds are still being given out, usually in official ceremonies. Nearly all the plots in the new area were sold except some concession plots that were still reserved in prime areas.

The philosophy advocating that "people should be allowed to build for themselves", if applied to a project, should be supported with building regulations that are designed to avoid abuse of such rights. In this case study there were no stringent guidelines. In addition, it was assumed that lower income people would be building low-rise buildings. In fact, as parts of the new extension were developed by the middle class they tended to build higher apartment buildings. This resulted in many cases in poorly-lit rooms, particularly on the lower floors in areas that were fully built. Small light wells in four- to five-storey buildings are common. In recent interviews with some of the inhabitants living in such apartments, it was indicated that if they had a chance to move out of the area to better illuminated apartments they would.

Table 3.4 Plot sizes in Hai El Salam new subdivision (excluding concession plots)

Plot size	6x12 72m ²	6x15 90m ²	6x18 108m ²	9x12 108m ²	9x15 135m ²	9x18 162m ²	12x12 144m ²	Larger	Total
Total number of plots	517	600	1276	433	360	180	133	28	3527
Percentage	14.7	17	36.2	12.3	10.2	5.1	3.8	0.8	100
1st Phase: number of plots	135	144	363	108	125	51	38	13	977
Percentage	13.8	14.7	37.2	11.1	12.8	5.2	3.9	1.3	100

Source: Arab Republic of Egypt, 1987: Vol.1

Table 3.5 Housing summary

Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies Location of existing buildings, poor ground conditions and access.	Strengthen area's role in the housing market by tenure regularization, improvement of materials' supply, credit, and affordable services to low income builders.	By 1990, most of the plots had been rationalised and nearly all the new plots were sold except some concession plots reserved in prime areas.	Provide a variety of plot sizes to meet the demands of different income groups.
Potentials Provision of low cost housing plots and rental units.			

URBAN DESIGN

Existing situation in 1977

Deficiencies

- The very nature of informal development is that it occurs as a result of individual efforts. As individual plots are identified and buildings are constructed the result is usually chaotic in terms of urban design.

Proposals

The urban design of the community plan is if dominated by the community centre and its central plaza, with the main mosque of Hai El Salam having its minaret on the axis of Mustashfa Street.

At the other main junction the new community sub-centre is located with its mosque visible in the perspective of three main streets.

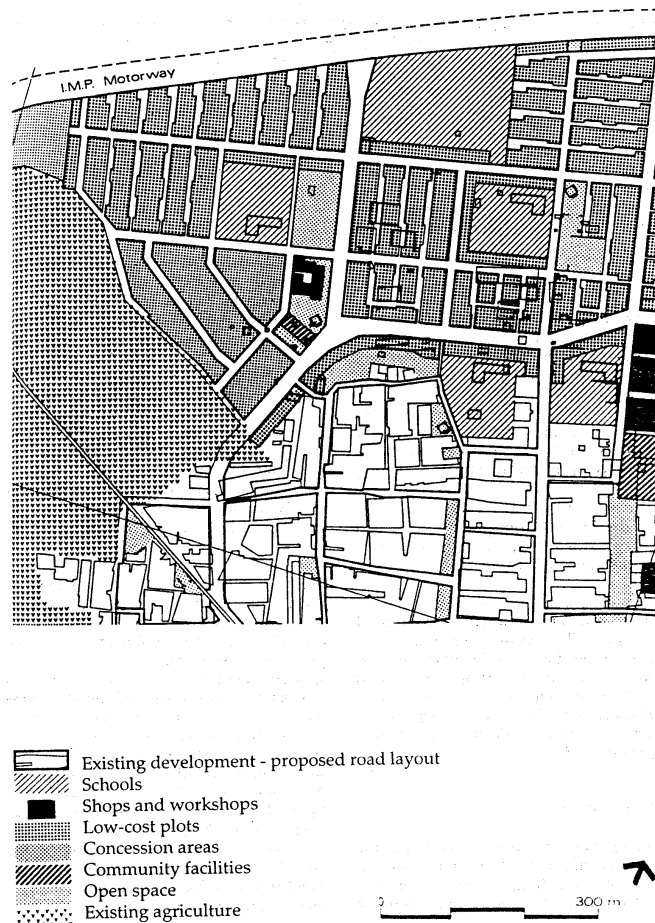


Figure 3.8 Hai El Salam Development Area (north-west of the development)

Source: Arab Republic of Egypt, 1978: vol.1.

Neighbourhood mosques occupy, wherever possible, the highest points in the area and visually express the perspectives of the streets or of the main pedestrian axes.

In the neighbourhood centres, the design, concept was to create a concentration of activities around a public place, between mosque and space for a small market, with the school and a "kick-about" area opposite or next to it. With the mosque and the school as main visual dominants, each centre was expected to provide an identity focus for the population of the neighbourhood.

Implementation

Some of the buildings of the main community centre have been implemented. The main mosque, the Project Agency building, and police and fire stations have all been implemented. Some of the land reserved for facilities such as the school have been sold off to raise funds to implement some of other necessary aspects of the project. Unfortunately, no really good examples of urban design could be witnessed in Hai El Salam, both old and new areas. Because of too much *laissez faire* the result today seems chaotic and the consequences of individual efforts are obvious.

Probably the least successful aspect of the Ismailia project is the relatively unattractive environment it has produced. This results from too much *laissez faire* from the point of view of urban design and development of the public spaces. The older parts of Hai El Salam had already been developed before the project started and thus it had no appropriate urban design models to guide its development. Likewise, the new extensions do not exhibit strong urban design. Consequently, the area is regarded by some critics as a somewhat unorganised urban extension of the city. This is mostly due to the continuous construction, a healthy sign from the housing-production perspective.

This, however, should not overshadow other aspects of the project. There are ways and means to overcome such shortcomings; for example, more urban design studies could produce appropriate public buildings and spaces resulting in a more coherent urban image. Implementation and supervision of designs for public buildings are even more important to ensure attractive results. Public urban areas such as main streets, squares and the like should all be well-designed and implemented. The commercial facilities and workshops built by the Project Agency for revenue

generation could be used as a medium for creating interesting public spaces. Other public facilities, considered as utilitarian structures, could also be used to produce some exemplifying architectural and urban features.



Photo 3.3. Apartment buildings built on concession plots – along Shebeen El Kom Street - 1992

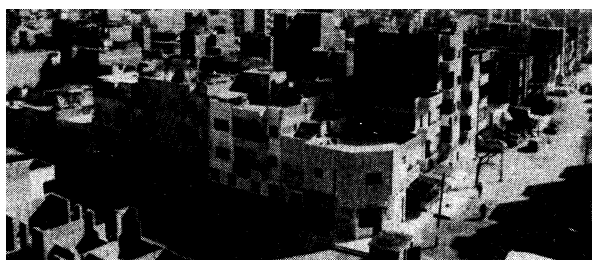


Photo 3.4 Consolidated area in older portion of project – 1990

Table 3.6 Urban design summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies As plots are identified and buildings constructed individually the result is seen as a chaotic urban fabric to many.	Use the community centre as a dominant element. Use neighbourhood mosques to visually punctuate the perspectives of the main axes.	Due to <i>laissez faire</i> attitude, the area today lacks a cohesive urban structure and image resulting from individual efforts.	Undertake rigorous urban design and administer its implementation by a responsible authority to ensure good results.

LAND SCAPING

Existing situation in 1977

Deficiencies

- The whole area lacked public landscaped areas.

Potentials

- Landscaping in existing Hai El Salam consists mainly of private gardens, some very small, mostly at the fronts of the houses.

Proposals

Despite difficult soil conditions, private gardens develop very well due to the care and attention of the owners. This form of landscaping would be encouraged by the free provision of space for private front gardens within the right-of-way of the streets and in the community spaces within the cluster. Purchase of trees and seedlings for these gardens was proposed, at a low cost, with technical advice made available.

Two other levels of landscaping included the enhancement of the community spaces within the clusters and of the public spaces of parks and “kick-about” areas. The first level would be a subject of joint care by the residents of the cluster while the latter would be planted and maintained by the Project Agency. Tree planting will also take place on the district streets with 20m rights-of-way.

Continuous planting with trees was proposed along the main north-south district streets. In other streets trees planted in gardens would supply shade to the sidewalks. Informal groupings of shade trees together with some seating, and sometimes children's play equipment, were suggested for the small *midans* (squares) and in the predominantly pedestrian access streets and footpaths.

Implementation

The Project Agency played an important role in landscaping the project area and providing green spaces within it. A forest of about 100,000m², along the ring road surrounding the site, was planted by the aid of school and university youths during school vacations. The Project Agency co-ordinated with the Youth and Sports Department to create summer camps for youths from the Governorate and from the project and other governorates to plant the forest and create a nursery. Project Agency Funds for landscaping were £E 671,262 (1980, US\$ 958,945).

Evidence is seen in several places of landlords who have planted attractive decorative plants, and are taking good care of them.

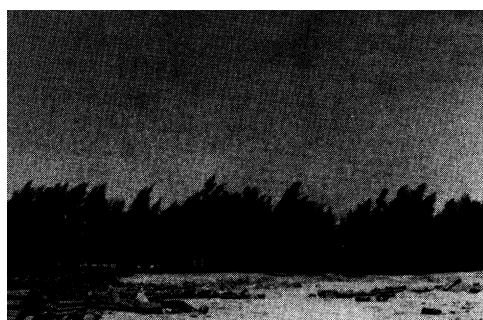


Photo 3.5 Forest planted by community youths – north of project extension

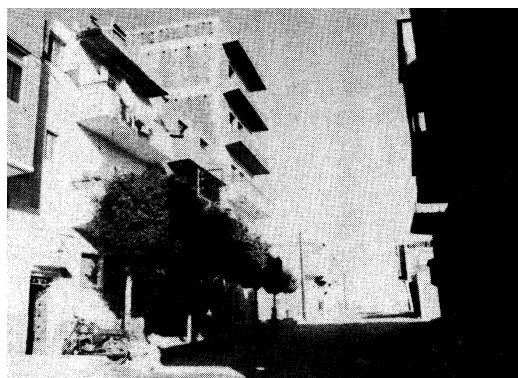


Photo 3.6 Trees planted in front of buildings by owners

Table 3.7 Landscaping summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies No public landscaped areas.	Provide space for front gardens within streets' right-of-way. Plant tree along district streets.	A forest was planted by community participation. Landlords have planted vegetation in front of their plots.	Utilise community youth to cultivate green spaces. Provide incentives for cultivating trees in front of lots.
Potentials Landscaping consists mainly of private gardens.	Group shade trees informally with seating for small squares.		

IV. COMMUNITY FACILITIES

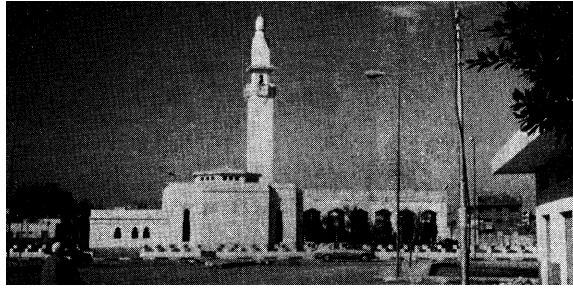


Photo 4.1 Mosque – main centre

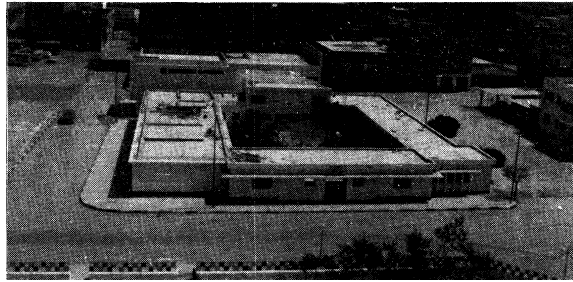


Photo 4.2 Social centre – main centre

EDUCATIONAL FACILITIES

Existing situation in 1977

Deficiencies

- The whole area lacked educational facilities.
- Lack of sufficient sites, large enough to accommodate educational facilities, in some of the older areas as result of dense unplanned development.

Potentials

- The availability of some vacant lots in the existing fabric to be utilized for the provision of elementary schools to serve the, existing population.
- The availability of vacant land north of the site (new extension) for the provision of a secondary school to serve both old and new communities and primary schools for the new population.

Proposals

Each of the 15 planned neighbourhoods with an average population of 6000, were to have one school. Those in the five neighbourhoods which were to make up the new development area were designed to the standards recommended in the master plan. The sizes of these schools range from 16 classes to 34 classes in the largest neighbourhood. No school in the new development area is further than 300 metres from the furthest plot of the anticipated catchment areas, and no school siting requires the crossing of a district road. Each of the primary schools in the new neighbourhoods has been planned adjacent to defined open space to provide opportunities for expansion, and this, in addition to the relatively generous master plan-recommended site area, meant that considerable development flexibility would exist within the site.

In existing areas, however, land shortage has meant that in the denser parts of Hai El Salam smaller schools with little or no expansion potential were proposed. These small schools average 16 classes. Three schools were planned at the northern limit of their neighbourhoods, where open land was available beyond the 1977 built-up area.

In seven other Hai El Salam neighbourhoods the schools would have only a minimal amount of open space to accommodate children during breaks, and it was recommended that playing fields would be provided in two specified locations on the closest available land outside the project area. Apart from the smaller schools, existing Hai El Salam schools were planned to average 24 classrooms. A limited amount of demolition would be necessary to provide adequate sites for the four schools proposed in existing areas. Implementation of schools was planned to be phased to meet the needs of the inhabitants as they arose (see figure 4.1).

One new preparatory school was planned within the project area. This was to be located in the main centre adjacent to the youth centre and sports club with which facilities would be shared. Of the others, one was proposed outside the project area, one was to be converted from an agricultural secondary school in Arashia and another was then being built in the north of the project area. It was proposed that the latter be expanded. Additional provision was available then at Arashia. The preparatory schools serving the Hai El Salam population were planned to be of 36 classes, with an assumed size of 30 pupils.

A secondary school of 30 classes was planned in one of the neighbourhoods of the new development area.

Implementation

The Project Agency provided the land needed for educational uses to the Ministry of Education free of charge. The Directorate of Education at the Governorate level, representing the Ministry of Education, provided: 4 primary schools; 2 preparatory schools; 1 secondary school; and 1 vocational school for the blind.

All costs of educational buildings were funded by the Education Directorate, and the Project Agency funds contributed £E 182,247 (1980, US\$ 260,353).

Table 4.1 Educational facilities summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
<p>Deficiencies Lack of schools and sites for them.</p> <p>Potentials The availability of a few vacant lots in the existing fabric and in the new extension.</p>	Each neighbourhood would have a school. Those in the new area would meet master plan standards. In existing areas limited demolition would provide sites for smaller schools.	The Agency provided sites and the Education Directorate provided 4 primary, 2 preparatory, and a secondary school, and a vocational school for the blind.	Provide schools by the restructuring of the existing urban fabric and in the new extension.

Figure 4.1 Phasing of Hai El Salam social facilities

Source: Arab Republic of Egypt, 1978: vol. 1

HEALTH FACILITIES

Existing Situation in 1977

Deficiencies

- The whole area lacked health facilities.

Potentials

- The availability of some vacant lots in the existing fabric to be utilized for the provision of health facilities to serve the existing population.

Proposals

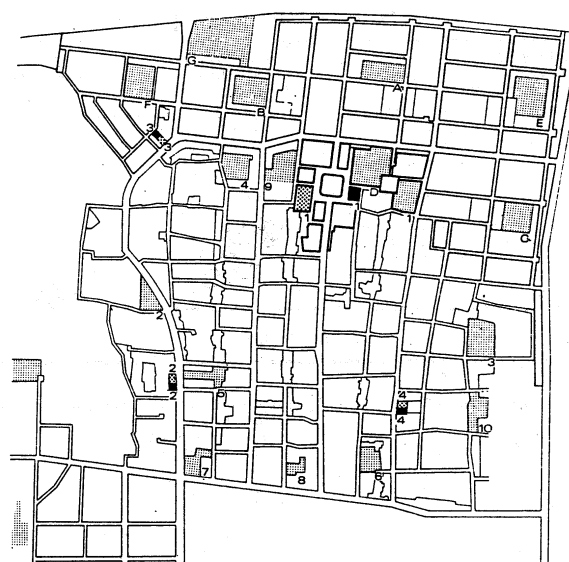
A Polyclinic was propose for the main centre, which would serve the entire development. To supplement the polyclinic, particularly as consolidation took place, three small health centres were proposed. Each was to be sited in one of the sub-centres.

Implementation

The Project Agency provided the land needed for these services free of charge to the Ministry of Health who participated by constructing a complete medical centre through the Health Directorate at Ismailia. The Project Agency participated in renovating the out-patient wing of the nearby public hospital. Funding by Project Agency Funds was £E 94,051 (1980, US\$ 134,359).

Table 4.2 Health facilities summary

Existing situation	Project proposals	Implementation/evaluation	Lessons learned
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- School phasing in development area
- School phasing in improvement area
- Social unit
- Health centre
- A 3 Number or letter giving phasing order



<p>Deficiencies</p> <p>The whole area lacked health facilities.</p> <p>Potentials</p> <p>Vacant lots in old area could accommodate needed health facilities.</p>	<p>A polyclinic was proposed in the main centre. To supplement polyclinic three small health centres were proposed, each to be sited in one of the sub-centres.</p>	<p>The Agency provided plots and the Health Directorate built a medical centre. The Agency participated in renovating the out-patient wing of the nearby public hospital.</p>	<p>Utilize the creation of a main centre in the new extension to accommodate health facilities that require large areas.</p>
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SOCIAL AND RELIGIOUS FACILITIES

Existing situation in 1977

Deficiencies

- The whole project area lacked social facilities.
- Lack of sites, large enough to accommodate social facilities in the older areas as a result of dense unplanned development.

Potentials

- The availability of vacant land north of the site (new extension) for the provision of social facilities to serve both the old and the new communities.

Proposals

The social and economic characteristics of low-income groups (under-employment, high numbers, young children and increasing numbers of elderly) made the support services of the Department of Social Affairs an important consideration.

In Hai El Salam a main social unit, was proposed to be located in the community centre. To complement this main unit, three small social centres were recommended, each to be sited in a sub-centre. As with the small health centres, provision of the small social units would become increasingly important as consolidation continued.

A large mosque was proposed for the main Hai El Salam centre, and each neighbourhood was planned to contain a small mosque.

Government offices in the form of a Project Implementing Office were proposed. This was to be built at the earliest opportunity. Also proposed were a bank and a post office on concession plots. All of these facilities are located in the main centre.

Fire and police stations were planned for in the main centre, both of which would develop in size and function as consolidation and development continued.

Implementation

The Project Agency provided the land needed for these services to the agencies free of charge. The Social Affairs Directorate constructed a social unit in the Project Area. The main social unit in Hai El Salam was to be funded by the United Nations Children's Fund (UNICEF). The main mosque and several neighbourhood mosques are already constructed.

Table 4.3 Social facilities summary

Existing situation	Project proposals	Implementation/evaluation	Lessons learned
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Deficiencies The old area lacked large sites for social facilities. Potentials The extension would provide sites for social facilities.	A main social unit, a large mosque, bank, post office, and fire and police stations would be located in the main centre; a small social centre and mosque in each sub-centre.	The Agency provided sites free of charge. The Social Affairs Directorate constructed a social unit. The main mosque and several neighbourhood mosques are already constructed.	Utilize new extensions to accommodate large-scale social facilities that have no place in the existing fabric.
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RECREATIONAL FACILITIES

Existing situation in 1977

Deficiencies

- No planned recreational facilities existed in the area.

Potentials

- Open spaces were used as play space.
- Informal coffee shops run by inhabitants served as meeting places for the adults.

Proposals

Planned recreation provision in Hai El Salam includes open spaces and the provision of public and private facilities. In total, 15.7 hectares of structured open space were proposed in the project area, 3.3 hectares in the new development areas, 11.7 hectares in the improvement area and 0.7 hectares in the Community Centre. Generous provision in the improvement area is both necessary and possible because of the high density of housing and excessively wide street areas. "Kick-about" areas would be associated with primary schools wherever possible, and passive open space would be associated with mosques in the neighbourhoods. The square in the main centre would be a principal area for sitting out and the walking, covering 0.54 hectares. Multi-use of school playgrounds was also proposed. Public facilities were a youth centre and sports club in the main centre which are associated with the preparatory school. The main social unit in the centre also would provide a hall for general public use.

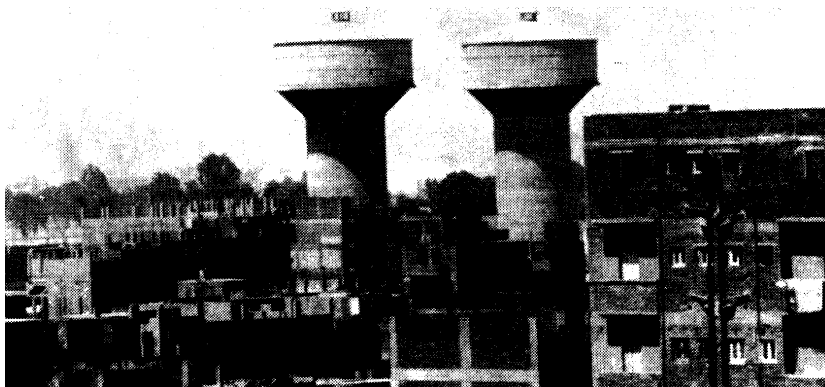
Implementation

A club was implemented north of the site west of the forest in addition to "kick-about" areas.

Table 4.4 Recreational facilities summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies No recreational facilities in the area. Potentials Open spaces were used as play space. Coffee shops were used for socializing.	15.7 hectares of structured recreation would provide: "kick-about" and passive open spaces in the neighbourhoods. A main centre square, youth centre and sports club in the main centre.	A club was implemented west of the forest.	Use extension land to provide needed recreation facilities.

V. ROADS AND UTILITIES

Photo 5.1 Water towers built along north edge of



project



Photo 5.2 Upgrading – installing main sewerage network

STREET NETWORK

Existing situation in 1977

Figure 5.1 shows all the existing utilities in Hai El Salam in 1977.

Deficiencies

- The road system had no clear hierarchy, it was a neutral network of roads in both directions.
- Road widths were constricted in certain parts as buildings protruded into the road right-of-way.
- All road surfaces were very poor consisting mainly of unconsolidated loose sand. The only surfaced road was the extension of Talaatini Street in the west of the area.

Potentials

Constructed plots were not too closely located leaving access roads between them that created a near grid-iron network.

Proposals

The area was limited in the north by the motorway reservation and in the east by the arterial, Shibeen El Koum Street, which was planned to provide one of the main connections with the central part of the city. The proposed street layout (see figure 5.2) is a modified grid based on the existing street pattern. The figure shows how a street hierarchy has been imposed on the grid system. The local streets define neighbourhoods within which access streets provide circulation. In the developed area the distributors are alternate existing north/south routes and discontinuous east/west routes which utilize the widest of the less well-defined pattern of existing cross streets, with the exception of two primary district streets, one limiting the project area to the south (El Bahri Street) and one planned north of the community centre.

The consultants recommended that an east-west arterial proposed in the master plan to cross the built-up part of southern Hai El Salam be omitted. Investigation showed that there would be sufficient capacity available in the east-west corridor to cope with expected demand if the section of the arterial through Hai El Salam was not built. The proposals for Hai El Salam also down-graded the extension of Talaatini from an arterial to a district street; a function more appropriate to the kind of frontage development proposed. The nearby Port Said Road would take the arterial traffic diverted from the Talaatini extension.

These proposals show the Talaatini extension over passing the motorway to provide access into the university site; sufficient right-of-way was provided to allow for works associated with an overpass.

Levels of provision of streets

The levels of provision of road construction are detailed in table 5.1 and indicated on figure 5.2.

Implementation

The first stage to be implemented included a complete main road network of 11.5 km length. It would be built after the completion of the sewerage network. Funding was by Project Agency Funds - £E 1,275,902 (1990, US\$ 455,680). Further roads are being implemented at a cost of £E 600,000 (1990, US\$ 214,286).

The second stage aims at completing the project roads, a remaining length of nearly 15 km at an estimated cost of £E 3,000,000 (1990, US\$ 1,071,430). The funds are not yet available.

Figure 5.1. Hai El Salam existing utilities and master plan proposals

Source: Arab Republic of Egypt, 1978: vol. 1.

Table 5.1 Hai El Salam streets - levels of provision

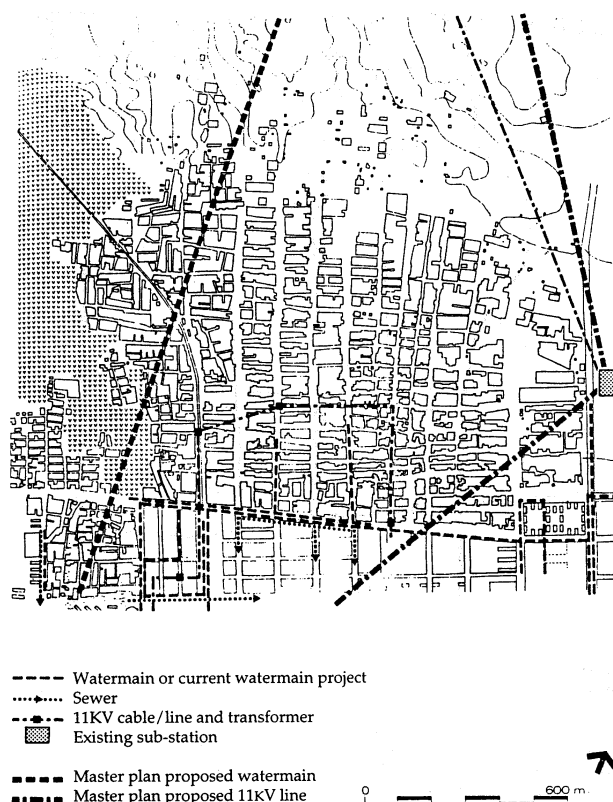
Street		Level of provision	
Type	Name	Initial	Full
District	Talaatini	Surfaced	Paved (asphaltic)
	Mustashfa East-west	DBST*	Concrete
Local		Graded with gravel surface	Surfaced (DBST)
Access		Transitable	Graded with gravel surface

Source: Arab Republic of Egypt, 1987: vol. 1
 *DBST=Double Bitumen Surface Treatment

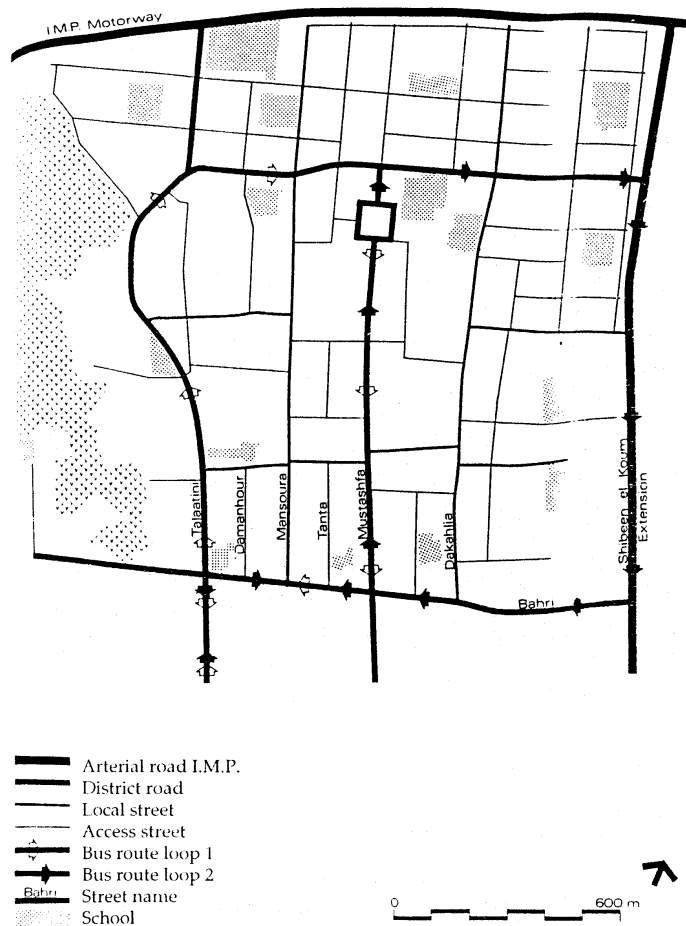
Figure 5.2 Hai El Salam transport

Source: Arab Republic of Egypt, 1978: vol. 1.

Table 5.2 Street network summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned



<p>Deficiencies</p> <p>No road hierarchy, constricted, poor surfaced road.</p> <p>Potentials</p> <p>Construction not too closely located leaving gird-iron roads in between.</p>	<p>A hierarchy has been imposed on the existing grid system. Local streets define neighbourhoods. Surfacing was to be phased and to follow infrastructure works.</p>	<p>After the sewerage network was implemented, a road network (11.5 km) was implemented. Phase 2 aims at completing the project roads (15 km).</p>	<p>Use existing roads to create a proper hierarchical network. Phase street surfacing in coordination with infrastructure works.</p>
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PUBLIC TRANSPORT

Existing situation in 1977

Deficiencies

- The area was not served by a public transport system.

Potentials

- The residents had to walk to the peripheral roads (Bahri Street to the south) to gain access to public transport.

Proposals

A bus transport system was proposed to run between Hai El Salam and the bus station to its south. Within Hai El Salam two routes are proposed (see figure 5.2)

- A loop based on Talaatini Street, the new east-west district street and Mustashfa Street.
- A loop based on Shibein El Koum Street, the new east-west street and Mustashfa Street.

In the first stage only part of the first route could operate and run on Mustashfa Street, terminating at the community centre. The full loop service would be introduced as soon as the link between Talaatini and Mustashfa Streets was completed. The second loop service would be started only when the extent of development in the east and north east of Hai El Salam was sufficient to justify service on Shibein El Koum. It was proposed that alternative buses on the loop routes run in opposite directions creating a two-way service. Thus pairs of buses would be needed to operate the services.

It was seen likely that the proposed university, sited to the immediate north of Hai El Salaam would create demand for its own bus services. It had been assumed that such services would be additional to these proposals.

Implementation

Implementation would be gradual depending on the surfacing of roads and increase of population.

Table 5.3 Transport summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies The area was not served by public transport except via peripheral roads.	Alternative bus routes on the loop routes would run in opposite directions creating a two-way service.	Implementation would be gradual depending on the surfacing of roads and increase of population.	Tie local transport system into existing city-wide system incrementally.

WATER SUPPLY

Existing situation in 1977

Deficiencies

- All units lacked direct individual water supply.

Potentials

- Water provision consisted of a small number of standpipes in the southern part of the project area. Additional standpipes were being added at the time of the surveys with the new water main in central Hai El Salaam.

Proposals

The proposed water distribution network (see figure 5.3) consists of a primary ringmain feeding four secondary ringmains each supplying water to approximately 24,000 people by the year 2000. The implementation was phased incrementally to follow demand (see figure 5.4). Water is supplied to the area by gravity from a storage reservoir, situated some 400 metres north of the project area in the proposed university area.

The first stage of improvement would consist of the installation of some 75 standpipes on a 150 meter grid, supplied from the south of the site by connections to the existing network. In order to minimize abortive costs, the standpipes were planned to be fed by pipes ultimately forming part of the full network. A branch from this initial system would supply water to the first phase of the community centre.

Where pressures and capacities permit, on-plot connections to single tap/shower units could be taken from the first-stage network. Subsequent extension of the distribution network would follow once the storage reservoir was to come into operation. By the year 2000, the average daily demand is estimated to be 18,600m³ with a peak hour demand of 537litres/second. Both figures include an allowance for irrigation water.

Implementation

USAID has participated in the implementation of the first stage of the water-supply project that included the creation of two main sources of water (two elevated water towers in the project area with a capacity of 2000m³/day). In addition, this stage included the provision of main streets with potable water network reaching a total length of 8.3 km. The first stage started in 1982 and was completed in 1984. The USAID provided US\$ 1,710,000 and Government of Egypt (GOE) provided £E 1,643,000 (US\$ 2,347,143) for this stage.

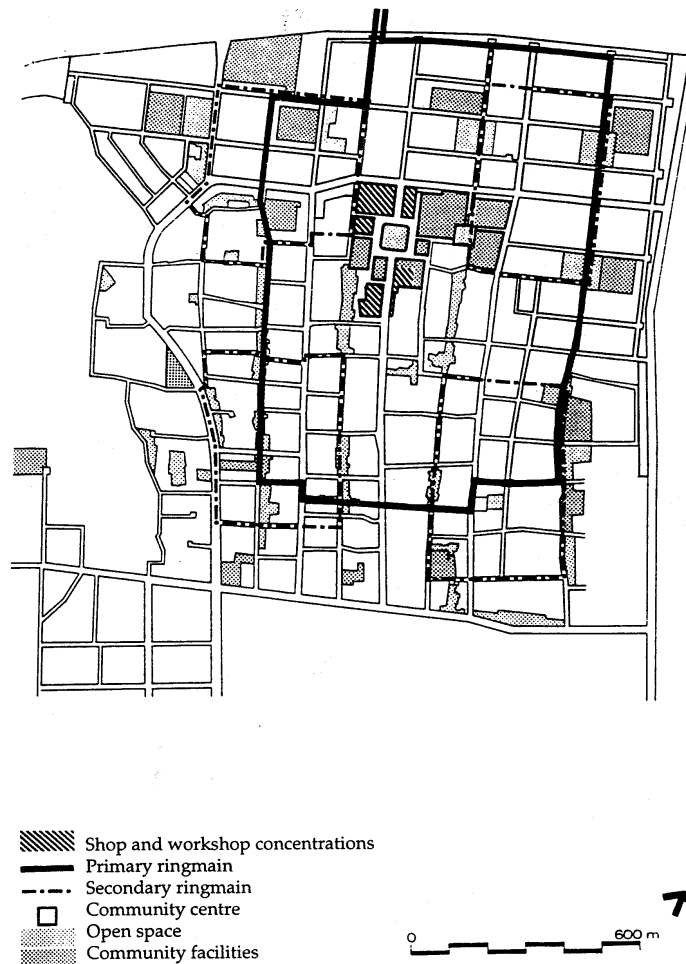


Figure 5.3 Hai El Salam water supply

Source: Arab Republic of Egypt, 1978: vol.1.

The second stage aimed at the provision of 32 km of potable water network to the secondary streets at a cost of £E 1,100,000 (1990, US\$ 407,407) (Project Agency funds - £E 750,000 (US\$ 277,778) and the Suez Canal Authority - £E 350,000 (US\$ 129,639)). This phase is currently being implemented.

Table 5.4 Potable water summary

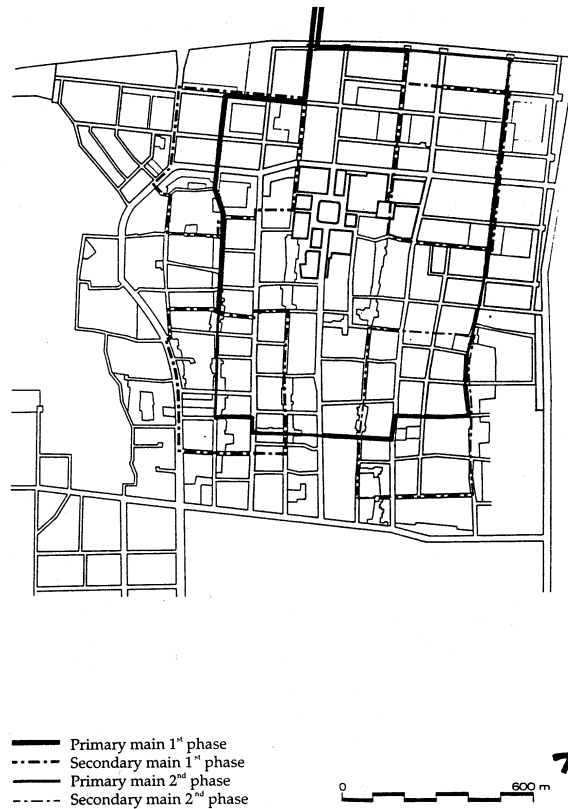
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
<p>Deficiencies All units lacked direct water supply.</p> <p>Potentials Water provision consisted of a few standpipes in the southern area.</p>	The water network would consist of a primary ringmain feeding 4 secondary ones. 1st stage: installation of 75 standpipes fed by pipes ultimately forming part of the full network.	1st stage: 2 water towers, provision of main streets with network. 2nd stage: provision of network to secondary streets, currently being implemented.	Upgrade and implement gradually to meet needs and means of users; first standpipes then full supply to individual units.

WASTE WATER DISPOSAL

Existing situation in 1977

Deficiencies

- The sewerage network did not enter the project area and though mains existed immediately to the south, they did not have the capacity to take any new connection from the project area.



Potentials

- Individual solutions such as sewerage tanks for each plot were provided by plot owners.

Figure 5.4 Phasing of Hai El Salam water

Source: Arab Republic of Egypt, 1978: vol.1.

Proposals

The proposed sewerage system (see figure 5.5) consists of several groups of branching sewers generally falling from the north-east of the site to a pumping station in the south-west. From this station, the sewage would be pumped to the sewage works in a rising main which bypasses the existing (inadequate) city system. Within the project area, secondary systems would discharge to two pumping stations in order to avoid excessive depths on the main collectors.

Phasing is discussed in more detail below (see figure 5.6). Briefly, proposals for the first phase consisted of the main collector running east from the pumping station, proposed in the master plan, then north up Mustashfa Street to the community centre and Phase 1 of the new development area. Phase 2 would consist of an extension to this system to the north-west corner of the project area and also the west collector running along the edge of the existing built-up area. The south-east system and pumping station would form the final phase. An emergency outfall from this station should discharge to the adjoining groundwater drain. It was proposed that the existing groundwater, or cover drain, should be cleared out and repaired as necessary.

The relatively low flows in the early years of the development were feared to result in silting-up along flat sections of the sewers. Regular inspection together with routine cleaning as necessary was recommended and was expected to prevent blockages.

In order to enable the community centre buildings to be supplied with water prior to the development of the sewerage system, a septic tank could be installed as a temporary measure. At detail design stage a suitable site would have to be identified to accommodate this provision. Special attention would have to be paid to the design of the drainfield and it was recommended that the tank would be maintained regularly.

By the year 2000, total daily sewage flow from the site was estimated to be approximately 13,800m³. Peak hour flow rate would be approximately 400 litres/sec. Both figures include an allowance for infiltration.

Implementation

The project provided a fleet of pump trucks to remove sewage from tanks in addition to the procurement of trucks for garbage collection (Project Agency Funds £E 979,258 (1980, US\$ 1,398,940)). The waterborne system has taken much longer to implement than initially estimated. This resulted from technical problems such as the high water table in the southern section of the project site. Delays and inflation have caused several changes of contractors and financing has been adversely affected. The Governorate of Ismailia coordinated with the national organization of potable water and sewerage, and the Hai El Salam sewage disposal project was included in the programmes of USAID. The work was divided into two stages.

The first stage aimed at dividing the project into areas and the procurement of the pipes and the construction of pump stations and the implementation of a 49km sewerage network. USAID-funded design fees US\$ 10,000; pipe procurement US\$ 100,000; and pump station US\$ 2,000,000. GOE's share was £E 3,000,000 (1990, US\$ 1,071,430). So far 29,380 km have been implemented and work has started on the remaining 20 km.

The second stage aims at implementing the sewerage network within the secondary roads of the old section of the project area at a total cost of £E 3,000,000 (1990, US\$ 1,071,430). Funding is currently being sought to implement this stage. The project Agency has implemented access holes on the sidewalks so that residents could be connected to the main system without destroying street surface finishing. The connections to the manholes were implemented at a cost of £E 120,347 (1990, US\$ 42,980).

Table 5.5 Wastewater summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies No waterborne sewerage system.	Sewerage system would follow the natural slopes. Two pumping stations would be used to avoid excessive depths on the mains.	The project provided a fleet of pump trucks to remove sewage from individual tanks.	Implement gradually. First use individual tanks then a complete waterborne system.
Potentials The area was served by individual tanks.			

Figure 5.5 Hai El Salaam sewerage
Source: Arab Republic of Egypt, 1978: vol. 1

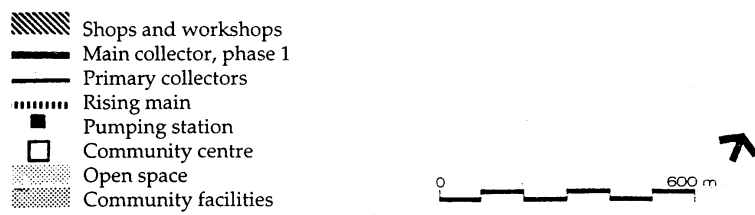
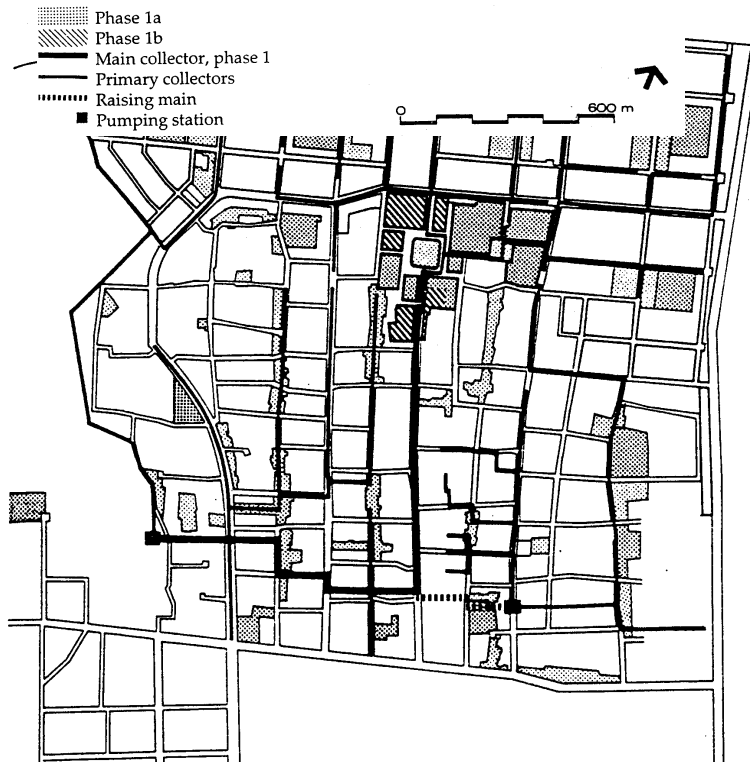
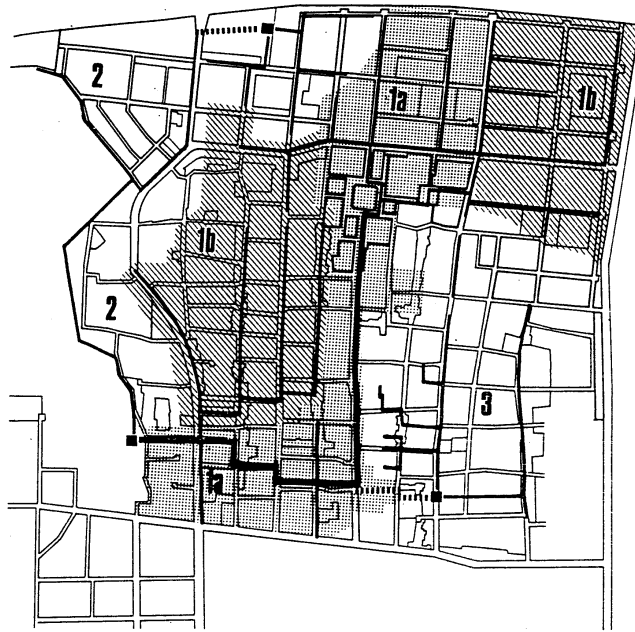


Figure 5.6 Phasing of Sewerage

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: vol. 1

Photo 5.3 Surface before infrastructure installation

Photo 5.4 Trench for sewerage pipe installation

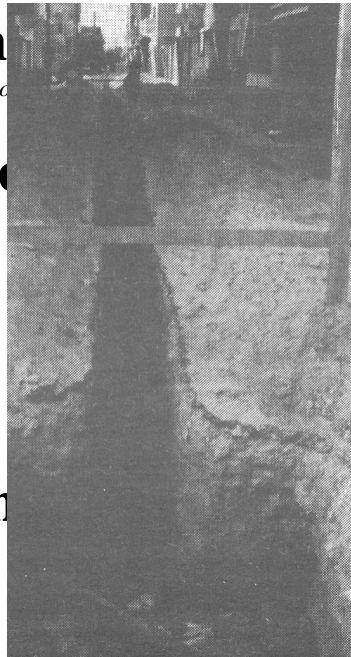


Photo 5.5 Project Agency trucks to evacuate pit latrines

SOLID WASTE

Existing situation in 1977

Deficiencies

- Garbage was not systematically and hygienically disposed of. It was disposed of in locations far-away from the site then periodically burned.

Proposals

The provision of trucks for garbage collection to ensure proper hygienic disposal.

Implementation

The Project Agency provided a fleet of trucks for garbage collection. Costs are included with the cost of pump trucks for wastewater disposal discussed in the previous section.

Table 5.6 Solid-waste disposal summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies Garbage was disposed of in far-away locations then burnt.	Trucks would be provided for garbage collection to ensure proper disposal.	The Project Agency provided a fleet of trucks for garbage collection.	Organize and improve garbage disposal through a central agency.

ELECTRICITY

Existing situation in 1977

Potentials

- A new electricity distribution network had been installed in the existing Hai El Salam area just before the survey, and the area was thus reasonably well served.

Proposals

Primary distribution was proposed to be by means of an 11 kV underground cable linking to 18 transformers rated from 200 to 300 kVa. Secondary distribution would be a 380/220 volt supply, generally on overhead lines (see figure 5.7). In areas such as the community centre, the secondary network is would be located underground to improve the visual amenity of the area.

It was recommended that the existing overhead 11 kV line across the north-east corner of the site should be replaced by an underground cable routed under local roads.

Provision of electric mains and of street lighting in all district streets was planned for the initial stage. This would be followed by the completion of all street lighting.

Implementation

The first stage included the provision of electricity required for lighting. It included the provision of 26 transformers in addition to street lights (Project Agency Funds - £E 1,500,000 (1982, US\$ 2,142,857)). The Ministry of Electricity, through the Rural Electrification Organization, participated in the provision of eight transformers in addition to 350 street light poles to complete the second stage that ended in 1989 (Ministry of Electricity funding - £E 683,744 (1990, US\$ 244,194)).

Table 5.7 Electricity summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Potentials A new electricity network had been installed before the project, thus the area was reasonably served.	Primary cables under-ground would be linked to 18 transformers. Secondary overhead lines would only be provided to special areas to improve visual amenity.	1st stage: provision of street lighting on main roads. 2nd stage: provision of secondary street lighting.	Phase provision of electric distribution lines and street lighting to reduce street initial costs.

TELEPHONES

Existing situation in 1977

Deficiencies

- The area had no telephone service due to its illegal status and the low income of the inhabitants.

Potentials

- The new city telephone exchange was located immediately to the south of the project area, thus the area is well placed for provision of a telephone network.

Proposals

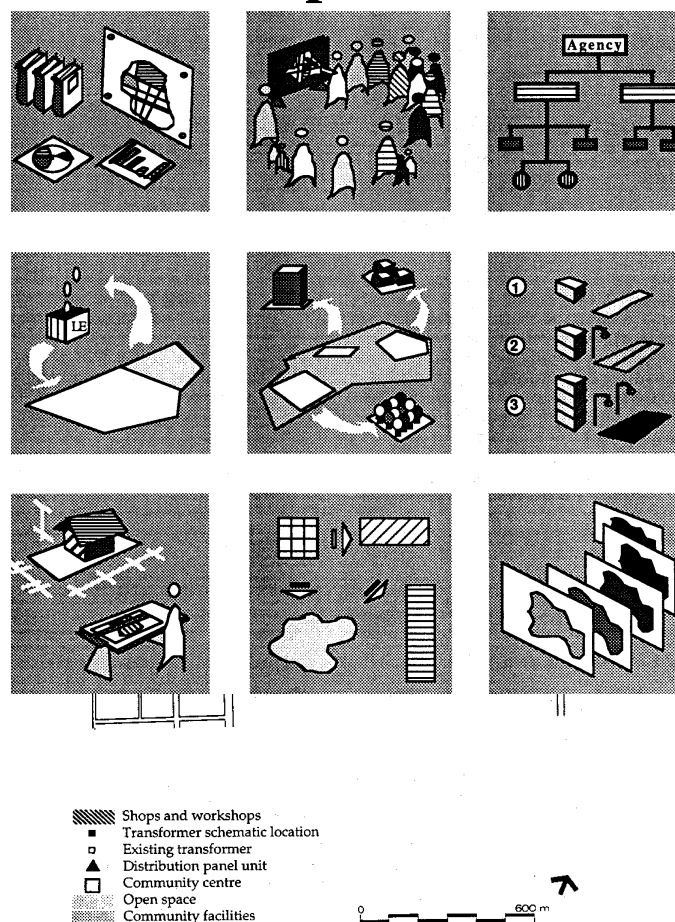
Initially, public telephones were proposed to be installed on the two major north-south streets and on the east-west street immediately north of the community centre, and thus be within 500 metres of every dwelling.

Implementation

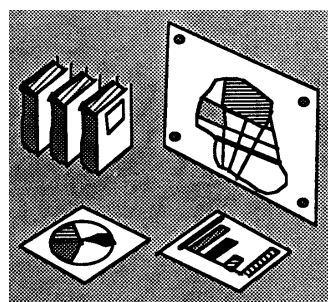
Telephones have been supplied to some of the shops for public use in the project area. More telephones should be provided for public use.

Table 5.8 Telephone summary			
Existing situation	Project proposals	Implementation/evaluation	Lessons learned
Deficiencies No telephone services due to illegal status and inhabitants' low incomes.	A new city telephone exchange located south of the area, was foreseen to provide a telephone network.	Telephones have been supplied to some shops for public use. More telephones should be provided.	Phase implementation according to needs.

Figure 5.7 Hai El Salam power



Source: Arab Republic of Egypt, 1978: vol. 1



VI. LESSONS

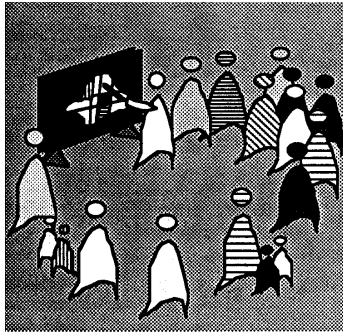
The Hai El Salam demonstration project has proved to be successful in meeting many of the similar goals it set out to achieve. The provision of urban housing to the lowest income groups has always been a perplexing issue in Egypt and other developing countries. Lack of funding and the very high costs of the provision of serviced land and dwelling construction have made it difficult to provide for the lowest income groups. The Hai El Salam project provides several lessons for future application in projects in Egypt and elsewhere. The lessons discussed in this chapter are based on site visits; interviews with project agency officials, professionals involved in the project, and inhabitants of the upgrading and extension areas; and to findings discussed in various articles and studies (see bibliography).

NATURE OF PROPOSALS

The foundation for the success of upgrading projects lies in the initial efforts of the proposals put forth for

intervention. In the case of Hai El Salam great emphasis was placed on producing realistic proposals based on rigorous research and understanding of the "natural" housing process and its dynamics in the project area. Proposals should be:

- **Relevant to low-income groups**, which form the majority of the population.
- **Capable of implementation** with minimal subsidy.
- **Based on the best possible understanding of, the existing situation** in its social, cultural, economic and physical aspects.
- **Able to be administered without the need for a high level of sophistication** and continued support from outside



expertise.

- Realistic, i.e., should be implementable within the existing administrative and executive structures and not require fundamental legal or organizational reform.
- **Implementable as soon as possible.**
- **Capable of modification with experience** and with changing external factors.
- **Replicable**, in form and content, at other sites in the future.

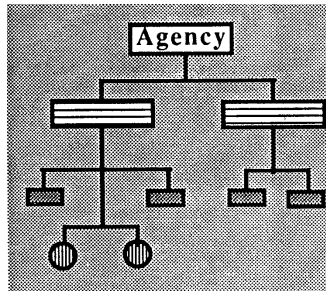
COMMUNITY PARTICIPATION

The involvement of the residents of areas to be upgraded from the initial stages of surveys through implementation guarantees a high degree of co-operation and reduces antagonism between the implementing Agency and residents. The community should be involved, as much as possible, in all the phases of the project:

- **Data collection** for the understanding of the housing process, the community's needs and the settlement's various aspects.
- **Community leader selection** to facilitate communication, decision-making and implementation.
- **Selection of alternatives** proposed after their discussion and alteration, if necessary, to meet the community's needs better.
- **Selection of buildings to be removed** and families to be relocated in the upgrading process.
- **Implementation** of the different stages and deciding on priorities and preferences.
- **Financing** shared infrastructure costs for clusters by allowing the inhabitants to organize themselves for the collection of money and subsidizing, within themselves, the poorest among them utilizing the Islamic concept of *Zakat*.

The involvement of special groups in the project should also be encouraged, for example:

- **Community youth** involvement to harness their energies and manage their free time in the creation of visible



project features such as landscaping. This has a twofold benefit as it provides free labour and it creates positive community attitudes and formulating future community leaders.

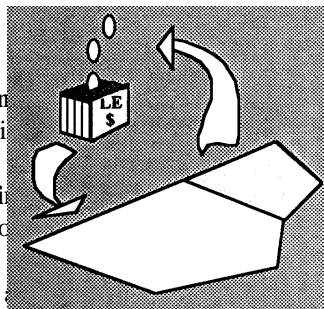
- **Politicians'** involvement to gain their interest and commitment in such projects lends a high degree of credibility to such upgrading schemes and helps to assure the cooperation of different public organizations.

PROJECT AGENCY

Upgrading projects are complex in nature and involve several ministries, facilities and utility agencies in addition to the multitude of residents. An Agency or institution that has the authority to implement such projects, under a major elected official, should be created.

The major objectives of the creation of a project agency include:

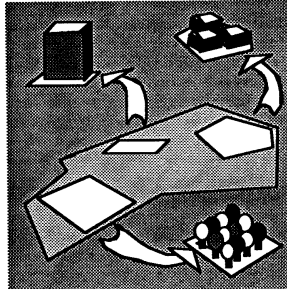
- **Management and implementation** of the project by the various parties involved.
- **Decentralization of project administration** to the community and to guarantee that the project is properly tailored to the needs of the community and to guarantee that the project is properly implemented according to the prescribed formulae.
- **Location of project agency within the community** rather than work in isolation within the community and to interact with the residents rather than work in isolation.
- **Being semi-autonomous** with the authority to spend it on the project without having to go through centralized channels.
- **Creation of proficient local cadres of professionals and administrators** capable of handling similar projects in the future through training and technical assistance.



AFFORDABILITY AND SELF-FINANCING

The self-financing of upgrading projects is a crucial concept that, if achieved, would alleviate the financial burden from governments. Self-financed upgrading projects can become widespread thus benefiting many areas that need urban improvement. Several concepts could be combined to finance such projects, these include:

- **Minimizing external funding**, although sometimes initial funding "seed or inception money", from the central government or international donors, is needed to initiate the implementation cycle. Dependence on such financing, however, should be minimized within each project. This will allow the use of funds for more projects. The sale of government-owned land in different areas of the city should eventually provide any future needed funding thus achieving self-sufficiency for these types of projects.
- **Self-financing the sale of land** to settlers in return for legal tenure and improvement. The sale of land to the residents in the case of squatting, or the legalization of tenure in the case of informal tenure, could be a source within of financing needed for upgrading. The sale of land is preferred to the collection of fees because of several reasons: low-income groups are willing to pay for legal ownership of land particularly if it is serviced; land is more easily financed by lending institutions than utility fees; and fees are often difficult to collect from low-income groups particularly if all the upgrading occurs simultaneously.
- **Reduction of initial costs** by staging upgrading and the provision of infrastructure to reduce initial financial burden, and to assure affordability and minimize debts.
- **Internal project cross-subsidy** where funds could be raised by the sale of newly-developed land at market prices. This assumes the availability of undeveloped land as in the case of Hai El Salam which had a natural extension



on desert land owned by the Governorate. This concept of cross-subsidy by the sale of land to cover part of the costs of upgrading settlements does not necessarily have to be limited to one geographic area, i.e., government-owned land could be developed and sold at market prices and the profits used to subsidise upgrading projects that are short of developable land.

- **Generating income from housing for the inhabitants** by allowing mixed use the community thus making housing an income generating process rather than a commodity. Shops and workshops on the ground floor and flats above could all be rented out and their revenues used to finance further building and cover the payment of the cost of the land and infrastructure upgrading.

LAND MANAGEMENT

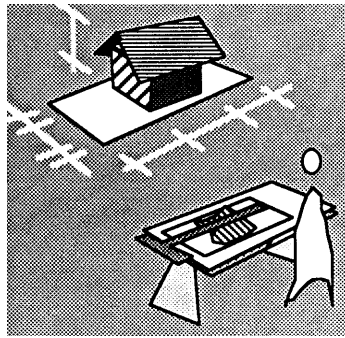
Allocating undeveloped, peripheral land to an upgrading project, if available, is a key element in solving various problems within a project area. In cases where such land is not available, the project could be linked to another public-owned site at least for the provision of funds to be used for the upgrading process. This land could be used for the provision of:

- Prime commercial plots for sale at market value to raise money for assisting financing the upgrading required for the existing community (see affordability).
- Sites for community facilities that would be otherwise very difficult to provide in consolidated areas of the existing community.
- Compensation sites for inhabitants that need to be relocated for the restructuring of the existing community, for the widening of streets, or the clearing of certain areas for the provision of facilities and utilities.
- New plots to address the increasing demand for plots and to provide a legal alternative that will prevent future squatting.
- Landscaping areas to ameliorate urban environment such as the creation of a forest or open recreation spaces.

INCREMENTAL IMPLEMENTATION

Upgrading should be planned so as to be implemented incrementally, in stages. This helps meet the real present needs of inhabitants as well as suit their financial means. The incremental implementation of the provision of infrastructure should be planned taking the following into consideration:

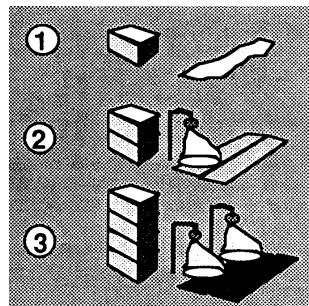
- **Initial provision of the minimum acceptable levels** of infrastructure and services. The cost of these initial levels will be recovered from the normalization of land and its sale to the inhabitants.
- **Provision of higher levels of service as needed** and as they become affordable to the residents should be incorporated in the design of the infrastructure and services.
- **Incorporation of initial minimal infrastructure** into the higher levels of service so as not to waste resources. Although this might need some extra maintenance in the stages before the infrastructure matures and is used at design levels, there are still significant savings on the long run.
- **Incremental implementation of infrastructure** as low-income residents build their dwellings incrementally and funds become available to them.
- **Provision of higher levels of services and utilities for saleable plots** for cross-subsidy L to occur and to generate more income. Plots to be sold for commercial use should be fully serviced to compete within the market of urban plots in the city as a whole.



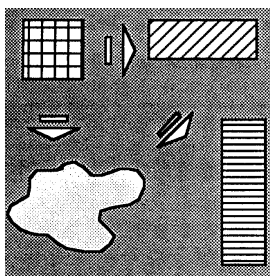
ROLE OF PROFESSIONALS

To some critics, the project resulted in a relatively unattractive environment. This resulted from too much *laissez faire* from the point of view of urban design. New extensions clearly are not strong in urban design. Consequently the area is regarded, by critics, as an unorganised urban extension of the city. This, however, should not overshadow other aspects of the project. However, Professionals can contribute in user-controlled normal housing processes. Their role includes:

- **The improvement of market responsiveness** to the needs of the traditional process;
- **The establishment of new routes** for the supply of services;



- **The creation of legal frameworks** supportive of and encouraging to local initiative;



- **The monitoring and evaluation** of the production factor markets, service systems and of the housing process itself as they are needed as early warning systems for possible regulatory intervention by the government;
- **The development and management of service systems** that could be adjusted to incremental provision, capable of responding to user demands and not just following suppliers' linear planning process;
- **Urban planning and subdivision design** that would support the informal housing process, permitting adjustment of housing supply to the changing patterns of demand;
- **Technological innovations** focusing on construction materials, components and methods;
- **Design and implementation processes of new structures** including some plans and projects for buildings and supervision of some construction processes.

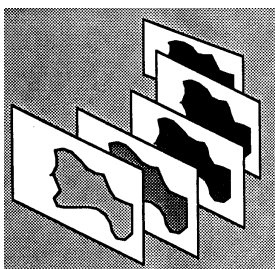
FLEXIBILITY

Flexibility is necessary during the different phases of upgrading and sites-and-services projects so as to ensure a higher degree of success. Alterations to different aspects of the project to accommodate local conditions, changing situations and the community's requirements have proved fruitful. During the first three years, the project experienced changes both in its administrative structure organization and contents as a result of experience. Some examples of changes include:

- **Administrative and structural changes** occurred in the Project Agency and its Board to accommodate members needed to ensure a higher level of performance and to ensure the full cooperation of various institutions.
- **Widening of the Agency's involvement** in other problems in the area, including waste disposal and maintenance. A new organizational structure evolved to cope with these changes.
- **Relaxation of procedures** such as altering the way applications were handled to give the Agency more flexibility and to enable more to participate in the draw for plots.
- **Design changes** to the standard plot resulted from user demands.
- **New building regulations** were also enforced and block layouts and footpath widths were altered. These alterations facilitated easier surveying necessary for the less-skilled technical staff.

REPLICABILITY

The Hai El Salam Project aimed at demonstrating first, the applicability of this approach to Ismailia's housing problems and secondly, its suitability as a model for the central ministry to adopt for other urban areas in Egypt. Within Ismailia the administration seemed to have accepted the idea in general principle and further areas have been identified for upgrading, and six new area-specific agencies and one citywide agency were created within five years of the pilot project. To assist in making the project a success and therefore a model to be replicated it was necessary to conscientiously achieve rapid success to maintain a certain momentum and to encourage those involved. Certain factors were taken into consideration to assure a rapid and visible success to the pilot project. These include:



- **Ease of implementation** was one of the reasons that Hai El Salam was chosen as a first demonstration project area. It had no physical or tenure problems which would hinder the planning process or require sophisticated technical solutions.
- **Short time frame to show initial results** such as the placing of markers, bulldozing lines of roads, gravelling key roads, limited relocation of some families and installing water taps.
- **Visible project components** such as the implementation of the community forest north of the project area which gave dignitaries visiting the project the opportunity to plant trees and be photographed away from the "messy" unfinished area of progressive building activities.
- **The use of small amounts of "inception"** capital and technical assistance provided through the British Overseas Aid Programme were an added advantage to the pilot project.

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