

Analysis of the Urban Pattern of Slum Areas in Cairo

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Abstract: The problem of slum areas in Egypt have been the interest of many scholar researches and most of these researches addressed the problem from the point of view of providing an affordable housing and rent control. Most of the proposed solutions were based on this aspect. However, none of these have proposed solutions to slum areas based on their types, categories and their urban pattern. The goal of this paper is to study the different categories of the slum areas in Cairo and to analyze their urban and social patterns. The aim is to use such analysis as a guideline in identifying the optimum solution for each type of slum area instead of proposing an unrealistic solution for the problematic of slum areas in Cairo in general. It highlights the importance of the collaboration between authorities and urban planners to benefit from the analysis in this study and understand the issue of slum areas in depth, so that an integrated analytical solution between all involved parties can be proposed to solve this issue.

Key words: Informal settlement, slum areas, urban studies, urban pattern, optimum solution, analytical solution

INTRODUCTION

The unofficial settlements in Egypt which are generally, referred to as “Slum areas” started to come to public consciousness in the official arena with the World Bank efforts to start the site and services projects in the 1970s. This was followed by the 1993 announcement by the former president of Egypt that the government would address the issue of slum areas in Egypt. Since, then there have been numerous efforts to analyze these phenomena and several of these have put forward proposed solutions. However, none of these have addressed in any depth the extent of the impact of slum areas urban tissue on the city’s urban pattern.

The definition of slum areas varied in the literature of urban development. As an example, El Sayyad in his study “Squatting and culture”, stated that they are high-density, widespread, residential communities which have been established and consolidated often outside of the formal legal and economic structures in Egypt (Alsayyad, 1993). For this reason, they have been identified as part of the informal housing sector. Slum areas are also called Shantytowns, slums, squatter settlements, favelas in Brazil and Gecekondur in Turkey, barriadas in Peru and Ashwa’yat in Egypt. Though these definitions vary from one scholar to the other they all focused on state of deterioration in urban, environmental and social aspects of the city. According to Wikipedia, Shantytowns are mostly found in developing nations or partially developed nations with an unequal distribution of wealth or developed countries in a severe recession

(Oldham *et al.*, 1987). They constitute obstacles to the harmonious growth of cities and are major contributors to the damage of the environment, the gradual erosion of agricultural production and represent a real threat to food security in Egypt (El-Batran and Arandel, 1998).

Much literature on slum areas in Egypt focuses on the general drivers of slum formation such as insufficient housing affordable to the poor. Less emphasis is given on the effect of slum areas on the urban pattern of the city. The goal of this paper is to study the different categories of the slum areas in Cairo and to analyze their urban and social patterns. The aim is to use such analysis as a guideline in identifying the optimum solution for each type of slum area instead of proposing an unrealistic solution for the problematic of slum areas in Cairo in general.

MATERIALS AND METHODS

The situation in Egypt: Slum areas are high-density, widespread, residential communities which have been established and consolidated often outside of the formal legal and economic structures in Egypt (Sioufi, 1981). They are largely populated by migrants from the countryside. In these areas, setbacks from the street and other building regulations are not observed which leads to high density buildings that leave no space to establish basic services such as schools, health clinics, playgrounds or green areas (Hofmann, 1986). For this reason, they have been identified as part of the informal housing sector.

According to the Ministry of Environment records: slum areas in Egypt is 30% of residential areas. There are total of 1105 areas all over Egypt with population 16 million. Cairo has 44.7% of total areas of the slum areas and 46% of total population of slum areas in Egypt. According to the last statistics, Egypt population is 75 million in 2006 and expected to be more than 100 million in 2020. The sprawl on agricultural land:

- About 56% of sprawl is due to residential buildings
- About 26% of sprawl is due to the services
- About 21% of sprawl is due to infrastructure and projects

Table 1 shows the distribution of the slum areas in Egypt according to Ministry of Environment; environmental development of urban settlements.

It shows that the slum areas are mostly focused in the cities of Dakahleya, Assiout, Beheira, Domietta and Cairo. However, the Central Agency for Public Mobilization and Statistics records show that population of informal settlement in Cairo is 53.3% of total population of informal settlement in Egypt.

There is a study in 1981 between the World Bank and GOHBPR stated that almost 77% of all the houses that were being built in the period of late sixties and early seventies were informal. In 1982, a report on informal slum areas stated that 84% of the housing that were built in the seventies and early eighties are located in greater Cairo (Feiler, 1992).

These statistics sheds the lights on the problematic of slum areas in Egypt and how fast it is growing. The slum areas are more concentrated on the greater Cairo region due to the availability of job opportunities more than the country side.

Table 1: Distribution of the slum areas in cities in Egypt

Governorate	No. of slum areas	Population
Cairo	68	2,302,099
Alexandria	54	1,363,882
Port Said	7	67,092
Suez	3	168,412
Domietta	78	224,767
Dakahleya	125	11,162,052
Sharkeya	81	832,042
Kalyoubeya	48	1,291,446
Kafr El Sheikh	51	509,790
Gharbeya	47	868,317
Monofeya	56	529,394
Beheira	81	874,278
Ismaileya	12	359,645
Giza	36	1,360,719
Bani Sweif	52	437,463
Fayoum	28	46,773
El Menya	29	558,673
Assiout	84	753,834
Sohag	65	65,000
Qena	57	57,000
Aswan	40	40,000
Luxor	3	3,000
Total	1105	1,5713,352 million

The state of Greater Cairo includes mainly the governorate of Giza and Cairo with some small rural villages situated in the govern orate of Qaliobia. The population of greater Cairo is currently twenty and half million inhabitants in comparison to 1 million inhabitant in the thirties, six million inhabitants in the sixties, eight million inhabitant in the seventies and ten million inhabitants in the eighties. The area of greater Cairo is around 220 km² and this represent 20% of the total documented population in Egypt (Fahmy, 2004). Looking at these figures, one can conclude the rate of increase of population is very high. This rate is due to two main reason; one is the normal natural increase of population and the other which is very significant in Egypt is the migration of inhabitants from rural areas to urban areas.

El-Batran and Arandel (1998) explained in their paper "A shelter of their own" that incapability of the governmental institutions and state as well as the formal private parties to fulfill the needs of the low income communities. There are many available and vacant governmental housing units that are not affordable to low income and middle income inhabitants. The rental rates for public units that were built in starting the late sixties were very high and still not affordable to low income people. With the increase of population and the housing demands of poor people, this led that the only solution is to approach the market of the slum areas which is the only market that low income communities could afford.

RESULTS AND DISCUSSION

Difference in slum areas in Cairo: There are several types of slum areas and each type is driven by certain forces. Sioufi (1981) argues that there are four types of slum areas or squatting. These type are divided into gradual squatting, communal squatting, mobilizing squatting and generated squatting.

In the gradual squatting, it is a result of impulsive unstructured actions by individual dwellers looking for housing by continuing and slow growths on an owned sites that are either public or private.

It is the contrast in the case of the communal squatting, it is as a result of communal actions by dwellers that agreed and arranged a precise invasive actions. This type is neglected by the authorities in case the invaded location was not attractive. If the owner of the land either public or private finds out a renewed interest in this land, problems occur and dwellers are removed by force overnight by the authorities.

In the mobilized squatting, political groups and agents activate it with the purpose of social mobilization. This type of squatting is usually prearranged by political parties to threaten the political legality of a government.

As a result, many conflicts take place between the police and dwellers where the authorities attempt to continuously suppress mobilized squatting in each phase because they represent political danger.

Finally, in the generated squatting, it is mostly prearranged by official urban authorities for the purpose of democratic advantage. The owners of the land encourages this type of squatting to have urban services in their sites. The generated squatting is opposite to the mobilized squatting, regarding its process of development. It is usually grows in a peaceful way through invasion as it is recognized by the authorities in an official or non-official way.

Slum areas in Egypt is categorized in the literature on urban development according to several criteria. Some researchers divide them according to their location, some according to land tenure regarding its being public or private land and others according to the characteristics of their process. The global report on human UNHSP. (2003) for example, divided the main slums types into: slum areas on private, former agricultural land, Slum areas on desert state lands, deteriorated sections of the old city core and deteriorated urban pockets (Portes, 1979).

Ernest R. Alexander, cited in El Sayyad study, divided them according to the nature of their squatting process into gradual, communal, clandestine (Pino, 1997). Erik Vittrup added the category as generated land invasion. El-Batran and Arandel (1998) divided them according to land tenure, informal settlements in public or private sites, officially owned (most of the cases agriculture land) land (Ozler, 2002). Oldham *et al.* (1987) divided them according to their location into: desert/mountain, type of community village core and urban fringe (Erman, 2001). Kam *et al.* (2003) divided them into three main typologies: agricultural land (semi-informal), desert land (Squatting) and public and private land (hybrid/ex-formal).

Although, there are many ways of categorizing the slum areas, however, they all share the same problems difficulty in access to basic services and utilities; spread of environmental pollution; high population density; low level of population characteristics and lack of an integrated network of roads that connect such areas to external axes (Singh and Das, 1995).

This study will focus on the categorization by locations as it is the most common categorization of informal settings. It will divide them into; village based slum areas, agriculture land slum areas and desert land slum areas. In each category the paper will study its urban and social patterns and its relation to the whole pattern of the city.

Village based slum areas within the city: The village based areas are slum areas that were originally old rural villages near the city that has been expanded. The normal growth of the city has surrounded this type of slum areas from further extension forming urban patches of slum areas within the whole urban pattern of the city.

Urban pattern: These villages urbanize long after they come into existence and long before they have been incorporated into the city. The urbanization process is very gradual and slow as the city has expanded closer to the village where the land values increase and farmland is being sold as building sites. These lands are sold by farmers in relatively large pieces which are subdivided creating quite geometrical sites. The buildings constructed on these plots are four or more floors because they are purchased by urban people and these plots are close to the city. They are built with reinforced concrete skeletons. This type of settlement is constrained in its development by its rural street configurations with irregular plots and winding streets. They are usually surrounded by high urban structures (Musgrove and Ferber, 1979) (Fig. 1).



Fig. 1: An example of the urban pattern of the village based slum areas

Social pattern: Since, leadership style has developed in agricultural communities in response to relatively static conditions, it is not well suited to cope with the dramatic population increase which occurs under conditions of urbanization. Usually the community of these settlements is divided into two groups: the rural population and the new urban population and they are different in working skills and income which makes it impossible for them to view themselves as one. The old part of the community is the area of highest proportion of owners who has strong sense of community. While the resources in terms of money and skills are in the hands of the new comers whose commitment is relatively less which creates a strong distinction in these settlements (Stokes, 1991).

Slum areas on agriculture land: The slum areas that are formed on agriculture land are as a result of the growth of the urban areas as well as the agricultural land subdivisions which are located at the urban peripheral or edges of the city. They create difficulties to the harmonious expansion of the city and act as a main force to the erosion of agricultural production gradually. The price of the land on the fringe is cheaper compared to the price of land within the city which makes it affordable and easier for the urban growth and expansion. Slum areas evolved on the peripherals of the city even though there is no services and infrastructure (Andrews and Philips, 1970).

Urban pattern: The configuration of the layout of slum areas situated on agriculture land is dedicated by the original agricultural land subdivision. By comparing the locality plans and the original subdivisions, the location of public streets follow the existing pattern of the agricultural public roads. Agricultural land subdivision is a product of inheritance. According to Islamic law, all heirs get a share of the heritage a son inherits a share of

the land equal to double that of a daughter. This resulted in unequal divisions. The whole process of subdivision is dynamic and does not occur simultaneously all over the locality. Another reason for difference in sizes is that each new lot subdivision had access to an irrigation canal and a public road, both of which are usually contiguous. This produces linear plots of land, up to 400 m long. Generation after generation, they were further subdivided into narrower ones. Some became as narrow as 15 m. As the locality became urbanized, some canals dried up. This added to the width of the roads contiguous to them (UNHSP., 2003). As a result, in these settlements the streets are too narrow and no public spaces; buildings are back to back and side to side for kilometers, broken only by streets (Fig. 2).

Social pattern: These settlements are too big, too heterogeneous, too new and too rapidly growing to have a strong social organization. Therefore, both the control of negative behavior and the mutual support systems so critical to life in low income communities are weak and the settlement as a whole is characterized by relative anomie. Residents are unable to organize themselves informally as well as formally. Many families do not know the few local leaders of prominence. Many residents of these settlements report a growing inability to control the youth their community and a spreading of drug use among the youth is frightening to the elders (Kramer, 2006). The occurrence of violence is very evident in these settlements. Most of the researches conducted by some NGOs in Egypt proved that there is a direct relevance between the phenomenon of slum areas and the acts of crime and terrorism (Mukhija, 2003).

Slum areas on desert land: These slum areas are formed based on occupation of government land usually located in the desert at the edge of the urban areas (IDSC., 2008).



Fig. 2: An example of the urban pattern of slum areas on agricultural land



Fig. 3: An example of the urban pattern of slum areas on desert land

Desert lands that surrounded the city are occupied in an illegal way and formed slum areas. Slum areas on public desert land typically follow similar process of occupation of agriculture lands till the slum areas are formed. There are two noticeably different methods of grabbing and invading public land. The first method is a tribal occupation collectively. While the second method is a commercial method that depends on a way where the sub-divider acts as a significant role in this method. The most common method of the slum areas on desert land is the second method.

This type of settlement must have a certain minimum of population, as the construction of houses on such land is illegal and if the houses are few, the risk of eviction is correspondingly great. There is a tendency for such communities to be founded as a result of eviction of a whole settlement from some prior location, although in some instances this also happens as an extension of a settlement on agricultural land onto government land. Usually in these locations, an aura of insecurity prevails until quite high population levels are reached. Such community gathers around itself as many additional as many additional families as possible as relatives and co-villagers from upper Egypt in search for safety in numbers.

Urban pattern: Such settlements do not have, in their early days, land for sale. Rather, people take the pieces they want and build their houses on them with land mark developing after substantial population growth. Even though the land is free, people do not dare to be at a distance from their neighbors, so that, they take relatively small plots which they can afford to build quickly. Plot sizes increases by time when the community become more secure until rising land prices militate against this trend and plot size again decrease. In these communities,

very well established boundaries; sprawl comes only with high population densities. The height of the buildings in these settlements is at most two floors.

Social pattern: These communities generate strong leadership who has a strong reluctance to resort to the official channels for settling local problems due to their fear of drawing attention. In some communities, they make modified Arab tribal council model, so that, members of the council represent villages of origin. As villagers come in to join their relatives they take residence next to the representatives of that village, so that, the community is organized spatially as well as socially on the bases of place of origin. This Arab council performs a wide variety of social functions, from controlling unruly teenagers through enforcing repayment of loans, to pressing deserting husbands to support their wives. All of these governmental functions it performs in an atmosphere of concern for the integration of community interests which results that the settlement is cohesive and comfortable to live despite of lack of infrastructure and social services (Fig. 3).

CONCLUSION

The different categories here are intended to show the fundamental difference of the urban fabrics and its formation between each type of slum area. It also highlights the close relation between the social patterns of the areas its urban fabric formation. By analyzing and observing the patterns, it is clear that their impact on the urban pattern differs greatly from one slum category to the other.

The pattern of village based slum area is formed as a patched fragment confined within the general pattern of the city. The contrast between the two different patterns

is very obvious in this case. Whereas the pattern of the agriculture slum areas is shown as an expansion of the city with very compact density without any public or opened spaces. The streets, blocks and buildings in this case follows the agriculture land division with small slots close to each other. The pattern the desert slum areas are very compact as well with more random pattern that follows their social habits, gatherings and leadership patterns.

Therefore, one can conclude that there are different categories of slum areas that differs in its urban and physical patterns and that they are based on their social aspects and habits. Consequently, the proposed solutions to solve the problem of informal housing must consider and accommodate these different.

For example, it can be suggested that the village based areas can be demolished and reallocated in another area. While the agriculture slum areas can be encouraged to resume their agricultural activities to preserve the land. So, authorities can reallocate them to an affordable residential areas close enough to agricultural lands, so, the dwellers will be able to research in them. And the desert slum areas can developed, arranged and provided with infrastructure to remain in their location. And the dwellers can be directed towards working in activities crafts and technician by building stores and workshops close to the residential areas.

To conclude, this study highlights the importance of solving the problem of slum areas based on their categories other than proposing a general solution for the slum areas. This acts as a guideline for authorities, urban planners and decision makers to benefit from the analysis in this study by taking into consideration the different types and categories of slum areas as well as their urban and social patterns. By collaborating and understanding the issue of slum areas in depth, an integrated analytical solution between all involved parties can be proposed to solve this issue.

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