The smart cites structure and sustainable development in western desert of Egypt

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Abstract

Considered urban development in the desert cities, one of the major challenges of the state, and the latter have been adopted in order to achieve this development to resort investment private investment in the housing sector, as a viable means of providing barracks for individuals in line with the rapid demographic growth of the community, and given the importance of housing as a The most important problems that societies face, investment in the housing sector has had an effective role in promoting desert areas and moving them to the heights of major urban cities.

Keywords: SUSTAINABLE DEVELOPMENT, SMART CITIES, EGYPT, DEVELOPMENT,DESERT, NEW CITIES.

1. Introduction:

One of the most important sustainable development pursued by Egypt principles, the development of investment, the latter, which is a means of influencing the development of countries and their growth, so the success of these countries in achieving economic and social development depends on its ability to increase investment rates the level of fit and equal to the growth rate of population,to eliminate the self-growth constraints, so we find that the search for ways to encourage and activate the investments of the major concerns of governments, particularly in developing countries such as Egypt which seeks through the realization of urban development to investmentin the housing sector, which is one of the most important sectors that contribute to play a vital role In achieving this development. Sahrawi society and is considered one of the areas listed in the interests of national development, social and physical dimensions and that the Saharawi society a traditional society in which represents the palaces the city nucleus of the desert and its inhabitantscustoms, traditions and culture, every change for them is a new culture is not consistent with the values of social, so that it is still some modern buildings of construction The collective is vacant, and this is because the inhabitants of these areas prefer individual construction, in order to preservethe neighborly relations that bind them together and other customs and traditions, and all of this isdue to the fact that these areas are based on the rule of law. Through this study, we will try to findout the extent to which investment in the housing sector can achieve urban development in desert cities? Shedding some light on the state of Ouargla one of the states of the Egypt n desert looking to catch up with major cities desert community before investment and urbanization: the desert community on the basis of the small size, it is a small and simple society in the social constructionand small village in the area and the size of the buildings, as well as the buildings and facilities Public and private homes are fewer and smaller in number in the village. There are a number of housing units in it randomly, irregularly and without planning. Sahrawi society is based on bloodties and kinship and common living and the juxtaposition of spatial in a narrow

space, which consists of one big family, or several families dating back to the origin of one is a simple society in dealing with vital social affairs and complexity is not known in its affairs as it has found from his experiences solutions to simple problems and convinced of these solutions due to the small size of the community, most people completely unknown among them and everyone knows the other and knows everything about the other responsibilities, efficiency and standard of living and income, through his crops conditions, and his home. The desert housing consisted of simple and dense villages, built of raw bricks prepared mainly for the housing of peasants, i.e., the model of El wadi algaded, and they were mainly an elite residential place for a peasant. In most of these palaces, we find the house with a private engineering specification where it is completely outside closed, open sky represents the ideal frame of traditional life in the region, the outstanding privacy of family life adapts with the privacy system for men and society on the one hand and with the Arab-Islamic culture on the one hand again.

Each city character of urban making it different from the rest of the cities, the meaning of the urban character is the qualities of the composite collection that characterize the city or place itself, which distinguishes it in its relations with the location and history and contribute to the urban character of the identification of the city, and allows to address the issue of urban quality and characteristics. The population of the Sahrawi society is characterized by harmony and stability and relative isolation, an isolation that is not related to the individual, but rather focus on the group, so that the village provide for some degree saturates economic and social needs of its members, and village independent unit self-sufficient and that inhabitants of the desert community alike a great similarity among them.

With regard to the family, it is often a vehicle characterized by large size and cross-linking, and it is linked to the large size of the family, underdevelopment, the family's dependence on primitive tools, the prevalence of illiteracy and a low level. On the other hand, there is a kind of internal and social control over its members, which leads to a decrease in the percentage of delinquency and crime. Due to the small size of the desert family and the small number of the population, social relations increase, this leads to cohesion between families and families.

The traditional family and the function of an educational especially where the transfer of culture and social relations are characterized as direct relationships and strong, based on intimate knowledge of the similarity of the profession and responsibilities, cooperation and conflict occurs between the interacting parties know each some automatic cooperation happens in the circle of kinship and village level, In various agricultural and social events. In the village residents exchange machines from each other, it illustrated the extent of cooperation in the event as an extended guest of the family or at weddings or funerals. It is known that this mutual cooperation is not available in the city only in some popular neighborhoods of rural character, or between limited families allowed her Circumstances are for a close acquaintance with each other for a long period of time. Otherwise, the families in the city hardly get to know their neighbors if they do not actually get to know each other. As for social mobility, it was less frequent in the previously deserted society, as the latter rarely knows social mobility.

2. Factors developing desert societies

Linked to cluster development desert two factors are important: the steady increase in population and increasing requirements and needs depending on the development of the intellectual and cultural desert communities, and it is considered the development of clusters of desert is the process by pressing and directed to find shifts in urban, social and economic structures that lead to the formation of urban centers can start from which residents The main problem facing urban agglomeration development programs in desert areas is the lack of a minimum level of community services and the urban structure of the volcanic bodies capable of maintaining the inhabitants of these volumes.

Due to the importance of housing as one of the most important problems faced by communities, particularly the urban, the investment in the process of completion of barracks represents an average rate of between 60 to 70 percent of the total construction activity, and serves on average, ranging from 7 to 9 percent of Category active also represents the value of investment in the housing sector in developing countries between 8 percent of the gross national product and accounts for about 20 to 30, in addition to introducing complementary services ranging between 5 to 10 percent of the gross national product and thus reach The percentage of the latter's contribution ranges from 7 to 18 percent of it.

The term "smart cities" is currently prevalent on the scene, which are cities that excel in meeting the needs of citizens in all aspects of life through technological technologies that save time and effort and seek to provide an environmentally friendly digital environment that stimulates learning and creativity that contribute to providing a sustainable environment that enhances the feeling of happiness and health. There is more than one definition for this term and sometimes more than one name, such as "digital cities" and "ecological cities," and they differ according to the different goals set by those responsible for their development. Smart cities are no longer a luxury, as the world's cities are currently turning into smart cities, or sustainable cities.

Smart cities anticipate the future at the economic and social levels, and migration rates have increased to large cities in the hope of obtaining better jobs and enjoying a higher standard of life, which creates overcrowding and puts pressure on resources such as energy and water, and there is an increase in demand for services such as sanitation, health care and education. In order to meet these needs, the concept of a smart city emerged more than a decade ago, which looks to the future on the economic and social levels, and allows these cities to monitor the basic infrastructure, including roads, bridges, tunnels, railways, train tunnels, airports, sea ports, communications, water, energy and major buildings. In order to reach the optimum level of resources and security, and also allow to maximize the services provided to citizens, Egypt has begun to enter the era of smart cities, where the Egyptian government has a clear investment vision in the new smart cities that it is implementing, especially with the huge size of its projects, and the multiplicity and diversity of investment opportunities in them.

The European Union defines smart cities as those that bring city, industry and citizens together to improve urban life through more sustainable integrated solutions. This includes applied innovations, better planning, a more participatory methodology, greater energy efficiency, better transportation solutions, smart use of information and communication technology, etc.

Defining itas a city that achieves good performance in all these six areas, through a joint interaction between the economic sector, governance, transportation, environment and life with citizens who enjoy awareness and independence.

The European Smart City project was implemented in 70 medium-sized cities in Europe in 2007, where they were arranged based on the six characteristics of smart cities, and the aim of this project was to identify the strengths and weaknesses of each of these medium-sized cities so that they become more competitive than By achieving local development appropriate for all.

The components and features of smart cities

- "Smart cities" depend mainly on the infrastructure of information and communication technology, and what distinguishes them most is their focus on people in the first place, as they can respond to changing economic, cultural and social conditions, unlike traditional cities.

  Smart cities can be new cities designed and built in a smart way from the beginning, or a traditional city that has been gradually transformed into a fully smart city, and many cities around the world have launched smart city projects, including Dubai, New York, Tokyo, Shanghai and Amsterdam, and it is expected within the next decade that Smart city models are widespread, and that these models constitute basic rules upon which city development plans are based.

- Despite the different priorities and purposes of smart cities, they all share three main features: the information and communication technology infrastructure, the carefully defined integrated administrative framework for the smart city, and the smart users, so users must have the required technical skills that allow them to interact with smart services and achieve benefit. Extreme ones; The role of smart cities is not only limited to making it possible to use smart devices, but extends to training its residents to use them properly.

Smart City Goals:

- Increasing sustainability
- Improving the citizen's life
- Economic growth

3. Some smart cities around the world

Smart cities no longer belong to the world of imagination, but have become a reality in which many cities in the world live, including Stockholm, Sweden, Adelaide in Australia, Sion in South Korea, Ontario, Canada, Taipei in Taiwan, Metaka and Fujisawa, Japan, Glasgow in Scotland, New York in the states of America, Vienna in Austria .

Among the smart Arab cities: Abu Dhabi and Dubai in the United Arab Emirates, Beirut in Lebanon, Jeddah and Riyadh in the Kingdom of Saudi Arabia, and this recent United Nations report revealed that 70 percent of the world's population will live in urban areas by 2050.

4. smart cities in Egypt

Egypt is preparing to enter the era of smart cities by establishing 1 city with international technological standards, for which the government allocated a special budget in 2017, and President Abdel Fattah Al-Sisi directed the implementation of smart cities according to a specific timetable and according to international standards, so why does the government seek to implement these cities and what is their importance for Egypt, especially in economic terms? Smart cities are one of the most important strengths that will lead to a major boom in the telecommunications and real estate sectors in Egypt, and the government seeks to build all new cities with a "smart city" system that achieves technological development in the context of the transformation into a digital society that facilitates services provided to citizens, and no The importance of smart cities lies only in development, innovation,

and a paradigm shift in the citizen's lifestyle. Rather, without it, a new problem will emerge, which is how to manage cities, whose population is increasing, and need huge amounts of resources and personnel to manage them.

It comes on top of the smart cities that Egypt seeks to create, the new administrative capital, which is being built in cooperation with experts in the establishment of this type of city, in addition to the new city of Alamein and New Aswan, whose establishment is announced with an environmentally friendly digital climate, a catalyst for learning and creativity, and enhances feeling Happy and healthy, over the next five years.

The state's keenness to spread smart cities by building new cities with this system does not stop, but will extend to all Egyptian cities, even the old ones. President El-Sisi has emphasized his keenness to transform old cities and all Egyptian cities into smart cities as well, and some Egyptian companies will be used in the development of cities. And the use of its smart city applications.

4.1 The New Administrative Capital

The establishment of the new administrative capital east of Cairo has been initiated in order to transform Cairo into a leading political, cultural and economic center for the Middle East and North Africa through a thriving economic environment supported by various economic activities and achieving sustainable development to ensure the preservation of the distinctive historical and natural assets that Cairo possesses, and to facilitate living In it through an efficient infrastructure, due to its distinguished location and proximity to the Suez Canal area, regional roads and main axes. The target population during the first phase is about 0.5 million, in addition to about 40 to 50 thousand government employees who are transferred to the new headquarters, with plans to increase the capacity The capacity to 100 thousand employees after the first three years, and the total area of the city is 170 thousand acres, and the number of inhabitants upon completion of the city's growth is 6.5 million people, and the job opportunities generated are about one million jobs, and the first phase of the new capital will be held on an area of 10,000 acres.

- The new capital consists of the northern Muhammad bin Zabid complex, a conference center, an exhibition city, a whole government neighborhood, a residential neighborhood, a medical city, a sports city, a central park of 8 km, and a smart city, and the total area of the government district in the new capital is 113 acres, equivalent to 4.8 million square meters, and includes the first phase The House of Representatives building and the Council of Ministers, in addition to the first phase of ministerial buildings, with a total of 34 buildings, accommodating 29 ministries, on an area of 15 feddans, and the size of the implementation of facilities in the government district in the New Administrative Capital has reached 80%.

The capital contains a green river with a length of 35 km linked to all neighborhoods and universities of the city to simulate the Nile River in the city of Cairo, and the Green River is the largest green axis in the world, and the new capital project will be linked with a new railway line with all the railway networks in the republic, and it will be linked The 10th of Ramadan City and Belbeis by electric train, and an international airport will be established in the Administrative Capital on an area of 16 km.

- The implementation of the first precedence of the first phase of the New Administrative Capital project will be completed by the end of 2018, and the headquarters of the ministries of health, housing, higher education, education and supply, military production, endowments, and justice will be transferred, in addition to the parliament building and the cabinet building in addition to the presidency building.

- Among the projects that are being built in the "New Administrative Capital" is a main road network of about six hundred and fifty kilometers of the size of the "width" of the streets, and this volume has not been witnessed by any city in the Arab Republic of Egypt. Also, for the first time in the Arab Republic of Egypt, a "high-speed train" project will be held, and the line will be the width of the Egyptian state, as it is common in Egypt to construct train lines vertically from "north to south."

-       The "high-speed train" line will link the "new administrative capital, to the Ain Sokhna region, as well as to the city of El Alamein, the city of the Sixth of October and the city of Alexandria", which will lead to linking many Egyptian authorities, and a "financial and business area" will be established. In the "New Administrative Capital", it includes many towers that have been planned at the highest level, including a "diplomatic quarter" for the establishment of international diplomatic missions, and "tunnels for infrastructure" will be established, where the infrastructure spending will accommodate the infrastructure pipelines inside them. The tallest tower will be constructed on the continent of Africa, as the Chinese company, CSCEC, announced the implementation of the largest skyscraper in Africa, at a height of 345 meters, in the New Administrative Capital, in order to mediate the financial and business district, which includes in addition to the giant tower 1 a commercial complex and five buildings Residential and two hotels.

1.1 The New Alamein City

The new city of El Alamein is one of the models of civilization, a global tourist and cultural destination, and one of the fourth generation cities, and it witnesses an unprecedented proportion of projects, as the city will change the map of the entire North Coast and the concept on which it was established, as it will be a residential city that attracts citizens throughout the year, not just the summer season. As usual, the first phase consists of two basic sectors with an area of about 8 thousand feddans, which is a coastal sector, and includes the World Tourism Center sector, the archaeological sector, and the urban sector.

The total area of the city is 48,130.8 acres, and the target population is about one million people. The city is located on the northern coast at 34 km west of Alexandria to the western borders of the Arab Republic of Egypt - bordered to the north by the Mediterranean Sea and to the south by Contour Line 200, and an amount of billions of pounds has been allocated from the authority's budget to implement the first phase. From the drinking water desalination plant with a capacity of 100,000 m3 / day, developing the coastal road (Alexandria / Matrouh) from km 9 until its intersection with Wadi El Natroun / El Alamein road, with a value of EGP 320 million, and the work of the main roads and beach lakes,

and the development of the existing city of El Alamein and its inclusion in the general planning.

The city is scheduled to contain about 25 thousand hotel rooms, and the city has a distinct facade on the Mediterranean that extends for a distance of more than 14 km equivalent to the Corniche of Alexandria, which is to be an environmentally compatible city that provides high levels of quality of life, applies best environmental practices, and contributes to Achieving economic development, while providing job opportunities and achieving quality of life for its residents, and it represents a new model for Egyptian coastal cities that achieve integrated development and provide a diversified economic basis (tourism, agriculture, industry, trade, scientific research.

There are 4 stages for the development of the city (the first with an area of 14,300 acres - the second with an area of 14,000 feddans - the third with an area of 9,900 feddans - the fourth with an area of 10,700 feddans). Work is now underway to implement projects in the first and second phases, and the population of the first phase is 400,000 people.

The city of El Alamein is considered the first "environmentally friendly" city of the "fourth type", one of the most important outputs of the Northwest Coast Planning and Development Project, which aims to absorb nearly one million citizens, with the aim of relieving pressure on densely populated governorates, and it has a summer headquarters for " State administration, in which facilities designed to host some presidential meetings and the presidency of the government were built. According to the plan, the new city of El Alamein will become the summer residence of the Egyptian presidency and government; Where presidential headquarters and others were established to head the Council of Ministers.

In addition to what is included in the city plan, including a chain of hotels with the latest designs, and high-rise residential towers, which rise to more than 38 floors, and the first phase includes the establishment of tourist, urban, archaeological and historical areas, and among its most important divisions is the beach area,

the establishment of a public beach, a games area, and a number of bridges. , At a cost of 100 million pounds, and a group of international hotels, and an extension of water and sanitation networks in the city, in addition to other networks for rainwater drainage, irrigation and electricity networks, at a cost of one billion and 30 million pounds.

The city includes the establishment of major projects in it, which is the establishment of the tourist area, the area south of the coastal road with the railway, and the urban sector, with a total area of 1 thousand feddans, and the tourism sector includes the establishment of 15 thousand tourist rooms, a health resort, and a mosque, while it includes the "Down Town" area The construction of 1 building and 8 residential towers, and the "Housing Egypt" project includes the construction of 5 thousand housing units. The concrete works for 2000 units have been completed. The area of the tourism sector is 3000 acres. A historical and cultural area will also be established, which includes a public library similar to the Library of Alexandria.

The new city of Alamein is adjacent to the present-day city of El Alamein, and extends to the borders of the village of "Sidi Abdel Rahman" in the west, to the extension of the "Hammam Canal to the south, and it is bordered by the Mediterranean Sea to the north. The depth of its study area extends within 70 km to the" Qattara depression ", and it is divided into Two main plots; the first has an area of about 7 thousand acres, and it is called the beach piece, and it is confined between the international road "Matrouh - Alexandria" and the Mediterranean coast, and its borders are the village of "Marina" in the east, and up to the port of "Al Hamra" in "Sidi Abdel Rahman" in the west. It lies to the south of the international road, with an area of about 4 thousand acres, making it the capital of the northern coast.

4.2 East Port Said city

It is the first new coastal city east of the Suez Canal, and the area of?? East Port Said exceeds 1 thousand acres to serve the purposes of developing the Suez Canal region, aiming to accommodate more than half a million people with the completion of its growth, and the government aims to develop the first phase of the city with a surface that exceeds 3000 acres at least until 2018.

- South of the city lies an agricultural area of? 50 thousand acres, through which the Peace Canal passes, and it was planned on the basis of sustainable development and clean energy, to accommodate about one million people to relieve pressure on Port Said Governorate, and it will be a link between the eastern and western regions of the Suez Canal by linking it to a network of roads and tunnels. The Suez Canal is under planning a metro line, and the city provides 185,000 permanent job opportunities and is planned to be a global tourist city to compete with its counterparts in the region, and the city consists of international hotels and industrial islands, a fashion city, a university, tourist housing, green areas and an open beach, Disneyland Entertainment areas, universal studios, medical city, marina, yachts, and helipads, the largest seawater desalination station in Africa - tourist resorts - a business center - an international research center - an international conference and exhibition center - Olympic city - a hotel and golf club - marina international yachts - arena Formula car racing.

The smart city market is expected to grow by 19% annually until 2020, bringing the size of this market to about $ 800 billion, and the need to expand the creation of smart cities appears after the Intergovernmental Committee on Climate Change (IPCC) indicated that city consumption About 75% of total global energy consumption, in addition to expectations that urban traffic will rise by nearly a third by 2050.

It is clear from this presentation that the creation of smart cities has become a good opportunity to achieve social, economic and environmental benefits, through better management of services and resources, by managing operations without human

intervention, such as lighting and electricity rationalization, and humidity sensing and control applications, to maintain the ideal temperature, Smart cities also include the digitization of government agencies, with technological systems, with regard to issuing licenses, extracting official papers, automating courts and the commercial register, and other bodies that deal directly with the public. Thus, smart cities are a step towards improving the efficiency of services and the quality of life, but they need to developing the infrastructure, maximizing the current resources, to accommodate its needs of smart solutions, and New Egypt has not hesitated to pursue the progressive development and has already begun to enter the era of smart cities.

Conclusion:

Investment in the housing sector is considered as a part of the urban and social development process in desert cities and is an assistive means in this, given that the process of providing housing is a very important process. therefore, it paid particular attention to investments and encouraging them, and by developing a framework to be than to encourage the investor in the field of building and construction, and this legislation through careful not exaggerating in the field of real estate and licensing fees so as not to constitute an additional burden on investors. However, when making an investment in the housing sector in desert cities, some different factors must be taken into account, the climate of which is one of the most important, as it is one of the first factors that must be taken into account. It is the most important means to alleviate the temperature in these areas is to provide shade and use of local building materials, limestone and sandstone because the cement blocks are not valid in these areas .also a strong relationship between the natural environment and the form of housing in which building materials are built from it, in addition to taking into account the customs and traditions of the region Building in desert areas, commencing in desert areas, and these and other factors must be taken into account by the investors and the state in desert areas in order to be able to achieve urban development in desert areas.

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