

# Housing consolidation and the urban poor: the case of Hagar El Nawateyah, Alexandria

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1. The first part of the research, on which this article is based, consisted of three main stages. In the first stage, the research team sought to reconstruct the history of the settlement through a series of interviews with some of the oldest settlers. In the second, the main physical features of the settlement were recorded on a series of maps, including features of the terrain and the condition of the housing stock. In a final stage,

## I. INTRODUCTION

**THIS PAPER EXAMINES** the mechanisms by which agricultural land is converted into urban residential use in Hagar El Nawateyah, on the periphery of Alexandria. The paper also gives some background information on the housing situation in Egypt and describes the more salient features of the settlement and its inhabitants. A final section draws some conclusions.

In recent years, there has been a growing concern among governments and international aid agencies about the housing problems of the urban poor in the Third World, and many attempts have been made to accommodate the growing numbers of people. In the metropolitan areas of the Third World, little attention has been given to the mechanisms by which agricultural land is converted into urban residential use. Using the case of a low-income settlement in the city of Alexandria, Egypt, this paper examines the process of conversion of agricultural land into urban residential land. In doing so, it also illustrates the importance of what is termed here "semi-informal housing" in providing housing for a low-income urban community in Egypt.

The paper draws on empirical work carried out between October 1990 and April 1991 in Hagar El Nawateyah, a peripheral semi-informal residential area of Alexandria.<sup>(1)</sup> In the research on which this study is based, careful attention was given to identifying and understanding three main factors which were assumed to play important roles in shaping the development of a low-income settlement in a large urban area in the Egyptian context. The first is the effects that the mechanisms of land acquisition and land sub-division may have in facilitating or hindering future development. The second is the effect of consensus among the settlers (including both house owners and tenants) in the consolidation of the settlement. The third is the role of private developers in the settlement process.

a further series of interviews were conducted with a sample of inhabitants to collect socio-economic data. The author coordinated the study and benefitted from the help of 60 students from the Architecture Department at Alexandria University, whose contribution is hereby acknowledged. A second on-going part of the research looks at the role of state agencies and the provision of services in consolidating the settlement.

2. An informal discussion took place between the author and Eng. Hassaballah El Kafrawi, Minister of Development, New Communities, Housing and Utilities, Cairo, Egypt. This discussion took place during the INTA Seminar on New Towns at Egham, UK (9-13 April, 1991). The minister's statement is published in *Akhbar El-Yom* (Egyptian newspaper) No. 2497, 12 September 1992.

3. Government of Egypt (1989), *Housing in Egypt*, Ministry of Housing.

4. See Soliman, A. (1987), "Informal land acquisition and the urban poor in Alexandria", *Third World Planning Review*, Vol. 9, pages 21-39; Soliman, A. (1988), "Housing the urban poor in Egypt: a critique of present policies", *International Journal of Urban and Regional Research*, Vol. 12, No. 1, pages 65-86; and Soliman, A. (1989), "Housing mechanisms in Egypt: a critique", *Netherlands Journal of Housing and Environmental Research*, Vol. 4, No. 1, pages 31-50.

5. The World Bank (1989), *World Development Report*, Oxford University Press. This figure covers public expenditure on housing, for example income related schemes; on the provision and support of housing and slum clearance activities; on community development; on sanitation services; on payments to the elderly and the permanently disabled; and on family, maternity and child allowances. It also includes the cost of welfare services as well as the cost of general administration, regulation

## II. THE HOUSING SITUATION IN EGYPT

**AN OFFICIAL DELEGATION** recently declared that "...there is neither a housing shortage nor a housing problem in Egypt." <sup>(2)</sup> Assuming that this statement is correct, by examining some official figures on the existing housing situation, one can discover the following facts.

First, Egypt's total population is currently over 56 million inhabitants, around 11.2 million households, and with an annual population growth rate of 2.8 per cent. In 1986, it was estimated that the total housing stock in Egypt was around 11.3 million housing units: 5.9 million in urban areas and 5.4 million in rural areas. With an average annual housing production of around 180,000 units between 1986 and 1991 (see Table 1), the total housing stock was around 12.2 million housing units in 1991, giving a surplus of nearly 1 million units. <sup>(3)</sup> However, most of these units are in the luxury category and are located in the larger cities such as Cairo and Alexandria. Thousands of these units are kept empty, for future use or for speculative purposes, and thus may be considered to be outside the housing market.

**Table 1: Housing Production in Egypt between 1960-91**

Year	Public Units		Type of Housing		Total	Population Increase (millions)
	(1,000)	%	Private Units (1,000)	%		
1960-65	109.7	58	79.6	42	189.3	3.7
1966-70	56.1	32	119.7	68	175.8	3.0
1974-75	33.9	31	76.4	69	110.3	3.9
1976-80	89.7	19	369.1	81	458.8	5.7
1981-86	166.8	18	769.8	82	936.6	6.0
1987-91	n.a.		n.a.		900.0	8.2
<b>Total</b>	<b>456.3</b>		<b>1,414.6</b>		<b>2,770.9</b>	<b>30.5</b>

**Source:** Soliman, A.M. (forthcoming) "A Tale of informal housing in Egypt" in Brian Aldrich (ed.) *Squatter and Slum Settlements*, Wimond State University, U.S.A.

Second, in the last five years (1986-91), the average annual production of housing units has stood at around 3.2 housing units per thousand inhabitants, which is lower than the annual growth in the number of households (4.1 per cent).

Third, several studies suggest that at least 20 per cent of the population lives in squatter settlements and 75 per cent of the total housing production is built privately by informal developers. <sup>(4)</sup> This type of housing is found throughout Egypt, particularly on the peripheries of urban areas, and is characterized by a lack of basic services and poor physical and health conditions.

This suggests that there is a housing crisis in Egypt, in both quantity and quality. The government allocates only 14.9 per cent of its annual expenditure <sup>(5)</sup> to housing construction and supporting infrastructure while state built housing does not exceed 10 per cent of total annual housing production. To accommodate the growing population, there will have to be an increased reliance on private developers for the provision of an adequate number of housing units in the coming two decades. However, rising costs of construction and materials, the influence of rent controls laws, and the scarcity and

and research associated with social security and welfare services.

6. Soliman, A. (1987), "Informal land acquisition and the urban poor in Alexandria", *Third World Planning Review*, Vol. 9, pages 21-39.

7. Soliman, A. (1985), "The Poor in Search of Shelter: An Examination of Squatter Settlements in Alexandria, Egypt", University of Liverpool, unpublished Ph.D thesis (mimeo).

8. See reference 7.

9. Soliman, A. (1991), "Approaches to urban low-income housing in the developing world" in Ingemann, D. (editor) *Metropolis in Ascendancy: Housing and Population*, Melbourne, Victoria Housing and Construction, pages 123-132.

10. See Soliman, A. (1988), "Housing the urban poor in Egypt: a critique of present policies", *International Journal of Urban and Regional Research*, Vol. 12, No. 1, pages 65-86; and Soliman, A. (1989), "Housing mechanisms in Egypt: a critique", *Netherlands Journal of Housing and Environmental Research*, Vol. 4, No. 1, pages 31-50.

rising costs of land are all obstacles to private developers' contribution to housing production.

The housing crisis described here is concentrated primarily in large urban agglomerations such as Cairo and Alexandria. The socio-economic and political developments at the national level had both overt and covert impacts upon Alexandria. The population of the city of Alexandria, the second largest urban centre in Egypt, is approaching the 4 million mark. The city accommodates 40 per cent of the national industry, 80 per cent of the foreign trade, and is considered the main summer resort, welcoming around 3 million people annually. The various impacts have led to several pressing urban problems such as inadequate provision of infrastructure and services (water and electricity supplies and sewerage systems), inadequate communication and transportation facilities, increasing land values, environmental pollution and the erosion of beaches, and the deterioration and shortages of housing.<sup>(6)</sup>

The housing problem in Alexandria grew to produce a deficit of more than 100,000 units in 1984.<sup>(7)</sup> An estimated 30,000 units will need to be built annually in Alexandria to the year 2005 to meet the needs of a rapidly growing population, to replace ageing housing units, to meet the current housing shortage and finally to house the people who are currently living in the shanty towns.<sup>(8)</sup>

The shanty towns allow the poor to have access to better quality housing through the filtering process, or effective demand, which is taking place among the urban poor in Egypt. The lowest-income groups first move into a shack or no-cost dwelling. As their economic situation improves, so does their location and dwelling, the latter changing from an item of consumption into a commodity or product; they can then participate in the housing market either informally or formally.<sup>(9)</sup>

Housing production in Alexandria, as in the rest of Egypt, may be divided into two distinct categories: formal or regulated (private/public) and informal/constrained/unorganized (mostly private).<sup>(10)</sup> Informal production, which has contributed around 68 per cent of the city's housing stock, takes two predominant forms, semi-informal and squatter housing. Semi-informal housing occupies unplanned areas outside the city's administrative boundaries or outside officially planned areas; the land is not occupied illegally but it is developed for housing with no official planning permission and without meeting legal sub-division requirements. Most of this type of housing belongs to a few private developers (who purchased their small plots from speculators) who own large tracts of agricultural land, or who have purchased land and sub-divided it illegally into smaller plots of various sizes.

Semi-informal housing constitutes 51 per cent of total housing provision and generally has shorter building times than other types. Construction is organized through small-scale enterprises, using labour-intensive methods of production and employing local non-standardized materials. The building process takes place in the absence of both official control and supervision by the local authority. Thus, many areas have no basic services such as water and electricity supplies and sewerage systems. The other kind of informal housing is found in squatter settlements which develop on illegally occupied public land generally in either the periphery of the city or in derelict areas. This constitutes 17 per cent of the housing provision, accommodating 15 per cent of the total population (see Table 2).

Housing built by formal or organized housing production may be

**Table 2: Recognized Squatter Settlements in Selected Egyptian Cities**

City	Total Population (millions)	No. of Recognized Squatter Areas	Total Population of Squatter Areas (millions)	%
Cairo	16.0	16.0	7.00	43
Alexandria	4.0	15.0	0.60	15
Helwan	0.3	7.0	0.10	33
Ismailia	0.7	6.0	0.15	22
Aswan	0.8	4.0	0.15	20
Suez	0.55	4.0	0.10	18
Port Said	0.60	n.a.	0.12	20
Tanta	0.50	n.a.	0.10	20

**Source:** Soliman, A.M. (forthcoming), "A tale of informal housing in Egypt" in Aldrich, Brian (editor), *Squatter and Slum Settlements*, Winona State University, USA.

divided into four different categories: state housing, cooperative, private, and slum areas, representing 32 per cent of the housing stock within the city. The figure for state housing is estimated at about 10 per cent of total housing production, split between public and government housing. The latter type is usually constructed by government institutions but not necessarily for low-income groups.

## III. THE MAIN FEATURES OF HAGAR EL NAWATEYAH

**THE RESEARCH ON** which this paper is based sought to assess semi-informal housing conditions in the settlement of Hagar El Nawateyah. Three kinds of information were gathered: an initial evaluation of the physical conditions of the settlement, an outline of the site's characteristics, and details of the social and economic conditions of the settlement's residents.

### a. Site Location

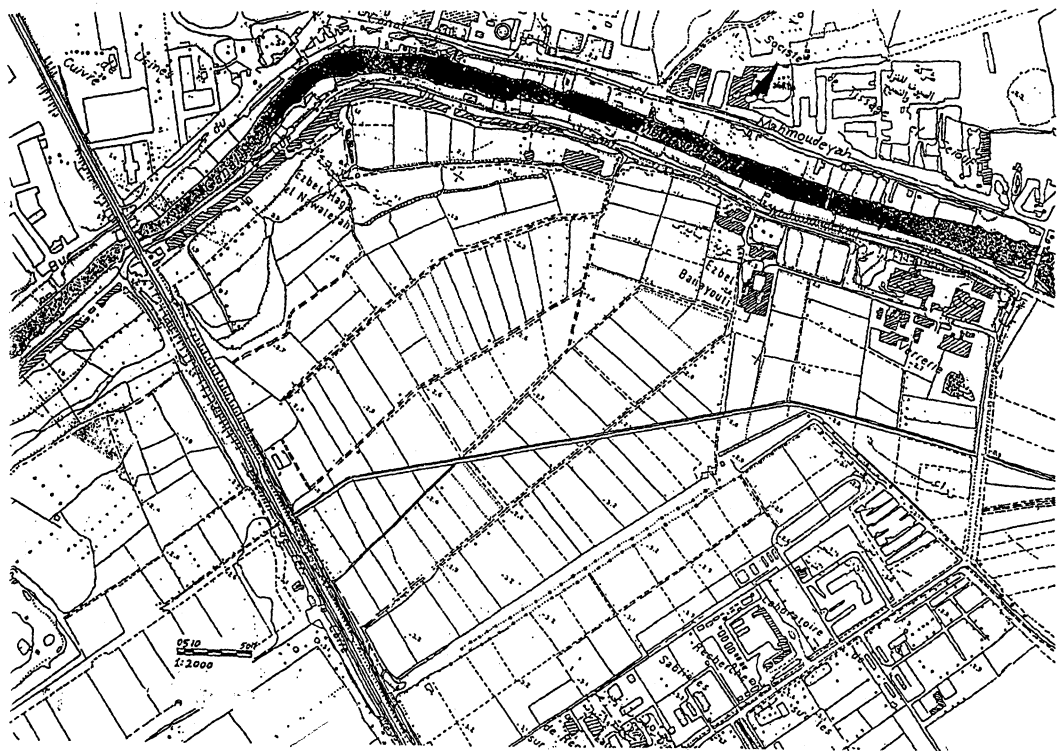
Hagar El Nawateyah was considered an appropriate area for a case study to examine the process of semi-informal housing development in Egypt (see Figure 1). It is located five kilometres south-east of Alexandria's city centre, covers an area of about 60 hectares and accommodates a population of about 16,000. The site is characterized by four major physical features: its location on a flat salt plateau, poor soil, a high water table and, finally, scattered agricultural fields. It has two clear physical boundaries: the canal to the north and west, and the railway track to the south.

The site was originally part of lake Maryout but was filled in over a period of years, converted into unused land and left neglected for more than 50 years. In recent times, some scattered houses and warehouses were built to accommodate a few people who were working for or had a connection with the state-owned Egyptian railway company. The buildings followed the main road adjacent to El Mahmoudayah canal. Later, the site was divided up and sold as agricultural land.

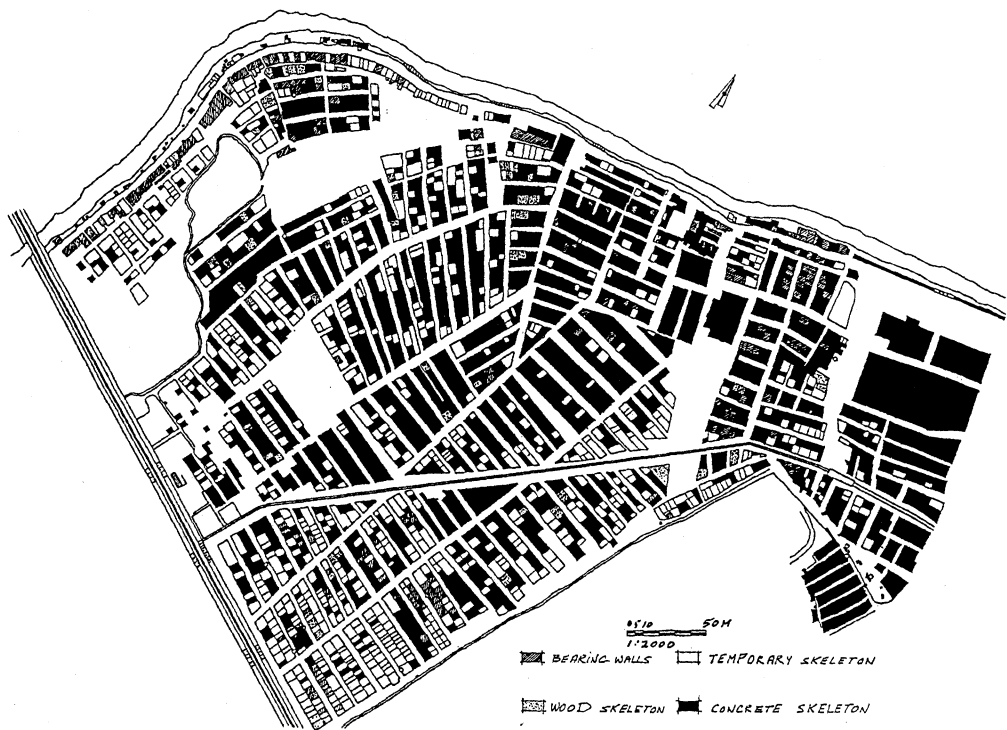
The settlement is connected to the city centre by poor public

Figure 1: Two maps of the site

*The original site of Hagar El Nawateyah before its development for housing*



*Hagar el Nawateyah showing the built up areas and the state of the buildings*



transport services and is surrounded by a variety of industrial activities. To the north, adjacent to the canal, lies a textile and spinning industry complex which employs more than 25,000 workers. Behind this industrial complex is El Zahereyah district, considered to be the most populated residential area in Alexandria. On the western edge is a copper manufacturing complex, employing over 15,000 workers. There are two main accesses from the city, Mahatet El Souk from the north and the old agricultural road from the south. A main road, adjacent to the canal, is the main artery leading directly to the settlement.

The choice of location for a semi-informal settlement is not random. A migrant to the city has various criteria for choosing where to live. The cost of land and the availability of reasonable shelter at an affordable cost are of prime importance. In interviews conducted with the plot owners, it was found that 50 per cent of the residents felt that this was the deciding factor in their choice of site. Thirty-five per cent claimed that the area offered cheap shelter, either as tenants or owner-occupiers, which matched their income level and their immediate requirements.

Second, the proximity of the site to job opportunities was a very important factor in their choice of location. Fifty-two per cent of the labour force work within or near the site.

Third, the unique location of the site, close to the popular districts where relatives or friends might be living, made it easier to find suitable or free accommodation for a temporary period and gave access to an immediate/reasonable income.

Fourth, the settlement offers access to basic services such as water and relatively cheap transport. Because the original site was developed for agricultural purposes, the availability of small water canals and the importance of El Mahmoudayah canal for water navigation have a bearing on the site's characteristics. The original, organized, unpaved roads or paths crossing the fields or connecting major roads all facilitated the rapid urbanization of the site. These paths served as divisions for residential areas by following the original agricultural field divisions and thus enabled the settlers to construct a clear site layout without consulting either the local authority or the agricultural reclamation authority.

According to the results of the interviews, other factors such as access to electricity or sewerage systems have only a minor influence on choice of location. Electricity is often obtained illegally, drawing from the nearest source, either public or private, a common process throughout Egypt's low-income urban areas. Most settlers believe that the local authority will connect their settlement to the electricity supply sooner or later, so services such as these have little influence on choice of location.

Thus, the development of a site such as Hagar El Nawateyah is determined by its ability to provide access to housing for low-income populations, and certain other desirable characteristics such as legality of tenure, access to job opportunities, access to shops, access to cheap transport and, finally, ease of integration within the metropolitan area. A key determinant of site development was not housing but the degree to which the site may be urbanized, adapting land from a non-urban or an agricultural function to a residential use.

### **b. Social and Economic Characteristics of the Residents**

The socio-economic survey suggests that there is a smaller propor-

tion of children below the age of five in the study area than in Alexandria as a whole. There is a greater proportion of five to ten year olds in the study region but a similar proportion of 10 to 15 year olds. Finally, the study area has a greater proportion in the 45-54 year age group within its population than Alexandria city, indicating that a high percentage of the migrants came to the site in their middle age, often with children. The migrants to the site account for between 60-70 per cent of the total population. Some migrants (20 per cent) usually move from inner city areas or from more populous districts, having been evicted from their dwellings, due to demolition threats or because of the poor environmental conditions. Others (50 per cent) come from the surrounding rural areas searching for job opportunities and a better life. Upon arrival in the city, they usually acquire a shelter at no cost.

There are several reasons for the differences in age structure. First, the settlement has only been established for 25-30 years and does not have a fully developed second generation yet. Second, some people prefer to move to the urban area at an early age. This is indicated in the 20-25 year age group where there is a big difference between the settlement and the city. Both this age group and the 25-30 year age group are considered to be those when most migration takes place according to the residents. Third, there is a higher mortality rate in the study area than in the city due to the high incidence of disease within the area. The most widespread diseases are infections transmitted by human faeces. They spread easily in the area because of the lack of sanitary facilities and a scarcity of clean drinking water. The very high death rates among young children, combined with a relatively high birth rate (compared to the national level) mean that a tragically large proportion of the deaths in the area occur among children under the age of five (around 55 per thousand annually).

Over 46 per cent of the inhabitants are illiterate. Most of the residents grew up at a time when there were only limited opportunities to attend school, or they are migrants from rural areas or have moved from deteriorated inner city areas where there were few schools or have little money to pay for education. However, because the area is adjacent to the most highly populated residential area in the city where education facilities are available, a high percentage of children (35 per cent) are in primary education. But only 16 per cent attend secondary schools and technical colleges and 3 per cent university. About 50 per cent of young people leave school after their primary education. Despite the fact that education is free, the poverty of some parents prevents them from sending their children to secondary school, either because they cannot afford the extra costs required or because they need the children to contribute to the household's income.

It is interesting to note that the settlement has a higher percentage of married couples (90 per cent) than the city. This indicates that their fertility is likely to be the highest of any sector in the city. This is because 50 per cent of households come from rural areas, where large families are preferred, thus increasing the fertility and/or birth rates and resulting in a greater number of children in this site compared to any other sector in the city. In addition, the settlers seem to favour large families as the children can work from an early age and contribute to household income.

Divorced and widowed people represent about 0.3 and 3 per cent of the population respectively, a much lower figure than for the city of Alexandria (1 and 6.4 per cent respectively) and for the squatter areas

11. See reference 7.

(5.5 and 6.8 per cent).<sup>(11)</sup> The proportion of single person households is comparable (6.7 per cent); these people occupy single rooms without services, or stay with relatives or friends while looking for their own accommodation and possible employment.

There are several policy improvements which might help with the main problems in the settlement. These may be grouped into the areas of population, health, education, family planning and location of social facilities.

First, the widespread provision of basic preventive and curative medical services and the provision of low-cost health care are essential. The reduction in the incidence of disease comes with improvements in sanitary conditions and nutrition and with changes in individual health habits.

Second, the low educational levels have to be taken into account when developing policies, by simplifying the implementation methods as far as possible in the short term so that they are understandable by the residents. In the long term, adult literacy programmes and the provision of primary and secondary schools are essential within the study area.

Family planning, a third possible area of policy intervention is associated with the previous two. Educated people are more likely to have lower fertility rates because they are generally more willing to accept new ideas such as the use of modern contraception and family planning advice. It is well established that higher levels of education tend to be associated with lower fertility levels.<sup>(12)</sup>

A fourth area of intervention is suggested by the observation that accessibility to social services is the core of the first three key issues. The location of social facilities close to, or preferably within, the study area is essential.

Finally, the most important key issue of policy intervention shaping the course of development of the study area is the issue of human resource development. The appropriate programme of housing provision will depend on the situation in individual semi-informal housing areas and will need to consider the potential and constraints of its population.

12. See Boulier, B.L. (1977), "Population policy and income distribution", in Frank, C.R. (editor), *Income Distribution and Growth in the Less Developed Countries*, Brookings Institute, Washington DC; and Anker, R. (1978), "An analysis of fertility differentials in developing countries", *Review of Economics and Statistics*, Vol. 60, No. 1, pages 58-69.

## IV. THE MECHANISMS OF CONVERSION OF AGRICULTURAL LAND

**THE TRANSFORMATION OF** land use in the study area was examined in order to highlight the methods by which the study area changed its original function, and to investigate the reasons and circumstances which led to current usage. The following section identifies four aspects: land acquisition, the process of conversion, stages of growth and, finally, tenure choice.

### a. Land Acquisition

In the early 1960s, the Egyptian government began a programme of nationalization of the country's assets. Under the Agrarian Land Reform Law of 1961 significant changes in land ownership were introduced, economic power was taken away from the traditional land holders and the ownership of Egypt's fertile land was spread across a wide section of society. Consequently, in 1963, Ezbet Banyouti, a part of the site, was taken over by the government, and the land status



13. Egypt had been engaged, for at least five years, in a civil war in the Yemen in order to participate in the Arab National Liberalization Movement; this seriously affected Egypt's national resources.

changed from private to public.

After the crisis in the Yemen in 1963,<sup>(13)</sup> the local authority allowed people returning from the Yemen to be housed in Ezbet Banyouti awaiting allocation to a more appropriate residential area. In 1965, some small private industries were set up, such as glass and tile-making, and between 1965 and 1975, housing production in Ezbet Banyouti accelerated. In 1977, ownership of the site was controlled by one landlord, who soon sub-divided it (illegally) and sold the plots to newcomers. The change of ownership from private to public and then back to private left land tenure in doubt and attracted invaders to the site.

The early stages of land settlement were organized by the government and later taken over by the private landlord. The government, at one time and under certain circumstances, acquired the whole site which encouraged its development and at the same time encouraged landlords to illegally sub-divide their large plots into smaller ones. More recently, the government has helped the settlers in the installation of various services such as water and electricity supplies. In addition, the local authority has given the settlers moral support through providing some educational facilities, giving the residents *de jure* recognition. Furthermore, the government played a covert role in changing the land use pattern of the site by erecting some scattered buildings, thus encouraging the settlers to do the same whereby they purchased small land plots from illegal developers. The site therefore combines *de jure* and *de facto* recognition, which has accelerated and supported housing construction and encouraged many people to rent housing units on the site.

### b. The Process of Conversion

As discussed earlier, before its transformation for residential use the land was used for agriculture. The process of conversion went in several stages. Originally, the inherited agricultural land was owned by handful of private owners but, after nationalization and the land reform law of 1961, the land was transferred to the government and distributed to smaller landlords with a maximum area of two hectares (five acres) per household.

The landlords who either inherited the land or acquired a plot from the government then rented their plots to peasants for farming purposes. Because of changing economic conditions and accelerating inflation during the mid-1970s, the landlords preferred to sell rather than rent out their land. Agricultural and residential activities took place side by side, and farming activities and conditions became difficult and non-profitable.

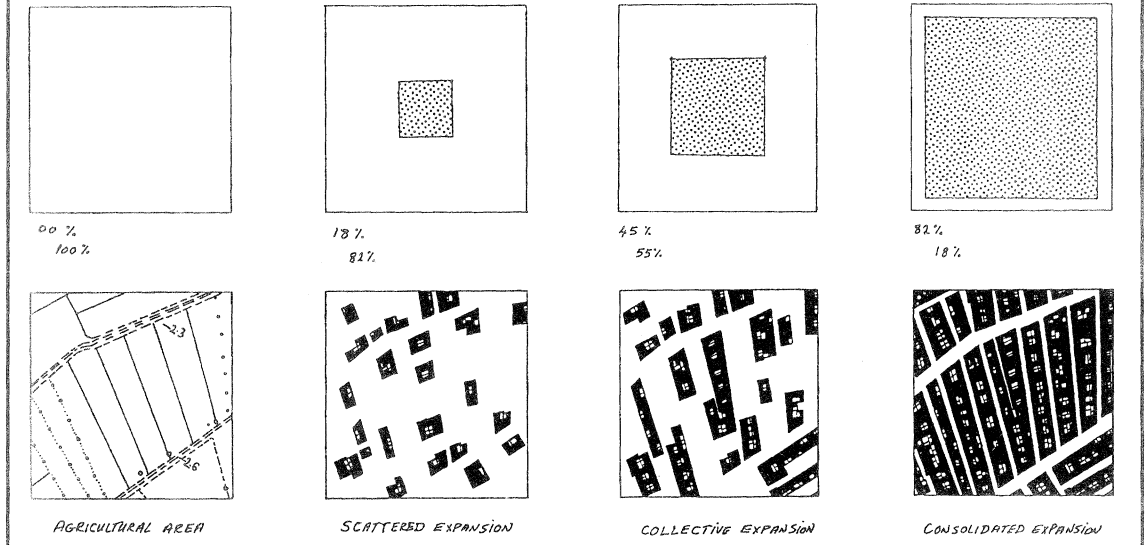
Increasing urbanization in the country and a growing shortage of housing within Alexandria encouraged speculators to buy large tracts of agricultural land on the periphery of the city. The first low-income settlers, found security in owning their own lot on which they could build their own dwellings. With the increased demand for agricultural plots for housing, land prices rose and speculators bought large plots in desirable areas. Housing construction took place and housing consolidation increased. Sub-divisions were organized by the landlord and often carried out with the help of university students. Typically, allocating a plot of land to a private buyer would take between two and three days with a contract between the parties agreeing terms for down payments and credit. Over a period of ten years the whole site was sold and the area was consolidated. Some

of the settlers resold their plots to newcomers and others engaged in speculation.

## c. Stages of Growth

The settlement process in this semi-informal residential area is characterised by three stages of growth: scattered expansion, collective expansion and consolidated expansion (see Figure 2).

**Figure 2: Stages of Growth in Hagar El Nawateyah**



Scattered expansion started with government intervention in the early 1960s when some buildings were erected for railway workers. These buildings were spread along the main road adjacent to El Mahmoudayah canal bank. Small warehouses and workshops were built in the north-west of the site, and the Saline and Alkaline Research Institute was built on the northern edge. Some rooms were built close to the railway tracks to house railway inspectors.

Collective expansion began with the erection of an industrial sewerage line which crossed the site from west to east (and can be seen in Figure 1). This provided a shortcut across the fields from the railway track to El Mahmoudayah canal and was soon looked upon as a main public service road, becoming a major "spine" for residential development. People were encouraged to build on both sides and the line soon became a suitable path to and from their dwellings. The residents considered this line as the first step towards permanent settlement, and more buildings were erected on vacant lots close to accessible paths.

Two forms of consolidated expansion took place. First, as the settlement's potential was recognized by speculators, more illegal land sub-divisions took place and more buildings were erected. The demand for apartments rose and small developers and contractors started to build more houses. The site became valued as a new residential area for low-income groups offering an alternative to crowded inner-city rented flats. The low land prices (compared to land closer to the city centre), the availability of vacant land with access to various facilities, and increased job opportunities have all encouraged a growing number of people and speculators to invest in

housing construction. This has helped a substantial number of low-income groups change their status from tenant to owner-occupier.

The second form of consolidated expansion is vertical expansion. With increasing land prices and building material costs, new storeys have been added to existing buildings according to the resources of each household and the needs of the owners.

At present, the groups with the lowest income have been pushed towards areas liable to constant flooding. Access to affordable land has become a problem for a number of reasons. First, the combination of demographic growth and sub-urbanization has used up most of the vacant land. Second, the commercialization of the site has meant most owners have become aware of the market value of their land and have realized that the process of urban land conversion is a highly profitable business. Third, commercialization has encouraged the process of land and housing speculation. The housing shortage means that low and middle-income groups have no alternative but to squat or acquire land in a semi-informal residential area such as Hagar El Nawateyah. The latter process became familiar in Egypt, especially after the reduction in support for public rental housing, replacing it with support aimed at owner-occupied housing. This change in state housing policy is due to the lack of government funds for meeting the growing demand for state rented housing. The government has reserved the tenant dwellings for people whose buildings have collapsed or for recently married couples; most of these people are on a waiting list, and it can take 10-20 years for them to obtain a dwelling on a rental basis.

#### **d. Housing Tenure in Hagar El Nawateyah**

During the 1970s and 1980s the emphasis of government policies shifted from producing rented housing for low-income groups to encouraging a rapid increase in the rate of owner-occupation. This occurred despite the fact that housing components became expensive for low-income groups. It is not certain how rising costs of land and building materials affected tenure choice among the poor, but there were three options available: squatting on public land, purchasing land in semi-informal housing areas, or purchasing a state land plot in newly established organized/regularized areas.

The last choice is not an affordable option for the poor. Formal housing processes are long and complicated and final unit prices are too high for lower-income groups. Lengthy bureaucratic procedures also affect the annual rate of housing completion resulting in housing provision which does not keep up with the population growth rate. Thus, the increasing housing shortage and a lack of suitable accommodation for the poor have left them with no alternative but to either squat on public land or to purchase a piece of land in a semi-informal housing area.

In the case of organized areas such as site and service and upgrading projects, the time span and official procedures involved are slightly less lengthy and complex than with formal housing projects, but the consequences are similar. In contrast, however, the housing process for individual households in the study area was initiated remarkably fast (ie within a few days). The speed of official projects will never match that of semi-informal housing areas.

Hagar El Nawateyah has offered opportunities to the urban poor to become owner-occupiers: a survey showed that 82 per cent of the sample was owner-occupiers and only 18 per cent tenants. Faced

14. Gilbert, A. and P. Ward (1985), *Housing, the State and the Poor: Policy and Practice in Three Latin American Cities*, Cambridge University Press, UK.

with higher prices, settlers would choose to buy a smaller plot even if this means tapping an illegal or semi-legal market, an observed fact both in Hagar El Nawateyah and in other Third World countries.<sup>(14)</sup> Another response to increasing prices would be for settlers to pay more for securing a plot of land for housing and take longer to build and consolidate their homes.

### V. CONCLUSIONS

**HAGAR EL NAWATEYAH** illustrates two phenomena: the process of agricultural land conversion and the important contribution that semi-informal housing makes to housing production. Land conversion has proved a great loss at a national level through changing fertile land to another use, thus reducing the per capita share of agricultural land in the past two decades. On the other hand, one has to acknowledge that the semi-informal market has contributed to increasing the housing stock in Egypt, offering a potential solution for housing lower-income groups. The potential and possibilities of this market should be investigated to try and gain maximum benefit from it.

There are lessons to be learnt from Hagar El Nawateyah. First, despite the fact that 82 per cent of residents are classified as owner-occupiers, these residents have added storeys to their dwellings, increasing the availability of rented accommodation for newcomers. Therefore, the site has offered accessible land at affordable prices, thus increasing the availability of housing units for rent at reasonable rates to the urban poor. Second, the residents have demonstrated that they are able to plan their own area and accelerate housing production without government or professional intervention. Third, the mechanism of land allocation, the methods of sub-division and the commercialization process have all shown the importance of the private developer in providing land plots at a reasonable price. Fourth, the site illustrates a real response to housing the urban poor, and an alternative approach to sites and services programmes, which offers residents more opportunities in constructing and consolidating their houses. Fifth, the experience of Hagar El Nawateyah shows that the users manage to formulate informal local planning conventions (people agreed among themselves about certain rules such as physical and social rights) on where and when to carry out the production of housing. Finally, the site indicates that the settlers, together with the private developer, obtained the highest performance with the lowest housing cost.

It is hoped that this study will help attract more attention to the process of semi-informal housing production in Egypt, in order to increase housing provision at a reasonable price for the lower-income groups. The government should allocate suitable locations for such housing types in order to conserve agricultural land and to control such spontaneous growth on the peripheries of urban areas.