Housing Generated By (Re)generation Egyptian experience

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Abstract

Needs and life cycle have an important impact on housing communities opposite/matching generations vision, era and concepts. It can be recognized as a broad term that covers many aspects shaping communities. For example, it generates collective local images, which might be passed from generation to another for conductivity.

The scope of housing communities, as being a form, is reshaped and reformed over ages. Different state policies may result different urban growth patterns. Since communities sometimes copes and adapts with its people and some times not, the main objective is to strengthen the relationship between the need and form.

The study aims to understanding: (1) the users' needs, (2) the combination of youth and elder (household composition) in the social pattern and how this mixture affects the development of housing communities, (3) housing for low-income versus housing for high-income and how the variety may lead to growth and regeneration, and (4) the different scenarios of plots or dwellings housing and how these scenarios can regenerate the image of housing community over time (case study).

This paper discusses the impact of generation and regeneration on housing communities with special reference to concrete examples and cases. The methodology consists of three main parts, first defining key items of life cycle and life needs occurred within selected communities as a result of surveys and interviews in housing communities. Second the paper will analyze the interactive relationship between housing policy, the achievement goals and mobilizing the housing sector to act in the right track. Third, key changes will be highlighted that affected the communities according to time, image, regeneration, and the corresponding outcomes. Finally, the paper concludes a proposal of how housing communities can be regenerated.

0. Introduction

This paper aims to discuss new interpretations for the regeneration concept in urban/social growth and development.

0.1. Re-generation, regeneration or (re)generation

While the term regeneration may mean in its wide sense a new birth or a reproduction, we here after refer to such a concept by using a dash between the prefix (re) and the word (generation). Such way of writing emphasizes on the meaning of successive generations replacement. Although generations are not alike in their visions and dominating culture, it can be mentioned that they are similar in their physical needs, specially the need for housing.

The word (regeneration) means in inner-city development, the improving of poor or run-down area by a programme of investment in areas such as infrastructure or housing (Webster, 2004).

Now, we mean by (re)generation the development of new cities using a variety of housing schemes. Housing (re)generation in new communities is a major strategy for correct development coping with re-generation variables.

0.2. Process and feedback

Again, the word regeneration implies a multiplicity of meanings. It can be looked at as a process and in the meanwhile as a feedback. A typical process consists of inputs, outputs, an operation and a feedback. Inputs for the process are life cycle, housing needs and state policies. Outputs are commonly informal housing, city growth and old parts deterioration and the emergence of new cities and settlements. Each of the housing outcomes must be dealt with differently. The different approaches of the feedback will be discussed later in this paper. Figure (1) briefly summarizes the re-generation process.

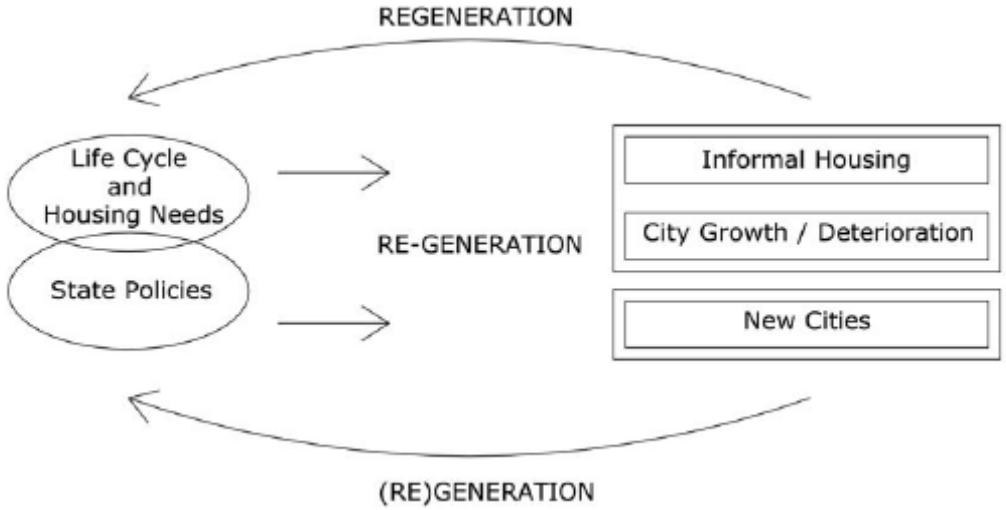

Figure (1) Re-generation, Regeneration or (Re)generation.

Source: The author

1. Life cycle and Housing Needs

1.1. Household Multiplication

For Cairo as a whole, there is a steady stream of young people coming from cohorts born some time ago who age one after another into that stage of the life course where they will marry, start families of their own, and form new households. We term this continuous driving force at the societal level, "household multiplication" (Shorter, 1989). Every adult Cairene knows that one of the consequences of household multiplication is a "housing shortage". It is impressed upon them by the economic constraints they feel. They must find the income and gather the personal capital to support the life passage of their children to marriage, which usually means from the household of parents to residence in a separate household. Or the children themselves, particularly the males, have to find these resources. The old built-up areas of Cairo cannot provide the space to live that new generations of Cairenes demand.

1.1.1. Generation by Generation Replacement

If each generation only replaced the former one, and if the new couples could immediately take over the dwelling units of their parents, there would be no need for additional housing and even the number of households would not increase. Such a simple process can exist only in societies where the parents die young, not in Cairo

society where the length of life long ago rose to levels that make sure that many parents will live to become grandparents.

Two major reasons stand in the way of simple one-to-one household renewal. First, there is more than one new family; the next generation to succeed each family in the present one, so one dwelling unit is not enough. Second, the system of living in the parents' household and planning to take over the dwelling unit later in life runs into limits. One is the time between the marriage of children and the dissolution of the older couple's household when precipitated by death or separation. Small flats of one, two, or at most three rooms can make joint residence by two generations intolerable after a while. Furthermore, the younger generation may demand and expect to have independent household space from the start.

1.1.2. Transitions to Independent Households

A relevant study looked into the transition from home to separate residence by young people when they marry (Zurayk and Shorter, 1988). The research problem was how to use the "snapshot" provided by a cross-sectional survey to learn whether newly-married couples stay in the homes of their parents (one of the homes), or establish new, separate households, and how long it takes before the split occurs if it does not happen at the time of the marriage. The study looked at the type of household in which couples lived after marriage, cross-classifying them by the number of children they had borne.

The results show that about one-third of Cairo couples start married life with parents (Table 1). As children are born, the number remaining with the older generation declines. If it is possible by temporary emigration for work or other means to accumulate enough resources, the split eventually occurs. The proportion of couples remaining with parents declines from 32 percent to 20 percent by the time there are 2 children and continues to decline thereafter. There is, on the other hand, some joining by sisters and brothers, or aunts and uncles, so that 20 percent of couples still do not live entirely alone with their children.

Number of children ever born	With parents		Other relatives	No one else	All	N
	Both	One				
0	22	10	4	64	100	102
1	19	6	7	68	100	176
2	10	10	7	73	100	149
3+	7	6	7	80	100	156

Table (1) Proportion (percent) of couples living with parents or grandparents by number of children: Cairo, 1980.

Source: Household member lists of 1980 EFS for Cairo (Shorter, 1989)

Another part of the story is the settlements where newly married people can go to live without doubling up; e.g., in Manshiet Nasser less than 10 % of the newly married live with parents. We also know from ethnographic work that the ambition to have separate housing was strong during the 1980s, because it was believed to be possible.

The advent of the migration opportunity to bring money back from the Arab countries has certainly changed expectations, if not always what could be accomplished (Shorter, 1989).

1.1.3. Measures of the Household Multiplier

The number of couples who will appear in the next generation relative to the parent generation is measured by the net reproduction rate (NRR). This rate is the number of daughters per mother who survive to adulthood to form their own families. The level of the NRR depends upon the level of fertility and mortality up to the mean age of childbearing. Maximum NRRs are reached when mortality rates are low and fertility is high. At the beginning of the 1960s, the prevalent fertility and mortality conditions produced a net reproduction rate in Cairo of approximately 2.0. Such a rate gives rise 20 to 25 years later (at the time of marriage for the birth cohort) to 2 new families for every family that existed in the prior generation. If all the new families were to set up independent households, each parent household would multiply to become 3 households, its own and the 2 new ones. That, however, is not quite what happens, because the parents do not survive forever, and there is some doubling up within their lifetimes as well.

Adding to the intergenerational demand for additional dwelling units are two more factors: the lengthening of life that keeps older couples and their households intact longer, and the arrival in Cairo of migrants to form additional households in Cairo. The actual multiplier for new household formation (additions minus dissolutions) between 1960 and 1985, which is approximately the time span of one generation, was close to 2.0. We find this multiplier by noting that the number of households in Cairo increased from 1,000,000 to slightly over 2,000,000 during that period.

Since a primary determinant of the rate of household multiplication is the net reproduction rate (NRR), its trend is a crucial determinant of the level of household multiplication to come in the future. The NRR was 2.0 in Cairo in I960 and declined to 1.6 by the early 1980s. The NRR has time-lagged consequences, so the beneficial effects of this decline are paced 20 to 30 years later- when the children born under those conditions reach the life stage of marriage. That is to say that Cairenes are living in the 1980s with the consequences of multipliers from the 1960s, and the 1980s multiplier is the effective one in the housing market nowadays.

1.1.4. Economic Considerations

Almost as important as the demographic sources of demand for new housing units are economic conditions. They influence the multiplier by putting a "price" on having an independent household and by determining affordability from the buyer's or renter's point of view. Economic constraints may force delays in marriage while the struggle to accumulate resources for a room or a flat goes on. Or the constraints may persuade parents and the new couple to co-reside. The quality of housing is also affected. Accepting less quality is one way to achieve affordability. During the relatively good economic years of the 1970s, which extended for some into the early 1980s, quality may have improves. Along with some new families doing better, the standards that young people expect to meet may have also risen. However, with the recession in employment and real earnings in the 1980s, these trends may well have been stopped.

1.2. Aggregate Demand for Housing

It is important to understand the broad trends that shape the demand for housing in Cairo. Population growth in Cairo has been particularly rapid for several decades from 3.8 to 3.9 % per year.

In evaluating the pressures for housing construction created by these population changes, it is important not simply to disaggregate the changes into those caused by natural increase and migration, but rather into behavioral units more fundamentally related to demand pressure in the housing market; namely, household formation, net immigration, and moves from one dwelling to another by the established (non-migrant) population. Newly formed households, immigrants, and moving established households may create quite different kinds of demand pressures because of differences in incomes, wealth, family sizes, or location preferences. Each group may choose different types of housing, different areas in the city, and different tenure patterns.

The housing stock has increased at a rate sufficient to meet the demands of both immigrants and newly formed households over the past decade. Indeed, in Cairo, recent increases in the stock have permitted a sizeable number of already formed households to move and a growth in the number of vacant housing units (to about 5.5 percent of the occupied housing stock).

Case study and in-depth interviews have tended to confirm the apparent anomaly of a large and possibly growing housing surplus during a time of widely perceived housing shortages. In study areas around Cairo, reasons advanced for high vacancy levels were that (1) many vacancies are in luxury buildings with prices far beyond the reach of even relatively well-off Egyptians; (2) vacant units are being held by some speculator-owners in expectation of higher future housing prices; and (3) empty units are being held by some owners for future occupancy for married offspring. Each of these explanations constitutes in a sense an expression of an investment demand for housing that goes beyond a demand for housing use. In each case, examples were heard of how the future rather than the present sales or rental price was the relevant motivation for construction and for holding units off the market. Housing costs and rentals have been rising so rapidly that investment in housing which is not immediately placed on the market appears capable of providing some owners with higher rates of return than investment in housing which is leased immediately. Moreover, repatriations from abroad appear to have a high propensity to be directed into land and housing investments; given the rate at which such repatriations have been increasing, a substantial part of the recent surge in construction in Cairo must be attributed to the pressure of households with repatriated earrings in search of appropriate investments.

Regardless of the sources of rapid housing stock and vacancy increases in Cairo, it is clear that that they are not confined to the luxury housing market. Recent construction has been overwhelmingly informal. Moreover, it appears that housing vacancies are more heavily concentrated in highly informal areas than in formal areas.

Thus explanations for the apparent housing shortage must be sought elsewhere than in a simple mismatch between the number of households and the number of housing units.

1.3. Unsatisfied Demand for Housing?

It is presumed that in the face of an alleged housing shortage households will modify their housing consumption patterns to accommodate the squeeze imposed by the marketplace. Ways in which this might occur are by "doubling up," in some cases by maintaining extended, intergenerational families rather than splitting into nuclear families, and in other cases by subletting rooms to non-relatives; or by allowing interior densities to increase rather than by moving to larger accommodations or expanding existing ones. If such accommodations are necessary one might expect to find a high incidence of expressed dissatisfaction with housing. Thus one way expect to find evidence of "unsatisfied demand" either in quantitative measures such as the incidence of extended or intergenerational families, subletting, or interior densities (e.g. persons per room) or in the expressed opinions of households about their housing.

1.3.1 The Incidence of Extended or Intergenerational Families

Households were classified on the basis of relationships among household members. Four categories were established, nuclear (single individuals or couples living alone or with their unmarried children); intergenerational (families with married children present), extended (families with adult relatives but without married children), and intergenerational-extended (families with both married children and other adult relatives). The distribution of these household types among formal and informal households is given in Table (2). There are no significant differences in household types between formal and informal households. Nuclear families dominate family structure. Evidence is not strong of market-imposed doubling-up in the form of maintaining other than nuclear families. While Cairo is alleged to have a serious housing shortage, Cairo has no higher incidence of non-nuclear families. Furthermore, there is only a modest association between family structure and income (82 % of Cairo households below the median income are nuclear families but 87 % of above median income households are); were households modifying family structure to accommodate to market conditions, one might expect to find a greater difference in family structure between households "forced" to accommodate and those able to afford not to.

Household Type	Formal	Informal
Nuclear	83.3%	85.2%
Intergenerational	6.3%	4.8%
Extended	7.6%	6.3%
Intergenerational-Extended	1.0%	1.6%
Missing (unclassified)	1.8%	2.0%

Table (2) Distribution of Households in Cairo by Household Type (Percentage)

Source: GOHBR, 1982.

1.3.2 Subletting

Subletting in many countries takes the form of renting to unrelated individuals within a dwelling unit. In Egypt, this practice is not common. In Cairo, only 1.0 percent of households report subletting within their dwelling. As is the case with family structure, there is only a modest negative relationship between the incidence of subletting and income, indicating that few households have been economically forced to accommodate to housing shortages by subletting within their own dwelling units.

1.3.3. Space Consumption

Space consumption may be measured in two principal ways: the number of rooms in a family's dwelling unit and the number of persons per room. The number of rooms is an absolute measure of the space available to the family, while persons per room is a crowding measure which varies with the size of the family.

Previous research has suggested that space consumption in Egypt and in Cairo in particular has increased moderately over the past two decades. Wheaton (1980), for example, cites CAPMAS data which indicate that the number of persons per room in Cairo declined from 2.3 in 1960 to 2.0 in 1966 and 1.9 in 1976.

The median unit size of sampled households is three rooms, regardless of whether a household is in the formal or informal sector, an owner or renter. Mean numbers of rooms vary somewhat. Owners have about 20 percent more rooms than renters in each city. Formal and informal households have comparable numbers of rooms in Cairo. These figures are in line with the norm established by the Egyptian government policy, which declares that a family should have three to four rooms in its dwelling (GOHBR, 1982).

The most important determinant of space consumption is family income. As owners' incomes increase from the lowest to the highest income quartile, mean rooms increase from 3.3 to 4.4. Among renters the increase in rooms from the lowest to the highest income quartile is from 2.5 to 3.8.

The number of rooms is affected less by family size than by income. While larger families generally occupy somewhat more rooms than do smaller families, the difference is far less than proportional—indicating that crowding (in terms of persons per room) increases rapidly with family size.

While the incidence of crowding, in terms of persons per room, does not appear to have been increasing over time, it is clear that among low income groups and large families, crowding is acute (GOHBR, 1982).

2. Housing Policies in Egypt

2.1. The Fifties

Till the beginning of fifties, the housing units supply was mainly the responsibility of private sector, where the supply was much greater than the demand. The break out of July Revolution was a monumental turning point in the history of Egypt. Major social and economic shifts in the Egyptian society had occurred, the matter that affected housing greatly. One of the six prime goals of the Revolution was the establishment of social justice, by paying care for low-income.

2.1.1. Broad lines for the state policies

The state had witnessed in this period the wide construction of low-cost housing. The government had built about 56,000 housing units for low-income groups, like Hadayek Zeinhom project and the 1000 houses on Ismailia Road. The government had tended also to construct another type of housing in that period; housing for industry workers. Housing units were built for workers nearby main industrial centers constructed by that time.

In 1954, the government gave more support to the construction of low-rise houses (2 storeys) for low-income groups, a 1020 housing units were constructed in Helmyat el Zeitoun in the north of Cairo, and a 1200 units in Helwan. Since 1956, The government was oriented to the construction of economic residential walk-up buildings consisted from 4 or 5 floors.

2.1.2. Laws of housing rents reduction

In the framework of achieving social equity between different nation groups and classes, the State had issued a series of laws; the most important of it were laws concerning rents reduction (Shahin, 1992). Law no. 199 of 1952 stated rents reduction by 15% for buildings constructed between 1944 and 1952 (Morcos, 1959).

First Agrarian Reform law no. 178 of 1952, limiting maximum land ownership to 200 feddans per person and 300 feddans per family (Essam El-Din, 2002), produced a transformation for the investment from agricultural property field to real state field in that period (Nazmy, 1993). However, law no. 55 of 1959, reducing housing rents by 20 % for buildings constructed after 1952, caused a recession for the private sector activities in the house buildings, which produced a shortage in housing units by the year 1964.

In the late fifties, the Reconstruction and Public Housing Company was oriented to adopt the ownership transfer system, the fact that produced an expansion in this type of tenure later on. The main objective of the company was to provide housing units for low-income groups because private sector was mainly concerned with moderate and luxury housing. The company had built three housing prototypes: public, industrial and investment (NCSCR, 1985).

2.2. The Sixties

The housing problem appeared clearly in the middle of sixties. A shortage in the supply of housing units evolved since the early sixties.

2.2.1. State Housing Plan

The State hadn't initiated a defined housing plan but in 1960, by the introduction of the first Five Year Plan where urban housing was allocated 89.000 units (60 % for Economy Type). Engineering Agencies in different governorates had prepared various housing prototypes as be applied by the State in many projects. (Rihan, 1999).

The sixties period was characterized by the State intervention in building economy housing due to the orientation of private sector to invest in luxury housing. When the construction of Nasser Emergency Housing was achieved, 10.000 public housing units were available by the price of £E 500 /unit. Thus, appropriate housing with subsidized rents was accessible for low-income groups (Rihan, 1999).

2.2.2. Laws of Housing Rents Control

Again, the State seeks to define the relation between the owner and tenant by issuing a number of laws to define the rental value instead of leaving rent subject to demand and supply. Law no. 46 of 1962 defines the rental value on the base of 5% revenue of land value and 3% revenue of building value (Rihan, 1999). Moreover, the

government had issued Law no. 7 of 1965 that includes the decrease of rental value by 35% for places subject to Law no. 46 of 1962 (Shahin, 1992).

This policy concerning rent control caused another investment recession in housing, especially for the private sector. In 1959, investments were less by 50% than in 1956. In 1962, investments were decreased by 42% than in 1959 (Mohie El Din, 1982).

2.2.3. Quantitative Shortage in Housing Units

From the beginning of sixties, there appeared a shortage in the supply of housing units. An average number of 30.000 housing units/year was constructed only in years 1961-1972. This was due to State conditions during Yemen War and 1967 War. These wars had polarized the greater part of State budget and caused an important decrease of available resources for housing and services (Menshawy, 1988).

2.3. The Seventies

In the middle of seventies, housing problem achieved its maximum peak, represented as a great increase in the production of moderate and luxury units versus a severe lack in economy units appropriate for the major sector of population (Rihan, 1999).

2.3.1. Unplanned Open-door Economic Policy

The decade (1973-1983) witnessed great changes in building and construction means. The government was oriented to mass production and opened the markets for European and American companies as suppliers of machines and equipment for building and construction. Importing basic building materials like cement and reinforcing steel was also adopted in the aim to minimize the gap between supply and demand in the field of housing. In the framework of open-door policy, large-sized contracting companies reappeared again. Most of these companies had the trend of investing in moderate and luxury housing with the aim to achieve a quick high profit. That fact caused the decrease of economy units (NCSCR, 1985).

The open-door economic policy had negative results that contributed to the raise of housing units prices greatly due to:

- Qualified labor shortage caused by the unplanned immigration to Arab countries in addition to the great demand for labor due to the need for reconstruction of Suez Canal region. This fact caused the increase of labor wages to levels that weren't appropriate with income rates and market requirements in addition to the decrease of productivity qualitatively and quantitatively (Rihan, 1999).
- Increase of building materials prices and construction costs (Rihan, 1999).
- Increase of housing units' prices due to the raise in building plots prices, labor wages and building materials after the 1973 war.

The increase of the prices of housing units and building plots caused agrarian land creeping to build on it. Agricultural lands were cheaper than building plots. Subsequently, many agricultural lands were transformed to informal areas without planning or services.

Since the beginning of 1978, the state was oriented to construct new cities to minimize the severity of housing problem in metropolitan and big cities. 10th of

Ramadan, 15th of May (1978), Sadat (1979), New Ameriah (1980) and 6th of October were just few examples of new planned cities.

2.3.2. Housing Legislations

The State had issued several laws that produced some kind of balance between owner and tenant. Law no. 49 of 1977 and law no. 136 of 1981 had the aim to define the investment profit on the base of 7% revenue of land value and 3% revenue of building value in return for capital consumption, maintenance and management (instead of 5%, 3% respectively).

It is noticeable that these laws hadn't fulfilled the balanced relation between owner and tenant but it was oriented to realize tenant benefit against owner profit, which caused the tendency of owners to adopt illegal ways in the aim to obtain a compensation for their losses, and the averse of owners to invest their money in housing sector, to avoid problems and troubles, which caused the decrease in supply of housing units (Khlousy, 1988).

2.4. The Eighties

In the eighties, housing sector in Egypt had witnessed major achievements whether in providing housing units, in developing infrastructure facilities or in supporting construction policy. These acts aimed to minimize problems facing housing sector since the seventies due to unplanned open-door economic policy.

2.4.1. The Gap between Supply and Demand

In Eighties, the housing problem in Egypt was latent in the increase of gap between supply and demand, due to units supply shortage both quantitatively and qualitatively. In the beginning of eighties, the supply was increasing by 1-3% per year, while the demand was increasing by 8-10%, which produced a raise in population density as well as decline in the level of houses and services.

2.4.2. State Plan in the Eighties

2.4.2.1. The first Five-year Plan (1982-87) Implementation, facing demand for housing

- The first 1980s five-year plan (1982-1987) aimed to construct about 800,000 housing units in urban areas: 55 % economy, 37 % moderate, 8 % luxury units.
- The private sector constructed about 76% of total implemented units in the first five-year plan.
- The percentage of luxury housing in the plan weren't considered. The plan target was 8%, but 15.25% was implemented. Subsequently, the big cities get stacked, specially the capital, with luxury housing units (that were empty due to its high prices or to kept for future investment). Hence, it was common the abundance of luxury empty housing and the shortage in economy and moderate housing units.

2.4.2.2. The second Five-year Plan (1987-88/1992-93) Implementation

The second five-year plan was implemented during (87-92) and was oriented to serve more low-income groups as following:

- The construction of a million housing units took place: 900,000 units in urban districts and 100,000 units in rural and new reclamation areas.
- A greater amount of housing units for low-income groups were provided. Housing percentages became as following: 73% economy, 24% moderate and 3% luxury housing.
- The state was oriented to decrease the cost of housing units dedicated for low-income groups. The ministry of housing and reconstruction implemented the policy of not-finished house in 1987.
- The units' areas varied between 45 m^2 and 90 m^2. The average housing unit area was 70 m^2 and its average price was about £E 10,000 (Nazmy, 1993).
- The decree of housing and reconstruction minister stated that the public sector would be restricted in the second five-year plan to construct low-cost units. Another decree was issued to state that the loans of cooperative associations for building and housing should be directed to units of area not more than 90 m^2 and loans for big areas units were not allowed (GAHBC, 1988).

2.4.3. Investment Decrease in Housing Sector

The investment rate in housing field during eighties was decreased due to raise of import for goods and government spending for £E 1.5 billion, the matter that affected housing budget.

2.5. The Nineties and till now

2.5.1. The third Five-year Plan (1992-93/1997-98) Implementation

The third five-year plan was implemented during (92-97) and had the aim to realize the following:

- Encouraging the private sector to invest in housing field.
- Reconstructing the administrative body of organizations responsible for the provision of housing.
- Improving the infrastructure networks and implementing new ones in informal settlements.
- Extending the infrastructure networks to towns and villages.
- Preparing master plans for the development of informal districts.
- Expanding in the construction of new cities to comprehend the population growth.

2.5.2. The fourth Five-year Plan (1997-98/2001-02) Implementation

The fourth five-year plan was implemented during (1997-2002) and was oriented to achieve the following:

- Providing sites and services in new settlements. The preparation for a time schedule to complete towns and villages' development plans.
- Providing building materials with appropriate prices to encourage the construction activity.
- Training of labor working in the construction and building industries.

- Encouraging the low-income housing by allocating necessary lands and subsidized loans for housing projects.
- Encouraging individuals and cooperatives to adopt self-help housing on lands provided by the state, whether in return of affordable prices or reduced rents for the concession right.
- Adopting the rental system again and that was achieved via Law no. 4 of 1996 for new rented units after the issue date of the law.
- Initiating required legislations for more investment in housing sector.
- Increasing public awareness of maintenance for existing buildings.
- Reconsidering the role of housing cooperatives in providing housing units as well as housing fund in different governorates.
- Limiting the internal emigration from rural to urban areas by the development of rural regions and provision of rural housing.
- Developing the informal districts and restricting the emergence of new ones (Tarek, 2000).

3. Housing Outcomes

The pattern of housing in Cairo has been rapidly changing over the last decades to such an extent that Cairo is totally losing its traditional structure. This change which has been occurring since the middle of the last century was brought about by the dynamics of social and economic forces changing the face of Cairo as well as of the whole country, a process that is continuing to this day (Rageh, 1985).

3.1. Informal Housing

From the mid-1970s on, the housing scene in Cairo has been fundamentally transformed. Formal low-cost housing for limited income people came to a halt, and was replaced by informal housing.

Over the last decades, informal low-cost housing has been growing fast. Those responsible for illegal subdivisions rarely comply with planning standards for street width and public open spaces. The common street width is about 4 m and the lay-out is always irregular. Lots generally range from 60 to 80 sq. m. in area. The availability of water is the most important factor, while electricity and sewerage are less important for informal housing since power can be obtained by other means such as kerosene lamps and the problem of sewerage can be resolved by the installation of septic or holding tanks. Once informal housing takes the form of a permanent residential community, residents request recognition and the government has no choice but to accept this reality and try to extend public utilities to these areas. Still, they may have to wait for years before services are extended and utility services to these areas are in general poor. There is no system of garbage collection and garbage is generally left in open areas and pavements, creating unsanitary conditions. Large areas of informal housing have a rural character, because many inhabitants who come to Cairo from rural areas keep their traditions. Raising animals and poultry is not uncommon, and the social characteristics are very much the same as in the villages.

The building standards are not much lower than formal low-cost housing. The same building materials and finishes are used: a reinforced concrete skeleton with red brick

walls though the walls are generally unplastered. In many instances they are built with only a roof and supporting walls and the users have to complete the interior as they wish. Similar to formal low-cost housing, informal households try to adjust the space to their own needs but with more success than those in formal houses, perhaps because they adapt more easily to their environment. Somehow the owners and tenants seem to establish a workable relationship. Owing to the increase of land and housing costs, the average tenant in informal housing spends about 30 per cent of the family income on rent. Studies show that 84 % of the units built in Greater Cairo are estimated to be informal, which indicates that had it not been for the contribution of informal housing, the housing problem would have been more acute than it is now (Rageh, 1985).

The regeneration process of such informal areas come in form of urban upgrading and participatory urban development projects (as in the case of Manshiet Nasser and Boulaq El-Dakrour, 1998).

In one of Manshiet Nasser's neighbourhoods (Ezbet Bekhit) counting 40.000 inhabitants, the Governorate of Cairo, with assistance from German Development Co-operation, launched first operations in 1998, supported by German Technical Cooperation, GTZ. Water supply, sewage networks and other civil works are financed by a grant of the German Bank of Reconstruction, KFW.

The objective is to improve the living conditions of the residents in a cost-effective manner, and in so doing demonstrate a feasible and manageable approach that can be applied to other similar informal settlements in Egypt. A key strategic aim is to promote the maximum amount of community participation in the upgrading process, both to ensure that interventions are appropriate and to guarantee a sense of community ownership of the improvements (GTZ, 2003).

3.2. Cairo and the Shaping of Growth

The changing structure of Cairo not only took the form of building new neighbourhoods and new communities in the periphery, but also each neighbourhood underwent a fundamental transformation. Most neighbourhoods are now a mixture of different types of housing and buildings. Zamalik and Garden City lost their traditional character as tall apartment buildings replaced villas. Al-Mohandessin, which was originally planned to contain four-storey apartment buildings and single houses, has now a score of tall buildings. Commercial and professional activities find their place in these areas which were once exclusively residential. The intermix of business and residential areas has recently become a common feature of these three neighbourhoods. Quite often the changes in the neighbourhood are manifested in the buildings themselves. New floors added to existing buildings are different in function and architectural style from the original floors. Land use ordinance is literally absent and the city building code is hardly observed. New office buildings appeared mostly with glass curtain walls and other western design elements. Units originally designed for housing are now used as offices for different types of business (Rageh, 1985).

Land prices in Cairo increase at compound annual rates ranging from 25 to 40 %. Cost of building materials and labour has increased less rapidly at 15 to 20 %, but it outpaced the general inflation rate. To meet the growing need for dwelling units, and with the great increase in land prices, vertical extension on existing buildings became

easier for investors than building new apartments on new sites. Additional floors account for as much as half of the units added to the existing stock.

Luxurious apartment buildings are located in three major areas: Zamalik, Garden City and along the Nile, particularly between Kasr al-Nil and Giza bridges on the west bank and in Maadi on the east bank In these areas, private old villas and chateaux were destroyed and replaced with new tall apartment buildings. On large lots more than one building was constructed. Because of a lack of tight municipal control, owners were able to add more floors than the building regulations generally permit. Egypt lost in these areas great architectural wealth that can never be replaced, and green areas gradually disappeared. Streets are jammed with cars and the public utilities are over-loaded. The new buildings are not strictly for housing as some of them are used for commercial activities and also as office space for new business firms. Generally they were put up for fast profit and with little attention to proper urban fit.

Urban regeneration of the City old parts is mainly driven by the importance of its historic value. Old Buildings have to be restored and basic infrastructure has to be upgraded. Of important value is the development of activities and services within these forgotten areas to rejuvenate the economic base of the Historic City and to achieve the renovation of buildings within an adaptive reuse approach.

A project for the Rehabilitation of Historic Cairo was undertaken in 1995 as a result of an agreement between the UNDP and the SCA, in cooperation with the Cairo Governorate (UNDP, 1997). Other parts of the city are in need for many other regeneration plans.

3.3. The New Cities

Cairo grew by 65 % between 1950 and 1970 (Jenssen et al, 1981). The consequent problems of over-crowding and transportation caused the government of Egypt to adopt spatial planning policies based on development away from the metropolis. To this end, a national strategy for developing satellite towns and previously unutilized areas of the country has been developed and is being energetically implemented. Urban uses are being redirected to desert land in order to save the well-watered delta from being covered with buildings. The target population for the five towns proposed is as follows: 6th of October City, 350,000; 15th of May, 150,000; El-Obour, 250,000; El-Amal, 250,000; Badr, 250,000.

Some of the satellite towns, for example 6th of October City and 15th of May City, are intended to provide integrated urban development close to, and under the direct influence of, Cairo. Others, notably 10th of Ramadan City and Sadat City, are intended to form free-standing urban areas as poles of attraction in competition with Cairo. All are built on desert land. Emphasis on the development of satellite towns for Cairo's future urban expansion in desert areas has become a national strategy (Tipple, 1986).

(Re)generation of new cities maybe discussed as the emergence of new housing schemes over times as an implication of changes in state housing policies and new housing needs.

4. Case Study: Housing (Re)generation within New Cities : 6th of October City

4.1. Abstract Idea

The idea behind the city goes back to President Anwar El Sadat, who also initiated other new cities like Sadat City on the Cairo-Alexandria Desert Road and 10th of Ramadan City on the way to Suez. However, Sixth of October City was by far the Sadat administration's last and favourite brainchild. Even though the idea was first discussed in the early 1970's, it was not until Law no. 500 of 1979 was passed that the city was officially on the government's agenda. However, concrete steps were not taken before 1982 when the planning and issuing of administrative decisions regarding the execution of the city were in the final stages.

The new city aims to alleviate some of the population pressure on Cairo and establish an ordered alternative in the desert and to move industries out of the capital and into new areas, and thereby solve the problems of both housing and pollution in Cairo.

Every effort was spared in order to avoid the mistakes that were made in the two earlier cities. The residential and industrial areas were not scrambled together, as with 10th of Ramadan City, and it was not cast away in the middle of a desert road like Sadat City.

The design of the city separates the tourist, residential and industrial districts and takes into account the need for wide streets, parking areas and green space -features which other cities lack. Also, the city is surrounded by what is referred to as the "green belt," a green area that balances out the construction in the city. The city's proximity to the capital and the extension of the 26th July Corridor, a road that takes you from Cairo's center to Sixth of October City in 20 minutes, makes it easier for many people to choose to live in the city or even to commute. Its central location between two highways, the Cairo-Alexandria Road and the Fayoum and Bahareya roads, and its closeness to tourist spots like the Pyramids area, Kerdassa and Sakkara, make it a desirable place to be. Also, because the city is 150 m above sea level, the weather is a bit cooler than it is in Cairo.

4.2. The City Development

What is referred to as the "Seventh District" was the first part of the plan to be executed. This district, the most populated area of the city, is considered the "downtown" area. The building of the Sixth District, which was supposed to be a residential area for the workers of the city, followed and shortly thereafter the infrastructure of the industrial area was built and the city was ready to receive investors.

Even though the government had planned to build the infrastructure of only four industrial districts, the high demand for land in Sixth of October City convinced the government to plan two new industrial districts. Workers started flocking to town. All of a sudden, the inexpensive flats designated for the workers were no longer sufficient and people had to commute. It is estimated that commuters between Sixth of October City and Cairo number around 130 thousand a day. In order to minimize the commuting, which cuts into productivity and increases accidents, the government gave the Investors' Association of Sixth of October City more land on which to build housing for workers.

Until 1993, the planning of the city was geared toward industrial needs as well as the encouragement of the new society that was to take root in the city. However, in 1993 a shift in housing policies toward Sixth of October City took place with the introduction of luxurious compounds and the planning of the new six areas now called "the tourist districts". The tourist districts enclose shopping malls, amusement parks, golf courses and sports clubs.

Currently, the population of Sixth of October City is 350,000 people and it is expected to reach 2.5 million by 2017. One of the challenges that face the city is that the design of the city does not leave much space for future expansion, since any expansion would be at the expense of the green belt.

4.3. (Re)generated Housing Schemes

A shortage of low cost and moderate housing units in the city was due to the investment of private sector in the construction of luxury units in the tourist districts of the City. New housing schemes must be adopted to face this shortage.

4.3.1. Future Housing Project

The brainchild of Mrs Suzanne Mubarak, the Future Foundation was established in 1998 with a mission to provide affordable and decent housing for the most-needy sectors of society through government land grants, private donations and the proceeds of fund-raising events.

With a growing population and a growing economy, the pressing need for low-income housing has become a major concern. There is simply not enough of housing and much of what is there is not affordable. The government is aware of the situation and has taken serious steps to relieve it, but its resources are not sufficient to the task. The newly-empowered private sector can and must assume its responsibilities in the community.

Figure (2) Future Housing Project, a new emerging (re)generated housing.

Source: Salakawy, 2000-01

The Future Foundation channels private funds and technical resources into the design and construction of attractive low-income apartment housing. As part of the process, the foundation promotes alternative designs and building technologies -- with the goal of creating living spaces that are both comfortable and nurturing, as well as

inexpensive to maintain. The government will contribute the land and the infrastructure, while the foundation will cover half the cost of the apartments.

In the first phase, 15,000 apartments, 63 square metres each, will be built in nine cities: 10_{th} of Ramadan, 6^{th} of October, Al-Shorouk, Al-Obour, Al-Qahira Al-Gedida (New Cairo), Beni Suef, Minya, Assiut and New Luxor. This first stage is scheduled for completion by the year 2000. By the time the second and third stages are completed in 2005, 55,000 additional apartments will have been built, raising the total to 70,000. The project is financed jointly by the government and private entrepreneurs, with the latter contributing £E1 billion, almost half the total construction cost. Beneficiaries will be provided with cooperative loans, allowing them to pay for their apartments in instalments over 40 years, at a 5 % annual interest rate.

4.3.2. The Family House

In 2003, and with the participation of MOHR, GOPP and NUCA, the government has submitted about 2,000 feddans in 12 new cities and settlements in the aim to implement a new vital housing scheme: The Family House. The main objectives of this project are to provide an affordable house and to achieve family reunion and social balance. Plots areas vary between 150-350 m^2, and the expected house is to be either a villa or four-story walk-up building. Plots prices vary between £E 135-335/m^2. Plots are sold with facilitations from the part of government. The price includes a complete package of architectural/structural/sanitary/electrical drawings for the selected model from many other prototypes; the fact that facilitates obtaining the building permit.

The family house initiative is considered to be a mixture of moderate/luxury housing. It combines the cheap price of moderate housing with the advantage of having a separate house for the family as in the case with luxury housing. Another advantage is the free timing of construction. Although it is permitted to build a ground floor and another 3 typical floors, the tenant is asked to build immediately the ground floor only. It is allowed to build the three floors above the ground later on according to family economic conditions and size, but with the condition to follow the designs and drawings offered by the City Authority. Eleven different designs were prepared by expert professors as to provide a variety and freedom for selection. One prototype consists of one unit per floor, including 3 bedrooms, 3 reception spaces and other utilities. Another prototype is consisting from two units per floor, each containing 2 bedrooms, 2 reception spaces and common utilities.

Figure (3) One of the many family house models offered by NUCA.

Source: Nahrawy, 2003

The purchaser can make a reservation by a payable check of £E 15,000. On the delivery, he has to pay another £E 10,000. The rest of the price is paid by instalments over 4 years without interest. The plot is subsidized from the government, that's why the purchaser won't be able to give it up or to sell it, but only to appoint it as heir (Nahrawy, 2003).

5. Conclusion

The word regeneration implies a multiplicity of meanings. It can be looked at as an operation of a process and in the meanwhile as a feedback. Inputs for the process are life cycle, housing needs and state policies. Outputs are commonly informal housing, city growth and old parts deterioration and the emergence of new cities and settlements. By re-generation, we here refer to the life cycle, reproduction and successive generations' replacement. Although generations are not alike in their visions and dominating culture, it can be mentioned that they are similar in their physical needs, specially the need for housing. Regeneration means improving of poor or run-down area by a programme of investment in housing. We mean by (re)generation the development of new cities using a variety of housing schemes. Housing (re)generation in new communities is a major strategy for correct development coping with re-generation variables.

The housing (re)generation can take place within new cities according to innovated schemes responding for flexible state policies, users needs and life cycle of different generations. To name one of these schemes in Egypt, we can mention Family House scheme, a modified concept of site and services scheme. Another scheme to be mentioned is the Future Housing scheme empowered by civil society funds.

It is believed that the discussed two schemes can attract more population to reside in new cities, while the common housing schemes failed to do. In such schemes the physical and environmental qualities are assured through a comprehensive framework presented by formal central bodies. Meanwhile, community participation is closely related to the development process. Community could provide the necessary resources for the progressive development either by the users (as in the case of Family House) or by the solidarity between high-income and low-income categories (as in Future Housing Project).

Development and implementation of other housing schemes, by government, private sector and public-private participation, is strongly required to further (re)generate housing in new cities. New systems of housing finance and subsidy can play a major role in creating such schemes, especially with the increasing demand for social housing. But how far this will happen is, again, not certain.

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