

CITY PLANNING, PLANNING OF VILLAGE SETTLEMENT

UDC 711(620)

A. S. R. Ahmad¹

EVOLUTION AND DEVELOPMENT OF THE NATIONAL STRATEGY FOR NEW TOWNS CONSTRUCTION IN EGYPT (USING THE EXAMPLE OF BORG EL ARAB)

Izhevsk State University Named after Mikhail Kalashnikov

Russia, Izhevsk, tel.: +7-929-276-02-09, e-mail: dr.arch.amira@hotmail.com

¹PhD student of Dept. of Industrial and Civil Construction

Statement of the problem. In 1974 a new strategy of social and economic development of Egypt was introduced that involved the design of new residential towns as well as the development of industry and agriculture, especially in deserts. This paper deals with the concept of architectural and planning development of new towns in Egypt. A hypothesis is made that the design of new towns will help to deliver on post-war challenges of social and economic development of Egypt.

Results. The research uncovered important facts about Egypt's new towns, (Borg El Arab as an example). The research also suggests recommendations for helping Egyptian new towns further achieve the national goals of their construction.

Conclusions. Based on the analysis a conclusion was made that Egyptian new towns have the ability to deliver on the goals of post war socio-economic development. The achievement of Egypt's new towns goals took more time than had been planned due to the exaggeration in estimating growth rates of new towns.

Keywords: industrial town, new town, urban development, socio-economic development.

Introduction

Egypt's existing towns are facing a number of critical issues. New towns are flagship of Egypt's cutting-edge urban construction. Egypt's current urban construction policies are expected to deliver on the post-war social and economic goals.

October treaty of 1974 [1] saw a comprehensive perspective of Egypt's social and economic development embraced by the state. It included the construction of new residential areas as well as development of industry and agriculture especially in deserts. This study looks into the concept of architectural and planning development of Egypt's new towns.

We are analyzing the conditions of Egypt's new towns and hypothesizing that the construction of new towns would help address some of the issues concerning Egypt's social and economic development.

The structure of the national strategy of the construction of Egypt's new towns has been investigated by N.E. Mahmoud, A. Shehata, J. Hobson, M. Assas, K. Galal, M. Zahran etc. The issues facing Egypt's towns have been dealt with by M. Madbouly, H. Helbawi, A. Soliman, M.H. Saudi, A.A. Sheta, etc. In spite of a lot effort made to address the problem, it is still running deep and studies of new towns for accomplishing Egypt's post-war social and economic agenda are of paramount importance.

Following the end of the war in October, 1973, Egypt's national strategic plan was in place that was aimed at social and economic development and included the construction of urban areas. It saw the construction of new independent towns (such as Madīnat al-ʿĀshir min Ramaḍān, 1977, El-Sadat, 1976, Borg El Arab, 1979) with an economic and industrial base, residential areas and housing systems [2].

1. The causes of the construction of new towns in Egypt were overpopulation of existing towns, their massive deterioration, protection of agricultural lands from existing growing cities [3] (Fig. 1), increasingly worse housing conditions (Fig. 2), environmental issues, concentration of economic activities and services in existing towns.



Fig. 1. Growth of towns on agricultural land. Cairo, Egypt [3]



Fig. 2. Degrading housing conditions in large cities
East of Alexandria, Egypt [4]

Up until 1973 all the towns and residential areas were centered along the Nile valley. Following the end of the war new towns were constructed in the desert (Fig. 3) rich in deposits and accounting for 96% of Egypt's territory as part of social and economic development. This strategy is in agreement with the goal to relocate the population from the Nile valley [5] and results in a shift of economic activities and urban services enabling to make the most of the country's territory.



Fig. 3. Egypt's new towns are indicated with red dots (2014)
Source: http://www.newcities.gov.eg/english/New_Communities/default.aspx

2. Analysis of current conditions of Egypt's new and existing towns. One of the major problems facing Egypt's existing towns is *overpopulation*. In 2008 the average population density in Cairo was as large as 42286,7 inhabitants per km². It should be noted that the population of Cairo in 2008 increased by 7 985,549 inhabitants and in Alexandria the density was about 2503,8 inhabitants per km² [8]. In Borg El Arab in 2014 the population was 150 000 inhabitants with the average density of about 775 inhabitants per km².

As far as *degradation* of existing towns is concerned, it should be noted that Cairo is the capital of Egypt and Middle East and Africa's largest city. The metropolitan area of Cairo is the 16th largest in the world. Set in the Nile valley, the metropolitan area of Cairo is 86 369 km² with the population of 19 439 541 as of 2011. The metropolitan area of Cairo includes five cities making up a huge agglomeration (Cairo, El Giza, 6th of October City, Helwan, Shoubra El Khaima). Alexandria (Fig. 4) is Egypt's second largest city after Cairo with the population of 4,5 million, ~120 km of the Mediterranean coast in the central eastern part of the country [9]. This city is also one of the largest in the Mediterranean coast: the metropolitan area of Alexandria is 2136,97 km² [10]. The living conditions in large cities are degrading due to the following: inadequate funding; not enough trained urban construction and management staff; the government's failure to control the growth of cities (Fig. 4) into nearby areas. Cairo's old areas are not properly maintained and developed resulting in increasingly deteriorating housing and infrastructure [11]. Furthermore, overpopulation, unemployment and insufficient food supplies are all too common.



Fig. 4. Location of Alexandria, expansion into rural areas around the city, 2014.
Source: <https://maps.google.ru/maps?hl=ru&tab=w1>

3. Analysis of the development of Borg El Arab. Borg El Arab is a new town [6, 7] (see Fig. 3). The construction of the city started in 1979. It was made part of the province of Alexandria as decreed by the President on February 22, 1990.

The planning structure of Borg El Arab (Fig. 5) includes two residential areas. The first one in the North consists of four averagely and scarcely populated residential quarters. The second one in the South is divided into five averagely and scarcely populated living quarters. All of them are homes to educational, administrative and commercial institutions. Both residential areas are along the main city road which runs throughout the length of the city. In the city centre there is a major commercial centre and large green areas. Industrial areas are located in five areas in the South East and North East of the city [1, 13].

The city with clear boundaries (Fig. 4) is located 7 kilometers away from the Mediterranean coast and about 5 km away from Alexandria-Matruh road in the North of the city. In the South there is a settlement named after Murbarak populated by young specialists and the city of El-Hamam in the West. The city's clear boundaries are marked with the Borg El Arab airport, Alexandria-Matruh road in the West, Namam Burgas road in the East, Alexandria-Matruh road in the North and the International Road, which is under construction, in the South.

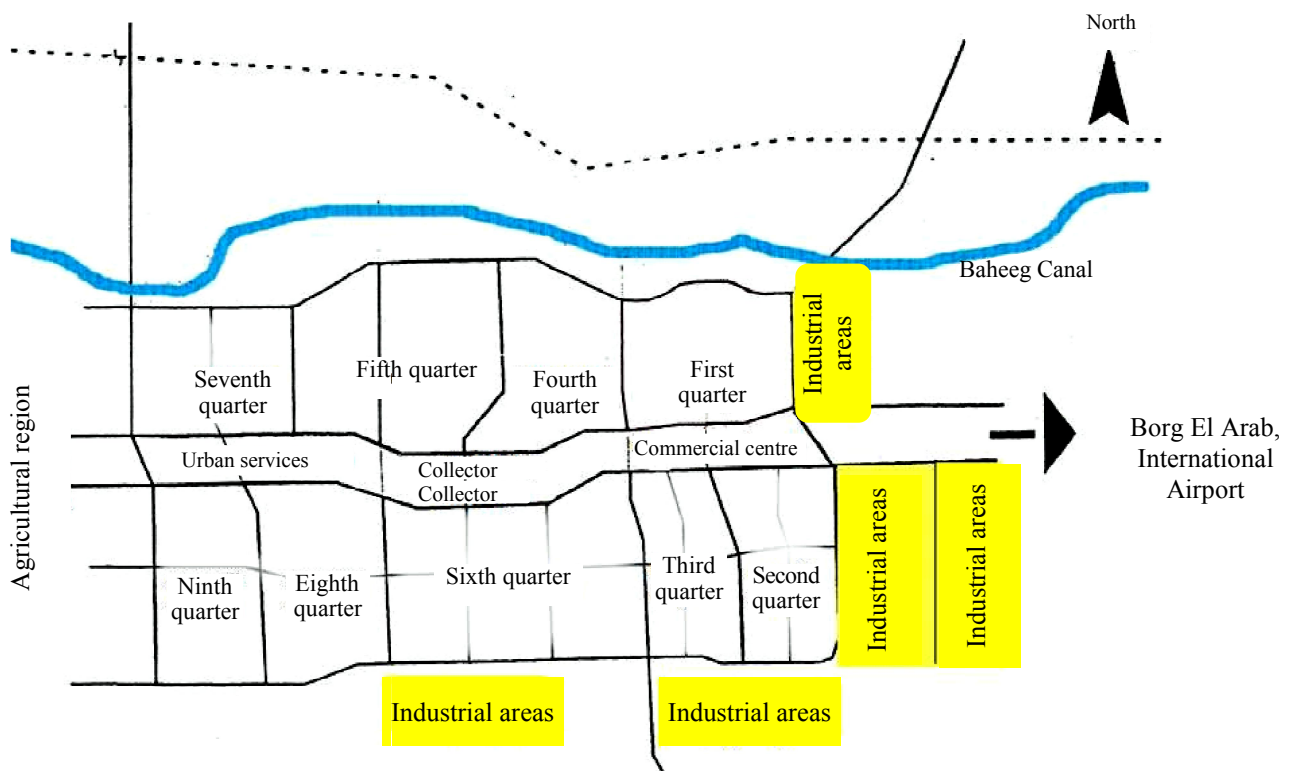


Fig. 5. Planning structure of Borg El Arab [13, p. 6]

A network of roads and streets for traffic consists of longitudinal and transverse streets of all types (for consistent traffic). A high-speed freeway that runs throughout the length of the city connects the major streets that give way into a maze of small streets that connected pedestrianized areas inside smaller districts. The main road at the edge of a smaller district is intended for car traffic.

In each smaller district there is a school, polyclinics, a small shopping centre and parking areas. Shopping centres are situated at the intersection of districts along the main streets and in the centre of the smaller districts are kindergartens and parks. At the edge of each smaller district are designated parking areas along the main streets. In the crossroads between smaller districts are decorative elements to mark the entries into their public spaces.

One of the characteristics of city planning of Borg El Arab is combined land use in adjacent areas which brings a variety of areas together [14]. City planning of Borg El Arab involves a range of applications of commercial, industrial, institutional, administrative, educational and service lands. The development of Borg El Arab is diverse as it combines land use, housing, architectural styles and rental price ranges.

Arrangement of green spaces is incorporated into the environment as an integral part of the cityscape. It makes diverse green spaces widely accessible to the public. Low levels of green spaces is a huge disadvantage suffered by urban environments of Egypt's existing towns. In Borg El Arab green spaces are integrated into the environment which are made up of green strips and trees at the side of the road, "green belts" along each smaller districts to make the air cleaner and reduce the level of traffic noise. Parks are in the centre of each smaller district and each group of houses is centered around green spaces.

Borg El Arab was designed to be compact. This common approach produces more sustainable urban forms and management. The model of a compact city poses fewer threats to the environment due to the following. First of all, compact cities are most accommodating for environment-friendly transports. Secondly, compact cities are regarded as the best option for viable land use (due to the growth of cities being controlled, lands are kept in rural areas and urban lands are used for businesses). Thirdly, in the social context compactness and combined land uses bring diversity, social integrity and cultural development. Fourthly, compact cities are more economically viable as such an infrastructure as roads and street lights can be more economically beneficial and made available to a wider public. Furthermore, the population density is enough to keep local services and enterprises running [14].

A strategical plan of the city is to be seen through within 25 years which is estimated to be the city growth period. The construction got underway in 1979 and was to be completed in 2004 respectively. By that time the target population level was 500 000 inhabitants with another 20 000 each year. The population level is set to rise by a range of 20% in the initial construction stage to 5% in the closing one annually. However in 2014 the city's population was 150 000 with an average annual increase of 2,85 %. Growth rates in more densely populated centres ranged from 2,5 to 3 % and the original estimates indicate a dramatic increase in target growth rates.

In 2022 the population of Borg El Arab is expected to be 570 000 with the average density of 2964,8 inhabitants per km². A ratio between the density and urban environment underpins the concept of livability: the population density of Borg El Arab enables the interaction between residents of different areas to keep the city alive. A high density and integration of land are indicative of compactness and social interaction [14].

The main strategy underlying compactness is intensification which involves a more active use of urban lands by increasing the density of the city's development and activity. Planning of Borg El Arab means designing diverse economic, residential, agricultural, administrative and business as well as recreational and service areas.

The development of Borg El Arab as one of the cities most beneficial to a local community is still in progress. A lot of professional trade unions are campaigning for residential projects in Borg El Arab. Additionally, a lot of sports and public institutions are launching their branches in the city. There is a growing property investment which boosts the sector. This is indicative of policies promoting more activities and land use.

Borg El Arab is a result of successful policies to create towns in the desert. Nevertheless its proximity to Alexandria (~ 60 km) and transport connections have attracted workforce from all across Alexandria. The economic base of the city accounts for 12 % of Egypt's industrial power and plants and companies of the industrial area of Borg El Arab produce 25 % of export goods. The economic base of the city is made up by 373 plants with the total of 19 330 employees.

Conclusions

New towns in Egypt are helping to deliver on the post war goals of social and economic development. This strategy is set to assist the redistribution of population all across Egypt, to provide affordable housing for residents of deprived areas, create jobs, protect Egypt's agricultural lands, cultural heritage and historic monuments in Cairo and Alexandria from the adverse effects of housing construction and tackle environmental issues.

Borg El Arab has a high population density, combined land use and clear boundaries. It might be an example of the model of a compact city. Compactness is intended for man-made environment and more activities, effective planning and diverse and combined land use.

At this point Borg El Arab has succeeded in accomplishing a number of goals (arranging the city's territory, activities and population levels) notwithstanding the fact that has been more time-consuming than expected due to unrealistic expectations of the city's growth.

For more development to come we think the following has to be done:

- establishing branches of the financial and state institutions in new towns to be used by the local population;
- construction of road for transport connections between the towns and sites of development and storage of raw materials, markets and plants for a stronger economic base of and thus higher living standards;
- regulations of construction times and functional use of lands or reclaiming of lands by the local authorities as the worst-case scenario. This is because new towns (including Borg El Arab) are experiencing a high land demand for industrial and everyday use due to low prices. However, most reclaimed lands are not used for industries and buildings. If this is not controlled, such practices would hamper the development and lead to more speculation on land and property prices, which would inadvertently disrupt property markets and give rise to slums.

These recommendations are set to promote new towns as alternatives to existing towns with significant lack of housing, distressed infrastructure, bad career prospects as well as to provide high development rates of Egypt's towns.

References

1. **Mahmoud, N. E.** Decision-making and the role of new cities in future development / N. E. Mahmoud // Decision-making in the field of development in Egypt conference / The center of development partners for research, consulting and training. — Cairo, 2007. — P. 2—25.
2. **Shehata, A.** The structure of housing in new cities and its relation to regional activities and services: PhD thesis / A. Shehata. — Cairo, 2008. — 225 pp.
3. **Madbouly, M.** Cities without slums: Egypt's national slums upgrading policy. Alexandria city development strategies as an innovative approach towards slums upgrading / M. Madbouly // Cities Alliance Public Policy Forum. — Marrakesh, 2005. — P. 1—43.
4. **El-Helbawi, H.** Strategic comprehensive development of Alexandria province, Towards a strategy for slums development / H. El-Helbawi. — Alexandria: World Bank: City Alliance, 2005. — 392 pp.

5. **Hobson, J.** New towns, the modernist planning project and social justice the cases of Milton Keynes, the UK and 6th October, Egypt / J. Hobson; Development Planning Unit. — London, 1999. — 23 pp. — Dep. University College London UK. 01.09.99, № 108.
6. **Gaborit, P.** European New Towns: Image, Identities, Future / P. Gaborit. — Brussels: P. I. E. Peter Lang S. A., 2010. — 132 pp.
7. **United Nations Centre for Human Settlements.** Metropolitan planning and management in the developing world: Spatial decentralization policy in Bombay and Cairo / United Nations Centre for Human Settlements. — Nairobi: Publishers United Nations Centre for Human Settlements (UN-Habitat), 1993. — 155 pp.
8. **Assas, M. M.** An expert system for developing informal settlements: PhD thesis / M. M. Assas. — Cairo, 2007. — 264 pp.
9. **Soliman, A. M.** A possible way out: formalizing housing informality in Egyptian cities / A. M. Soliman. — Maryland: University Press of America Inc, 2004. — 289 pp.
10. **Saudi, M. H.** Updated report: Strategic comprehensive development of Alexandria province, Towards a strategy for slums development / M. H. Saudi. — Alexandria: World Bank: City Alliance, 2005. — 169 pp.
11. **Sheta, A. A.** Slums upgrading and national development: policies and management / A. A. Sheta, S. Abdul-Wahab. — Cairo: Center for the study of developing countries (CSDC), 2008. — 221 pp.
12. **Galal, K. S.** The climatic performance of the urban communities in Egypt (Case study: Burg El Arab city): PHD thesis / K. S. Galal. — Alexandria, 2002. — 212 pp.
13. **Zahran, M. M.** Urban planning criticism of Burg El Arab town / M. M. Zahran // Architecture and urban design criticism: collection of scientific work of Alexandria university / Alexandria university. — Alexandria, 2006. — P. 10—43.
14. **Jabareen, Y. R.** Sustainable urban forms their typologies, models, and concepts / Y. R. Jabareen // Journal of Planning Education and Research. Urban planning. — 2006. — № 1. — P. 38—52.