HOUSING PROJECTS

IN

EGYPT

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Housing Projects in Egypt

From immemorial time and throughout history, the Egyptian society was characterized by its scientific, philosophical and religious progress. This was reflected on architecture as well as on all arts.

The pharaonic culture is the origin of all cultures it has laid down the basis for writing, mathematics and the sciences of astronomy, engineering, medicine and chemistry. The pharaonic culture then mixed with several other cultures starting with the Greek culture up to the Islamic cultures in the world.

Although the geographical borders of the Arab Republic of Egypt cover about one million square kilometer, yet 96% of such area is deserts and the remaining area which amounts to 4% is cultivated lands inhabited by approximately 98% of Egypt's population who occupy about 40.000 square kilometre of the Nile Valley and its fertile Delta.

Egypt has been characterized by its rapid and steady population growth compared to the rates of expansion in the uninhabited areas and cultivated areas which consequently lead to the imbalance that appeared between population growth and economic development, on one hand, and the rates of urbanization, industrial development and geographical distribution of population on the other hand.

Population growth

At the beginning of the 19th century, the population of Egypt was 2.4 millions, but this figure doubled four times in he course of that century and reached 9.6 millions by the beginning of the 20th century. The figure then doubled again more than five times

amounting to 56 millions in 1991 and is still increasing. According to this rate, population in Egypt is expected to reach 70 millions by the close of the 20th century.

The rapid population growth adversely affected the objectives of the national economic development in Egypt just-as it did in many other countries in the developing world. However, Egypt was considered one of the sever cases due to the limited potentialities of the water resources needed for irrigation purposes so as to carry out expansions in the traditional manner. Morever, Egypt's position in the 20th century as a result of occupation, and war did not enable it to expand into the desert due to these high costs. All the foregoing reasons lead to a great increase in the population density at the inhabited areas in Egypt namely, the Nile valley and its Deltas which placed Egypt among the most highly populated countries in he world (approximately 1250 person/per sq. m).

Population growth in rural areas :

Rural population represents 56% of total population of Egypt in 1986 . the normal increase rate at the republic level is 2.8% annually which decreases to about 2.7% in urban areas and increases to 3% in rural areas.

Rural areas in Egypt share the same characteristics of all other rural areas in developing countries.

Therefore, the state exerted great efforts with a view to increasing the cultivated area, improving irrigation and drainage means, storing water, improving the main transport network and developing education, health and other services.

Most of the rural areas suffer from lack of sewerage networks besides obtaining potable water from purified canal water or from subterranean wells.

Although the state had carried out a number of projects with a view to developing the rural areas in Egypt, yet many areas still suffer from the lack of educational and health services and public utilities which result in migration from its rural to urban areas.

However it could be said that there is no housing shortage in rural areas other than a few necessary units to accommodate employees at the civil service who are not inhabitants of those areas. Therefore, this paper does not include housing problem in rural areas.

Population growth in urban areas :

Due to the fact that the shortage of services in rural areas is more than in urban areas, due to the clear disparity between the living standard of both areas and due to the better opportunities afforded in urban areas, migration to urban areas increased.

This fact led to an increase in the urban population growth rates which exceeded the population growth rates at the republic level.

Since the beginning of this century, the rates of urban population to the total population rose from 19% in the year 1907 to 31% in 1947 then to 38% in 1960, and 43.8% in 1976 reaching about 44% in 1986, furthermore, urban population is expected to make 50% of the total population in Egypt by the close of this century.

Therefore, most of the urban agglomeration settle in agricultural regions which serve as agro-industrial and marketing centers.

In order to achieve the objectives of food sufficiency programs, the state adopted the strategy of safeguarding agricultural land and redistributing its inhabitants over the desert land with a view to

redistributing population within the context of a comprehensive development plan which would realise the economic and social objectives.

The imbalance between population growth and the economic activity on one hand and between urbanization rates and industrial development on the other hand resulted in a shortage of urban housing which Egypt has faced since the 1950. The problem was further aggravated as a result of the stat's interference by cutting down rentals of residential units.

1. The principal factors of the housing problem in Egypt and the bases of encountering such problem

The first step to be taken by the state for overcoming the housing problem was in late 1970 when a national academic study on all aspects of such problem was conducted to pinpoint the principal factors influencing this problem. The study determined the factor to be as follows :

- The necessity of providing lands, suitable for building, outside the agricultural area and providing such lands with the infrastructure. Noting that this should be carried out within the framework of a comprehensive plan for such new communities in desert lands.
- Raising the efficiency and capacity of the existing public utilities and their networks besides establishing new plants and networks for potable water, electricity and sewerage.
- Providing building materials, basically through local production.
- Upgrading new, development low - cost types of housing.
- Training workmanship in building profession.
- Raising the efficiency and capacity of constructions sector.
- Providing necessary funds, through low interest loans,
- Improving present housing legislation to create appropriate

atmosphere for investment in housing sector and meeting the demands and hopes of the beneficienes.

In order to meet the demands for housing providing lands, suitable for building outside agricultural area could be reviewed as follows :

- The total area of the Egypt is one million KM2.
- The total area of cultivated lands amount to approximately 30.000 Km2.
- The total inhabited area at the Republic level until 1976 amounts to 4% of the total area of the Arab Republic of Egypt.
- Thus, the policy prepared by the state for redistributing population and for encroaching upon desert lands in order to establish new urban communities that would assimilate population increase and in order to reduce the population densitities and cramming in the present rural urban areas, is considered as successful policy. As this will provide lands suitable for building houses, services and establishing economic activities away in the desert. To support such policy, law No. 59 for the year 1979 of new urban communities was issued with a view to encouraging the development of such societies on desert lands and redistributing population through planning and preparing new areas of attraction outside the agricultural area.

Since 1978 urbanized areas which were added to cities and new urban communities amounted to approximately 613 square kilometer (i.e. 4.4% of the inhabited areas before the year 1978). such urbanized areas will amount, with its future expansion, 2409 square kilometers (i.e. 18%) which includes. 122 new residential, agrarian and tourism agglomeration of which there are 88 farming villages at the reclamation areas, five tourist villages, 17 settlements and 12 tourism centers. Table No. (1) shows the statement of the targets areas in the new cities of housing units and industrial areas.

Those new urban agglomeration were planned according to the latest city planning standards with a view to delineating a new map for Egypt.

A great attention was given to making such agglomerations, centers of attraction or population as it were planned to assimilate about 6 million persons for whom the economic bases will be established as well as public utilities and basic services. In fact each integral human agglomeration creates new urban centers which realize stability, social balance and economic prosperity through its activities, be it economic, agricultural , commercial ... etc.

The following has been achieved in this respect :

- The construction of 12 new towns has already been started , the names of which are as follows :

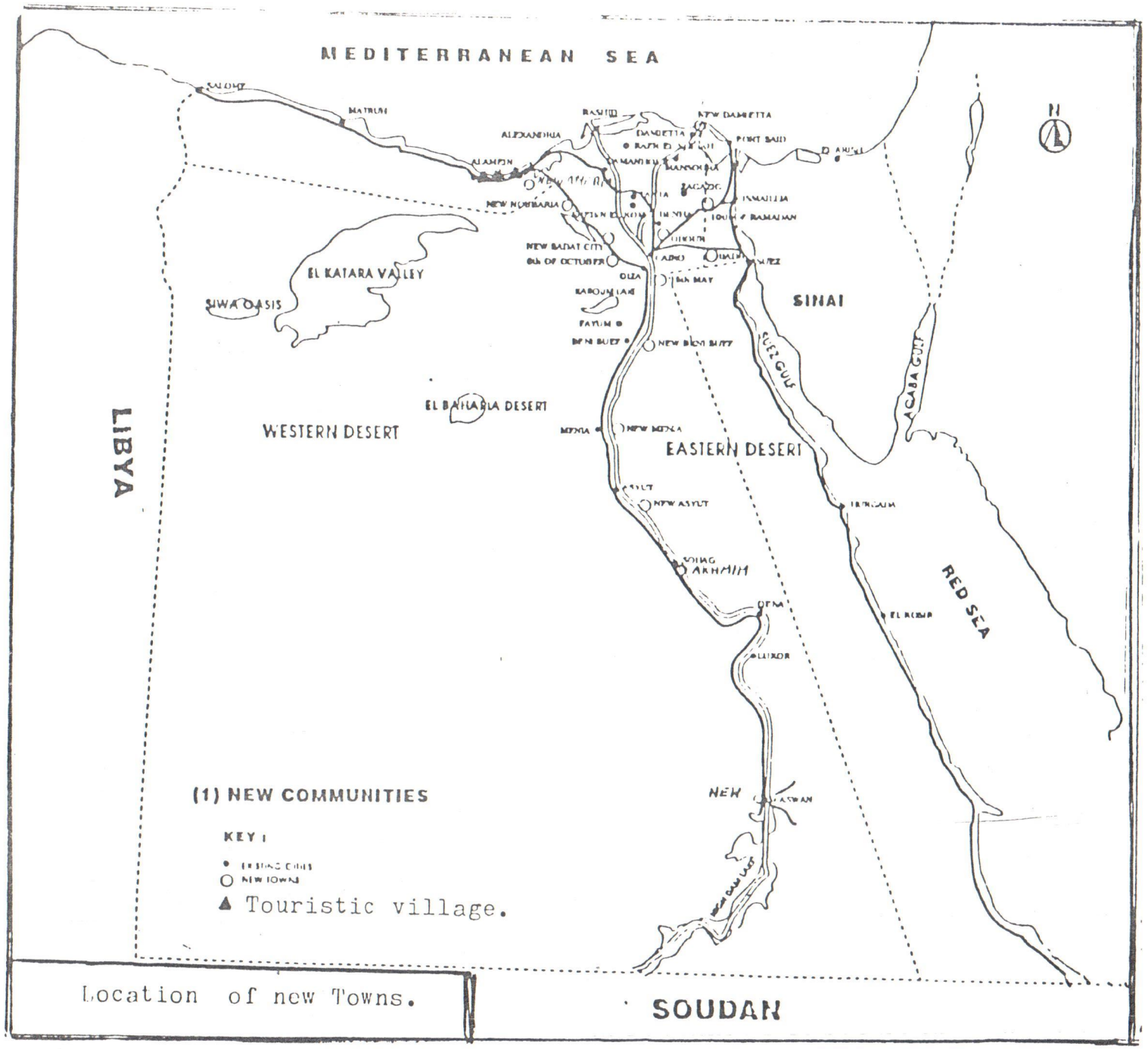
10th of Ramadan, May 15, El Sadat, the new Borg El Arab, 6th of October, Al Saleheyai, new Noubbareyia, new Damietta, Al Obour, Dabdr, new Beni Swaif and new Menia, life has already started in seven towns.

- The constructed area in those 12 new towns amounted to approximately 260 km2.

- The total area of the lands provided with utilities in these towns amounts to approximately, 53,5 kms

- The area of sold land in those towns until 30/6/1991 amount to approximately 29,1 square kilometers. The sales proceeds of which reached 678 million Egyptian pounds.

- The number of factories which have already stated production in such new towns amounted to 782 until now. Whereas the number of factories in the construction and installation phases reached 644. With a total of 1426 factories, out of the total number of 18812 to which land plots were allocated.



Location of new Towns.

ble No.1

Statement of the target Areas in the New cities of housing units and Industrial areas

Area / Sq . Km

Name of the city	Total Area acc. to Assign decision	Area acc. general plan				Provided with utilities		Housing units					No . of prod factories	Employment chances producing factories	Total of target population one thousand
		Green belt	urban Area	housing & services	Industry	housing & services	Industry	Total Assigined	Executed	under Finish	under construction	Preparatary works			
10th of Ramadan	338,0	332,0	56,01	45,0	11,5	5,3	10,1	22547	16842	4585	1120	-	438	27389	500
15th of May	27,1	14,7	2,4	12,4	-	4,3	-	26204	19265	2771	2308	1860	-	-	250
Sadat	500,0	452,2	47,8	37,8	10,0	6,2	2,8	15532	3404	8129	3250	749	80	4793	500
6th , October	360,0	308,0	52,0	41,6	10,4	6,4	7,0	24171	14053	4112	4887	1119	174	10167	500
Borg El Arab	220,0	172,2	47,8	41,2	6,6	3,4	3,5	8681	2981	2923	2587	190	70	3700	510
Damietta	100,0	83,1	16,9	15,2	1,7	1,6	0,9	6570	4666	1804	100	-	2	43	270
Salhiyia	19,3	13,3	60	4,5	1,5	1,1	0,9	3976	3474	-	502	-	17	1061	100
Nubaryia	28,2	23,0	5,2	4,3	0,9	-	-	1980	1980	-	-	-	-	-	50
Obour	42,0	21,0	21,0	16,9	4,1	-	-	11832	2262	1356	7062	1152	-	-	250
Badr	69,3	53,7	15,6	12,6	3,0	-	-	12000	1200	1040	6660	3100	-	-	250
Alamal	189,0	174,7	14,3	12,4	1,9	-	-	-	-	-	-	-	-	-	250
New settlements	84,0	44,0	40,0	40,0	-	-	-	42104	-	172	19160	22772	-	-	2200
New Beni Sewf	39,9	17,9	22,0	17,4	4,6	-	-	8260	860	1650	4540	1210	1	83	120
New Minya	84,0	78,1	5,9	4,8	1,1	-	-	6857	-	640	4840	1377	-	-	120
Assuit	16,8	8,4	8,4	8,4	-	-	-	-	-	-	-	-	-	-	115
Sohag Akhmeem	3,4	-	3,4	3,4	-	-	-	-	-	-	-	-	-	-	60
Aswan	4,2	-	4,2	4,2	-	-	-	-	-	-	-	-	-	-	100
Total	2175,2	1796,3	378,9	332,1	56,8	28,3	25,2	190714,0	70987	29182	57016	33529	782	47236	6145

In addition to 88 agrarian in the reclamation areas, total area about 176 Sq . Km

17 Beduin settement villages in Sinai and Red Sea, total area about 34 Sq . Km

5 tourstie villeges, 12 touristie centres, total area about 24 Sq . Km

Total 234 Sq . Km

- The new towns contributed greatly to providing new residential units which amounted to 190714 unit (70907 units were completed, 29182 are being finished and 90615 are under construction. All are executed by the authority of new urban communities.

- Preparations started this year for the construction of two new towns namely :

The new Asyout (Al Safa) and the new Aswan

- In ordered to resolve the chronic problem of Greater Cairo, the construction of a ring road around the Greater Cairo City has started with a view to limiting the urban sprawl and allowing an easy traffic flow between all governorates. Measures have been also taken for the execution of 10 new centres of activity outside the ring road in the desert. The area of each is about 8.4 square kilometer and such centers of activity are aimed to be a real breather and attract people from densely populated areas in the main urban built area. Moreover, it is aimed to prevent an environmental blight at such areas by relocating their industries and workshops to planned areas in those new centres of activity.

The context of the second five year plan 1987/1988* 1991/1992 :

This plan has been setup on actual figures which the Ministry of Housing have taken as the basis for determining the housing plan strategy. The ministry conducted a study on the results appeared in April 1987. The data in this study was analysed with a view to determining the general framework of the five year plan 1098/88 - 1991/92 and afterwards until the year 2000.

The detailed data on population, housing and installations were statistically analysed. All data on the number of families, residential units, their development in the last ten years, were considered, in addition to the assumption reached about the capacity of all construction companies and contractors, the detailed framework of the new five-year plan was then drawn, inclusive of the number of

residential unit, needed to face the existing situation and procurement of housing needs for newly formed families. It was concluded that the following annual rate should be provided :

133940	Housing units for newly formed families
12352	Housing units to replace quasi-housing which are places to fit for using but were occupied by families during the census period such as the part of building occupied by janitors, guards, garages, halls, stair.... etc (based on solving the problem in a five-year period).
10667	Housing in five-year sharing the same unit.
35921	For families, living in rooms, on the basis that problem will be solved on the year 2000.
106960	New replaced instead of old one.

299840 housing units per year

Hence, to meet such housing needs, it is necessary to contrast about 300.000 residential units year. So, it was decided, in the light of the public and private sector capabilities, that the private sector would undertake the construction of 40% of the required figure (120.000 units per year) and the rest would be entrusted to the public sector.

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* Of which 5858971 urban + 5455567 rural

Due to the steady increase in the costs of building materials and labour, at both and international level, it was planned by the ministry, to undertake the construction of low-cost housing for the benefit of the unprivileged, underpaid on newly married, whereby the down-payment would be borne by the beneficiary and the remaining value of the unit would be settled by granting him a cooperative loan (soft loan).

Therefore, the prior objective and one of the challenges and basic responsibilities with which it is faced, is proving low-cost housing for the unprivileged and underpaid who represent the vast majority of those in great need for housing in Egypt. What further aggravates the problem is the increasing gap between the financial capabilities of the unprivileged and the actual costs of construction.

The idea of developing the patterns of low-cost housing is a serious and direct attempt for achieving the objective. The concept of such idea based on providing residential units of suitable areas and the lowest possible cost which could be completed in latter stages according to the needs and capabilities of the families.

The concept of cutting down cost of housing patterns was attributed for following basis :

1. Minimizin the structural costs without prejudice to the safety of the building.
2. Eliminating the construction of internal walls and economising on the internal finishing.
3. Cost efficient use of infrastructure networks.
4. Following the appropriate planning criteria.

Economizing of construction costs :

Construction costs represent from 40% to 50% of the cost of economical housing. This percentage may drop if some items were eliminated such as the internal partitions and finishing. Therefore reducing costs may be achieved through.

- The cost-efficient use of building materials especially reinforced steel and cement as well as minimizing the waste without any prejudice to the building safety.
- Simplifying the construction system and reaching standardization which realizes rapid and easy execution, thus economizing on time and consequently on costs.

Partitions and Internal Finishing

This idea aims at providing a large unfinished area at the same price of a smaller finished areas as unprivileged or underpaid families need relatively large areas due to the fact that the average number of family members in this socio-economic category is high.

In addition to the economic advantages of such an idea there is also a social advantage as it offers the required flexibility needed to adapt the residential unit to the different social and cultural tastes of the users.

Each residential unit has two facades on two directions across each other which allows a good and permanent ventilation for the unit.

The design of low-cost residential units haling areas ranging between 45,60, 75, 90 sq.m. The ministry recommend as a start, that no more than 15% of each pattern (45 sq.m. and 90 sq.m) should be provided and that percentages to be executed for each pattern shall be definitely determined according to the supply and demand process, the economic and social studies concerning the family living standard, income, and number ..... ect.

Infrastructure :

The design of residential units aims at reduction of the infrastructure costs by reducing the lengths of infrastructure lines and networks between residential blocks and neighborhoods together.

Planning Criteria :

Planning criteria and rates aim at the optimum cost - efficient use of land considering the planning levels of the residential blocks, neighbourhoods communities while maintaining the feature, and style of these patterns.

Such residential aggrolomerations are characterized as being the basis for realizing the cost-efficient use of land without touching upon the level and quality of the urban environment as well as the requirements of he units and their residents.

These bases can be summed up as follows.

- Planning compact residential units to realize the best natural environmental and scape in Egypt by providing shaded areas; making units overlook the internal patios, protecting units from hot dusty winds and reduce bright lighting.

- Accepting the idea of mixed use of housing facilities and relevant services in Egypt as much as possible specially after evaluating the world's experience in and results of constructing new communities.

This concept does not contradict with privacy of areas but rather raises the efficiency of their use, reduces walking distance and saves the area not used after work hours.

- Providing open and vacant spaces marking such areas and connecting them to the housing and service urban areas. Defining clearly the responsibility of maintaining and safeguarding the areas which are related to social services and responsibility of their maintenance becomes definite and clear.

- Awareness of the properties of urban densities as well as the densities of activities and use such awareness in designing and controlling urbanization according to the hierarchy of planning levels, its relation to open areas and their locations.

- The urban and architectural style of residential areas has real importance as it represents a complex result of various factors such as the nature of residential units, treatment of their facade, they way agglomerating and handling of the urban vacancies.

Low-cost housing patterns :

The seven patterns of low-cost housing represent a modern and practical trend towards providing low-cost lodging in Egypt: Besides,

these patterns are the beginning of intensive and serious efforts geared towards transforming such patterns effectively and rapidly into a concrete fact that could be evaluated, rectified and developed in order to support its positive points and avoid its negative ones. It is no more than a link in the chain of efforts directed toward realizing the citizen's well deserved aspirations.

Reviewing the said patterns, the following has been remarked :

- Standardization has been observed in designing low-cost residential units. It is based on the construction of regular module on both directions 3.60 x 3.60 metres besides the stability of the building depth between any two opposite facades. This depth amounts to 8.40 metres and is formed of two spans 3.60 x 3.60 metre and a cantilever of 1.20 meter.

It was also observed to construct columns on continuous axis without moving onwards to allow for alligment of the building site and to rule out any error possibilities during execution as well as to save time.

- This standardization helped in standardizing the structural method as the reinforcement of the modules has become similar and it has become possible to standardize the reinforced steel patterns which could be cut collectively according to the bill of quantities attached to the working drawings. This saves a lot of waste in such highly costly material besides the possibility of using wire mesh reinforcement in such patterns.

- The suggested structural standardization allows using the traditional construction techniques with great speed and efficiency as well as allowing the use of advanced construction techniques easily.

- In regards to carpentry works, it has been observed to reduce doors and windows patterns to the minimum without affecting the need for good ventilation and lighting of the unit. At the same time all dimensions of windows and doors wee standardized in order to

manufacture them by mass production which saves costs and reduces the water to the minimum.

- When grouping the residential units in blocks, it has been observed to locate staircases when they could be serving the largest number of units on each floor in order to save costs. Moreover, when grouping the residential blocks, it has been also observed to economize on the lengths of the utilities networks so as to reduce the share of each unit in such costs.
- In addition to the foregoing, the use of ground floors for service (commercial, educational health... etc), realizes an economic revenue which participates in reducing the unit cost besides the location of such services near the residential area.

The results which have been achieved after executing these types indicate that the costs of such units are within the limits of cooperative loans or just a little more. A work program has been set up for the said low cost units according to which the public sector companies and governorates would under-take the construction of 120 thousand residential units and the private sector would carry out the execution of the remaining units required yearly in the domain of average cost and above average cost housing of quality finishing that is compatible with the financial capabilities of the investor.

It has been observed, in low-costing housing, to meet the needs of different families by providing units with the following areas 60 sq.m. and 90 sq.m. and with 2, 3 or 4 rooms according to the size of the family.

Informal Housing

In the 70's and 80's the phenomenon of informal housing has emerged as a response and a form of adjustment to the housing shortage. Informal housing is defined as all housing not following the legal building codes, ie building without a permit, illegal subdivision of land, increasing the number of floors without a permit, etc. According to one estimate, informal housing accounts

for about 80% of all the units built in Greater Cairo between 1970 and 1981.

By definition, informal housing is not subject to rent controls since it is already illegal. While the rents are not very high, yet they represent a relatively high rent burden since informal housing caters for low-income groups. It is characterized by a predominance of small building on small plots with high plot coverage, often built in stages over several years and rarely exceeding five floors in height. In terms of quality or standards of buildings and construction, thee is no difference between informal and formal housing. In fact, recently built informal housing is of better quality than average existing housing in Cairo. The distinction is between "popular" (i.e. low and lower-middle-income) and "luxurious" housing. Yet informal housing is significantly less adequately providing with utilities and infrastructure than formal housing (see table below). Despite this, the quantitative contribution of the informal sector has been essential in, as far as possible, maintaining parity between increases in population and increases in the housing stock.

Access to Physical infrastructure in informal neighbourhoods

Type of infrastructure	Percentage of households in Cairo
water	
Private connection to pure water	49%
No private connection, no public faucet	34%
Sewer	
Public sewer	68%
Cesspool	18%
Neither cesspool nor pit latrine	9%
Electricity	91%
Transportation	
Within 15 minutes to nearest bus station	57%

The basic reason for the increasing incidence of informal housing is, again, the increase of labour migration to the Arab States. The savings generated are usually invested in land and construction. The ever increasing land prices ensure an adequate return on investment. Land is usually bought then illegally subdivided and sold with the profit being used to finance construction costs on the retained land. Building is undertaken without permits, either because the land is illegally subdivided, or because the cost of obtaining a permit (primarily architectural fees) is usually higher than the difference between the subsidized and black market prices of construction materials. Since informal housing construction is usually on a small scale, even higher prices do not approach the costs of obtaining a permit. Also all housing on agricultural land is illegal and is therefore informal, which means informal housing increases with the increase of urban expansion on agricultural land. Another reason is that much of the expansion of the housing stock that has come about in response to the increased demand for using has done so through vertical rather than horizontal expansion, due to the scarcity and high cost of land in Egpt. Again, increasing the number of floors is usually done without a permit since there are strict building regulations.

Under the broad category of informal housing is included squatters, those who live in the cemeteries, tents, temporary shacks, etc. It is difficult to estimate figures for this category, yet the cemeteries alone in Cairo are known to shelter hundreds of thousands of people. A whole network of renting and subletting operates to provide residence for these who seek it there. Normal functioning communities are found where services are provided for the residents. These people represent the poorest of the poor in Egypt and to provide adequate housing for them should certainly be a priority of the government. Government operates under a budget constraint. The government has no choice but to leave the majority of housing construction in the hands of the private sector. In trying

to solve the housing problem the government must choose the most cost-effective solution.

Self-help

One promising area is self-help schemes. These are presently only pilot experimental projects begin implemented with the help of USAID and ODA, yet could easily be duplicated. The government seems to currently be putting a lot of emphasis on these schemes, which bodes well for the future enhancement of the ability of the Egyptian housing sector, both public and private, to respond to the shelter and community development needs of the urban population, particularly low income households. The projects are essentially a formalization and regulation of informal housing through the combination of both public and private resources. Sine it has been basically the informal sector which has accommodated the increasing demand for housing, therefore to regulate or harness it could be of advantage to the housing sector, provided the government does not regulate it to much.

The aim of the projects is to provide and alternate means of managing urban development. This is done by the government auctioning off plots of land tat have been subdivided and provided with basic infrastructure. The revenues from the land sales go towards providing the infrastructure with cross-subsidies among the different plots i.e. financing of the lower priced lots through the higher priced ones. The land is sold either alone, or with a housing unit on it. There are also several stages of units, core units that can later be added on to, full units or semi-finished units, with loan schemes set up for the financing of mortgages and construction costs. These projects have the advantage of a much lower government subsidy than public housing, with the added advantage of ownership. The family can buy the plot of land that is within their income means, and as time goes on and additional savings are generated or family size increases, additions to the housing unit can

be made through additional investment. Thus every family can suit itself as regards to the type and size of units desired, which is not possible in public housing.

It is obvious that the housing sector in Egypt has a long way to go before it can rectify its structural difficulties or even regain the balance between supply and demand. The government's hands are more or less tied due to constraints on its budget and other more pressing priorities. The most it can do is to try and induce the private sector to invest in middle and low income housing. Yet unless it takes steps to reform in control and the laws governing the relationship between tenant and landlords, the private sector will continue to invest basically in luxury housing, to the detriment of middle income housing. The low and lower-middle income housing problem might be relieved by the self-help scheme along with a reduction in the incidence of informal housing. Construction costs might decrease due to the government's attempts to increase production capacity of construction materials. Thus shortages would decrease and prices might go down. So far though there has been only talk of reforming the laws and increasing the rents (still subject to control), this being the basic reason for the misallocation of resources towards luxury housing.

El Hekr Project, Ismailia City

In 1967 the outbreak of hostilities forced Egypt to evacuate the Suez Canal towns. The hostilities left large parts of these towns badly damaged, affecting both the buildings and the basic infrastructure such as roads, water and sewage. In 1974, the people of Ismailia, Suez and Port Said were permitted to return. With funds from the UNDP, Master Plans for the three cities were prepared. The team chosen to prepare the Master Plan for Ismailia was headed by Clifford Cuplin and Partners.

Following the completion of the Master Plan, the Ministry of Overseas Development, United Kingdom, funded the preparation of Demonstration Projects. These projects were designed to develop in

detail the housing and industrial recommendations of the Master Plan.

With the return of the citizens of Ismailia and the poor condition of much of the existing housing, an urgent priority was to tackle the growing housing problem. The El Hekr Project was therefore, devised to demonstrate the approach to low cost housing advocated in the Master Plan, namely, the use of a site and services upgrading approach, couples with a self financing land development agencies.

The Project Area

The El Hekr Project area is on the northern boundary of the town and ranges from a densely developed housing area in the south through to a sparsely populated desert fringe in the north.

El Hekr, the name coming from the word for the tax charged informal settlers to give them temporary rights to stay on the land, is a traditional squatted housing area, from one to two kilometres from the centre of the town.

The project covers an area of approximately 226 hectares, of which about 132 hectares are already developed. The estimated population of this area is around 40,000. By 1985 by which time it is intended that the major work of the project will be complete, it is expected that El Hekr both new and old will have a population of nearer 60,000. This is expected to grow as more plots are allocated and the area becomes consolidated to reach about 90,000 by the year 2000.

The Project Approach

The Master Plan suggested that the majority of public housing tended to go to the 'middle income' families who, because of their employment with the government, governorate, or other public agency, had privileged access to housing. This housing was heavily subsided. To provide sufficient housing of this sort for all, it argued, was beyond the resources of the government. It, therefore, proposed

to utilise the capacity of the people to build their own houses by providing them with basically serviced plots on which to build.

The level of servicing is, initially, minimal, with water from standpipes, roads, electricity, pit latrines and some community facilities. Later, the level of servicing could be raised. It was argued that with security of tenure, plot owners would invest more of their savings in their houses and so the standard would tend to improve.

The project would also need the minimum external subsidization. The level of servicing is based on what the 'target' residents 'ability to pay' based on the assumption that they are willing to pay between 15%-20% of their income on buying the plot.

To achieve some social mix and internal cross subsidization, the price of plots varies according to the location and hence desirability and some larger plots (concession plots) have been prepared for sale on the open market. People with plots in the area before 1977 are given the right to buy them at the lowest price.

The system of selecting who will have a right to the new plots restricts the applicants to Ismailia residents from before 1967 who do not already have a house and fall within certain income levels, depending on the type of plot. The rules for selection will broaden to include immigrants to Ismailia since 1967 once the immediate domestic demand has been satisfied.

The project proposes that technical assistance would be given to applicants to build their own houses enabling them to buy materials at government (subsidised) prices. It also proposes to give loans to help them finance the building using their ownership of the land for security.

The Project Agency was established by an executive order of the Governorate and gave the Agency complete control over the planning and development of the area and the sale of any land. The managing board includes representatives of the various agencies and departments concerned with provision of basic services, representatives of the City Council, local political party organization, the Governorate and the Project Manager.

It is proposed that the Project Agency has its own development, social and administrative and finance departments. These departments are divided into offices dealing with engineering, surveying, building, landscaping, social development, registration, finance, legal and public relations work.

The Agency is assisted in all aspects of its work by Clifford Culpin and Partners, under the Ismailia Technical Assistance Programme gives advice both to the Governorate on the implementation of the Master Plan as well as guidance on all technical and administrative matters to the Project Agency and its Board.

The aim of the Ismailia Technical Assistance Programme is not only to ensure the development of El Hekr as planned but to teach the local team in all the basic skills required to undertake, in the future, similar such projects without outside assistance.

EL HEKR PROJECT · FACT SHEET

THE PLAN

Project Area

Population 1978	37,000
Population 2000	90,000
Improvement Area	132 Hectares
New Development Area	94 Hectares
Total Area	226 Hectares
Plots (New Areas)	3,527

Plot Sizes

Low Cost (New Areas)

Dimensions (m)	6x12	6x15	6x18	9x12	9x15	9x18	12x12
Area (m2)	72	90	108	108	135	162	144

Concession Plots

Dimensions (m)	15x24	18x24	24x24
Area (m2)	360	432	576

Plot Costs (LE m²)

Class	Ordinary	Corner
A	10.00	11.00
B	4.00	4.50
C	2.25	2.50
Concession	Open market price	

Payment Terms

Class	Down Payment	Repayment Period(yrs)
A	100%	-
B	50%	10,15,25
C	10%	10,15,25
Concession	100%	-

Infrastructure

	Initial	Final
Water Supply	Public Standpipes 150m intervals	Individual Connections
Sewerage	Pit Latrines	Full sewerage system
Electricity	Individual connection (optional)	No change
	Street lighting	No change
Roads (ROW)		
Arterial-20m	Surfaced (DBST)	Paved (Asphaltic Paved concrete)
District-15m	Surfaced	Surfaced
Local-10/15m	Gravel	Surfaced
Access-6/10m	Earth	Gravel/Earth

(ROW=Right of Way)
(DBST=Double Bitumen Surface

(LE=Egyptian Pounds)

PROGRESS

Plots

	Detailed Plans	Surveyed	Delivered	Paid
New Areas	767	300	247	525
Existing Areas	578	635	356	356
Total	1345	935	603	881

Infrastructure

	Detailed Plans	Tendered	Work in Progress	Complete
Water - pipe (Km)	4	-	1	-
- standpipes	30	-	8	-
Roads (Km)	7.75	6.55	2.75	

Finances

	Income (LE)			Expenditure (LE)	
Agency Revenue	230,910		Agency Costs	25,223	
Inception Capital	40,830	270,740	Capital Dev Costs	122,120	147,343