

TOWARDS SUSTAINABLE DEVELOPMENT IN UPPER EGYPT (CASE STUDY: CITY OF ASSIUT)

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©Ontario International Development Agency ISSN: 1923-6654 (print)

ISSN 1923-6662 (online). Available at <http://www.ssrn.com/link/OIDA-Intl-Journal-Sustainable-Dev.html>

Abstract: Egyptian cities began in the last decades to experience growth and development in order to enhance the comprehensive and integrated its components of urban areas. The aim of the paper is to focuses on the research study , analysis of the development process , the problems and obstacles that have appeared and monitor urban image that have taken place in the form of the city, evaluation of the development process to draw strong factors and its repercussions - if any - to take advantage of the concepts, methods, stages of this experiment and the extent of their applicability to the Egyptian cities of similar, and perhaps the closest resemblance to the cities of Upper Egypt neighbors. the study aims to analyze the frameworks applied to the development process and the constraints experienced by this experience. The paper ends with results and recommendations to draw methodology that can benefit the upgrading of other nearby similar Egyptian cities.

Keywords: Assiut city, Egypt, Sustainable Development, Urban areas

INTRODUCTION

Most of the Egyptian cities are suffering on many fields, the great population growth rate, the increased pollution levels are already serious matters of concern, heavily consumption of the natural resources causing damages to the environment[5]. The Egyptian

government doesn't give enough attention to the sustainable development issue, this leads to deteriorate the urban activities and social awareness in the community. All governmental plans and planning solutions to face city problems were temporary solutions without a comprehensive planning view.

The main problem is that the small and medium cities in Upper Egypt "Assuit as a case study" suffering from many urgent problems in many fields this happened as a result of disregarding Upper Egypt cities during the last decades , sustainable development is a big part of this problem and it could be the only solution.

These problems affected city rules such as unbalancing the distribution of the city size, and expulsion of its population.

In this paper problems will be pointed and how sustainable development will help if it implemented correctly, by understanding the current cities situation.

What is the sustainable development, the examples from other countries for how to implement the sustainable development, and how this will lead to improve the urban performance and achieve the sustainable urban development in the city of Assuit, based on real experiences from other countries and foreign projects, the main focus is to analyze and assess the possibilities to develop the city of Assiut

and cultivate new areas beyond the old valley in sustainable ways (raw materials , water resources , new and renewable energy sources ,....) the development concepts based on the principles of Sustainability (the balance between the economic, environmental and social aspects) considering the needs of future generations, intending to support the ambitious idea of national Sustainable Development in Egypt. And here the researcher chooses Assiut City as an example for the Upper Egypt region for the following reasons: (a) It is the Capital Governorate in the Upper Egypt region. (b) The limitation of the area according to population. (c) The high growth of birth rate. (d) Accessibility to the desert through Assiut valley and the ability to create a new sustainable community in the desert. (e) The perfect location in the middle of Upper Egypt area. (g) It could be a good example for the rest of surrounding cities.

Sustainable Development – background and definitions

After the 1972 UN conference on the Human Environment, the Sustainability has been placed on the agenda of governmental and non-governmental organizations[20], and more recently the World Commission on Environment and Development WCED1987 (Brundtland Commission)[19] also in 1992 called the Earth Summit in Rio de Janeiro has defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. It has been stated that Cities must be economically viable , socially equitable and contribute to environmental protection of all aspects.[8] , the concept of Sustainable development attracted the world’s attention , the relation between development and environment was changed,[9] new policies has been adopted with long term urban sustainability sustainable development in general is the ability to maintain balance of a certain process or state in any system can be also defined as the ability of an ecosystem to maintain ecological processes, functions, biodiversity and productivity into the future ,also means thinking of the future [1]; it is the potential for long term maintenance of well being [9], which is a triangle of three elements: (a) Economic performance. (b) Social stability and social cohesion. (c) Environmental stability.[1]

Sustainability is a complex concept that can be applied to every system on earth to improve the quality of human life while living within the carrying capacity of supporting eco-systems [3], and not generate unacceptable pollution externally or internally. [4]

Sustainable development has become a widely recognized goal for human society ever since deteriorating environmental conditions. [5]

WCED’s definition was also used as a basis for the Urban21 Conference in Berlin 2000: “Improving the quality of life in a city, including the ecological, cultural, political, institutional, social and economic components without leaving a burden on the future generations. A burden which is the result of a reduced natural capital and an excessive local debt. Our aim is that the flow principle that is based on equilibrium of material and energy and also financial input/output, plays a crucial role in all future decisions upon the development of urban areas.”[10]

Global developments now focus attention on sustainability as an explicit goal.[7] But the concept has to be translated into the practical dimensions of the real world to make it operational. Sustainable development of human society has environmental, material, ecological, social, economic, legal, cultural, political and psychological dimensions that require attention: some forms of sustainable development can be expected to be much more acceptable to humans and, therefore, much further away from eventual collapse than others. Sustainability is a dynamic concept. Societies and their environments change, technologies and cultures change, values and aspirations change, and a sustainable society must allow and sustain such change, it must allow continuous, viable and vigorous development, which is what we mean by sustainable development.[5]

From a basic perspective, sustainable development can be viewed as the most advanced and comprehensive secular concept for the survival and advancement of humankind in the 21st century, concentrating all basic knowledge and principles into one holistic strategy for all individuals and societies.[6]

All of the various definitions of sustainable development tend to agree that it has the following key characteristics that distinguish it from conventional development.

(a) Sustainable development is concerned with the achievement of social, economic and environmental objectives at the same time and not a process of trading advantages in one sphere against losses in another. It is about integrating objectives rather than balancing them. (b) Sustainable development recognises the impacts that decisions taken locally will have globally. (c) Sustainable development recognises the impacts that decisions taken now will have on generations in the future. (d) • Sustainable development places a high emphasis on public participation in decisions that affect them. [25]

Sustainable City Definition

A sustainable city, or eco-city is a city designed with consideration of environmental impact, inhabited by people dedicated to minimization of required inputs

of energy, water and food, and waste output of heat, air pollution - CO₂, methane, and water pollution.[2]

A sustainable city can feed itself with minimal reliance on the surrounding countryside, and power itself with renewable sources of energy, create the smallest possible ecological footprint, and to produce the lowest quantity of pollution possible, to efficiently use land; compost used materials, recycle it or convert waste-to-energy, and thus the city's overall contribution to climate change will be minimal, if such practices are adhered to.[2]

The term *sustainable development* goes beyond the boundaries of science and business development and trade to include human development, values, and specifics in cultures. In fact, many organizations refer to *sustainable human development* as opposed to sustainable development in order to emphasize issues such as the importance of gender equality, participation in decision-making processes, and access to education and health. Cities have become the focal points of these components as major consumers and distributors of goods and services. At the same time, many cities tend to be large consumers of goods and services, while draining resources out of external regions that they depend on. As a result of increasing consumption of resources, and growing dependencies on trade, the ecological impact of cities extends beyond their geographic locations.[4]

During the preparatory meetings for the URBAN21 Conference (Berlin, July 2000)[21], the following definition was developed to define sustainable urban development in a City: "Improving the quality of life in a city, including ecological, cultural, political, institutional, social and economic components without leaving a burden on the future generations. A burden which is the result of a reduced natural capital and an excessive local debt. Our aim is that the flow principle, that is based on an equilibrium of material and energy and also financial input/output, plays a crucial role in all future decisions on the development of urban areas." [21]

There is no single model of sustainable urban development and no single path to the target, but there is a need for continued investment in new ideas and effective approaches to create more successful – more sustainable – cities and local authorities. Each local authority has to define its vision by working with local citizens and a range of partners from the public and private sector to deliver this effectively.[12]

By promoting sustainable urban form and function, cities become healthy and viable communities for citizens. Efficient urban form also helps protect the hinterland of ecosystems that cities depend on. In many ways, the advantages of sustainable

communities are underlined in the characteristics and definitions of urban sustainability. A good quality of life, natural open spaces, reduced waste, equality, access, lower crime, sense of community, clean air and water quality, and environmental diversity are just a few beneficial characteristics previously mentioned. The most important advantage of a sustainable city is that it follows such a development path that allows for an integral and long-term development without compromising future generations. At the same time this includes intra and intergenerational equality.[6]

Sustainable city development is the ability to make development choices which respect the relationship between the economy, environment, and social aspects:

Economy

An economically sustainable system must be able to produce goods and services on a continuing basis, to maintain manageable levels of government and external debt, and to avoid extreme sectoral imbalances which damage agricultural or industrial production.[11]

Economic activity should serve the common good, be self-renewing, and build local assets and self-reliance[6]; the current world economic crisis appears as a very important challenge in the short and medium terms, having a strong urban dimension which can be perceived in its deep negative impact on the economic and social structures of towns and cities. From the point of view of neoclassical economic theory, sustainability can be defined in terms of the maximization of welfare over time. efficient resource allocation should have the effect of maximizing utility from consumption. [11]

Environments

An environmentally sustainable system must maintain a stable resource base, avoiding over-exploitation of renewable resource systems or environmental sink functions, and depleting non-renewable resources only to the extent that investment is made in adequate substitutes. This includes maintenance of biodiversity, atmospheric stability, and other ecosystem functions not ordinarily classed as economic resources.[11]

sustainability must involve limits on population and consumption levels. These limits apply to all biological systems. The importance of the ecological perspective is increasingly evident, as more of the critical problems facing humanity arise from failures of ecological resilience. [11]

Humans are part of nature, nature has limits, and communities are responsible for protecting and building natural assets.[6]

Social aspects and Equity

A socially sustainable system must achieve distributional equity, adequate provision of social services including health and education, gender equity, and political accountability and participation. [11]

Equity - The opportunity for full participation in all activities, benefits, and decision-making of a society.[6] social challenges relating to a very diverse range of phenomena, such as population high growth rate, immigration, population ageing, unbalanced distribution and flows of people, increasing diversity and complexity of households and family patterns, etc. These challenges affect cities in different ways, producing a diverse range of urban processes, such as suburbanization, urbanization, etc. Social cohesion within the city is receiving growing attention in urban policies as well, due to its close relation with global changes. The overall economic growth of a city rarely means an equal distribution of this growth within the city, and is often related to processes of social polarization.

In terms of this social dimension, educational policies are also increasingly important, as they are one of the main ways of preventing social inequalities and of bridging the gap between society and the labor market in an innovation-based economy. [12]

Briefly the main points concerning Environment, Economy, and Social are: (a) The original idea of development was based on a straight-line progression from traditional to modern mass-consumption society. Within this framework, a tension developed between the promotion of economic growth and the equitable provision of basic needs. Development as it has proceeded over the last half-century has remained inequitable, and has had growing negative environmental impacts. (b) A concept of sustainable development must remedy social inequities and environmental damage, while maintaining a sound economic base. (c) The conservation of natural capital is essential for sustainable economic production and intergenerational equity. Market mechanisms do not operate effectively to conserve natural capital, but tend to deplete and degrade it. (d) From an ecological perspective, both population and total resource demand must be limited in scale, and the integrity of ecosystems and diversity of species must be maintained. (e) Social equity, the fulfillment of basic health and educational needs, and participatory democracy are crucial elements of development, and are interrelated with environmental sustainability.

Based on the importance of the Sustainable Development, some formal accomplishments have been made in the Arab region towards the

achievement of sustainable development, Arab countries have several legal foundations for SD-initiatives: (a) Declaration of the UN summit on Human Environment (1971).[13] (b) The Arab Declaration on Environment and Development (Tunisia, 1986).[14] (c) The Arab Statement on Environment and Development and the Future Outlook (1991).[15] (d) The Rio Declaration of the UN Conference on Environment and Development (UNCED, 1992).[16] (e) The Barbados Declaration on Sustainable Development of Small Island Developing States (1994).[17] (f) The Malmo Declaration on the occasion of the first Global Ministerial Environment Forum (2000).[18] (g) The Jeddah Declaration concerning the Islamic Perspective on the Environment (2000).[22] (h) The Tehran Declaration concerning Religions, Cultures and Environment (2001).[23] (i) The Abu Dhabi Declaration: Perspective of Arab Environmental Action (2001).[24] (j) Building on the ministerial declaration of sustainable development issued in Cairo on October (2001)[26]

Sustainable Development Strategies around the world – Examples

(a) Sustainable Sydney 2030, Australia. (b) Sustainable Development in Sao Paulo, Brazil (c) Sustainable Development in Santa Monica. (d) Sustainability plan for San Francisco, USA. (e) Sustainable plan for Melbourne, Australia. (f) Building the Sustainable City of Chicago, USA. (g) Sustainable Development in Sagene Urban District, Oslo, Norway (h) Sustainable City of Almere, Netherlands. (i) Sustainable Urban Development in Chinese Cities. (j) Sustainable Atlanta City, USA. (k) Sustainable Development in Indian Cities (l) Sustainable Development in Leeds, United Kingdom. (m) Sustainable Development in Yazd City, Iran. (n) Sustainable Development in Phoenix, USA. (o) Sustainable Development in Masdar City, UAE. (p) Sustainable Development in Dongtan EcoCity, China. (q) Sustainable Development in Austin City. (r) Sustainable Development in Loretto bay, Mexico. (s) Sustainable Development in Curitiba, Brazil.

Description of the current situation of Assiut City

Assiut City conceded to be one of the biggest cities in Upper Egypt, it was chosen to be the capital of the Upper Egypt Region, Assiut City lies in the floodplain on the west bank of the River Nile. Assiut city located to the south of al menia city by 125 Km, north of Sohag city by 95 Km, and far from the Capital city of Cairo by 380 Km. Assiut is well connected with the other Egyptian cities through the regional road Aswan Cairo, in addition to the railway and the new Airport which is 30 Km far from Assiut City.



Figure 1: showing the location of Assiut City, and the Administrative division of the city

Table 1: showing the Land use of the city of Assiut. Source: ministry of housing 2007

Table 1 : Land Use Budget			
Land Use		Used Space (Feddan)	Ratio Of Used Space Of the Built Block
	Housing		
	Mixed	404.94	7.59
Total		1046.94	37.87
Services & Facilities	Education Services	976.05	18.28
	Health Services	73.01	1.37
	Entertainment Services	76.77	1.44
	Religious Services	20.93	0.39
	Entertainment Services	76.77	1.44
	Management Services	65.31	1.22
	Security Services	36.99	0.69
	Social Services	2.78	0.05
	Cultural Services	3.65	0.07
	Facilities	208.37	3.9
Total		1540.63	55.76
Economic Activities	Industrial	141.9	2.66
	Craftsman	34.22	0.64
Total Activities		176.12	6.37
Total Built Block		2763.01	100.000



Figure 2: showing the different housing types in Assiut City. Source Ministry of housing 2010

Table 2: showing the current educational services in the City of Assiut.
Source: Master plan strategy for Assiut City 2007 [ministry of Housing]

Table 2: The current status of Education services					
Statement		Schools	Classes	Students	No. Of Students (Student/Class)
Primary	General	57	897	40813	45.5
	Azhari	7	79	2725	34.5
Total		64	79	2725	45.6
Preparatory	General	41	397	16352	40.4
	Azhari	5	34	1030	30.3
Total		46	431	17382	40.32
Secondary	General	21	275	8926	32.5
	Azhari	2	43	1767	41.4
	Agricultural	2	97	3841	39.5
	Commercial	5	160	6148	38.5
Total		8	183	7002	38.3
Total		38	758	27684	36.5

Table 3: showing the current Health services in the City of Assiut. Source: Ministry of Health 2010

Table 3: The current status of health services 2007		
Service	Number	No. Of Families
Public hospitals	2	432.0
University hospitals	3	2859.0
Specialized hospitals	5	705.0
Total	10	3996.0
Source: Directorate of Health and Population in Assiut		

Table 4: showing the current status of social services
Source: Ministry of Social Affairs Assiut City Department.

Table 4: The current status of social services			
Social institutions	Number	Social Institutions	Number
Social Management	2	Family Consultancy	3
Social Units	7	Child Library	1
Community development associations	45	Child Club	6
Nurseries	96	Expatriate Houses	7
Disabled children Houses	3	Children Shelters	3
The elderly Clubs	3	Social Defense Club	2
The elderly Houses	2	Library of social control	2
Girls Workshops	20	Social Rehabilitation Centers	1
Social Defense Club	2	Cultural-Social Clubs	2
Library of social control	2	Disabled Training Center	2
Vocational training center	1	Prisoners Welfare Associations	1
Source: Ministry of Social Affairs Assiut City Department			

Administrative division

Assiut province has eleven administrative centers, which are: Manfalout, Dayrout Qusiya, Ottoman, Obnob, sahel salim, El-Fath, Badari, Obotej, and Sadfa. Assiut Center includes Assiut and seven local units Containing 29 villages. Assiut city is divided into two sections (section east of Assiut, Department of west of Assiut. The first section (East District): is divided into two northern and eastern Separated by Al-Ibrahimiya Canal, in the northern region Al Walidiya and Al Hoqoqyeen. The eastern region is confined between the Nile River east railway line (Cairo / Aswan) to the west, covers an area of about Section **2023.8** acres. Second section (district west of Assiut): Located to the west of the railway line (Cairo / Aswan) south of the Al-Ibrahimiya Canal, an area of Approximately **3809.5** acres.

Population and growth rate

The number of residents of the city of Assiut increased from 272 986 people in 1986 to 343 662 people in 1996 with average growth rate 2.3% while the annual rate fell to 1.3% during the period 1996 to 2006 which amounted to about 389 307 people . This rate of asymptotic growth rate, which was attended by the Republic Of about 2% during that period, in 2010 the population amounted to be 409950 people, and it is expected to reach population in 2027 to 652 583 people.

Land use

The residential area of the city is about 2279 acres, the use of a Residential ratio of 37.87% of the cluster-based services And facilities 55.76% and 6.37% of economic activities of Cluster-based.

The existing housing stock in the city

The number of buildings in the city reached about 36 thousand in 2006 Includes about 161 thousand units, [27]

Low-income housing

Number of housing units for poor and low-income amounts to 41 119 units by about 32% of the total housing in the city. These units include 19,893 housing units built using government subsidies in 2006

Informal Housing

Informal housing exists in seven different areas of the city with a rate of 33.2% of the area of urban cluster of the city with a population of 210,961

people, representing 54.2% of the total population of the city. [27]

Deteriorating housing

Concentrated in the west of the city of Assiut and it is considered the heart of the area old Assiut and the oldest area Are characterized by compact urban forms and the absence of urban spaces and narrow streets.

Services

The area of services the city of Assiut is about 1332.3 acres with rate of 51.9% of the area-based urban mass.

Educational services

Table (2) shows current status of Assiut Educational Services various stages of education (primary, lower secondary, Secondary) by Studying the current situation and future needs for educational services show that 21 schools need to be added with area of 16.04 acres to provide Educational services until 2027.

Health services

Table 3: showing the current Health services in the City of Assiut. Source: Ministry of Health 2010

Social services

Table (4) shows the current status of social services in the city where there are seven social units in the city, according to the rate of the target service of the Ministry of Social Affairs

Cultural services

In Assiut, there are two culture palaces in addition to seven Public libraries, four cinemas, two theaters, 14 Child libraries, And the Centre for Information and by assessing the cultural services in the city is sufficient for the current needs of the population and until 2027

Youth and sports sector services

The sports services form 13 Sports Athletic Club, two Central youth Centers. According to the target rates for the Ministry of Youth and Sports (One Youth Center / 50,000 people), it is necessary to provide 2 centers of Area 2 acres until 2027.

Religious Services

Represented in 396 mosques and 23 churches, and to examine the current situation For religious services in the city show that they meet the needs of the population in the current time and is sufficient until 2027

Table 5: showing the existing industries in the city of Assiut.
Source: Ministry of industry 2009

Table5: Industries in the city		
Type of Industry	Number of employees	Ratio (%)
Ready-made clothes	305	7.0
Tile industry	400	9.1
Timber industry	1025	23.5
Food industry	1616	37.1
Textile industry	62	1.4
Chemical Industries	944	22.0
Total	4352	100.1
Source: General Strategic Scheme -Assuit City 2007		

Table 6: showing different sources of drinking water in the city of Assiut.
Source: Master plan strategy for Assiut City 2007 [ministry of Housing]

TABLE6: Drinking Water Sources In Assuit City		
Type of Station	Number	Actual Capacity(Cubic Meter/day)
Major treatment plant	2	44297
Mobile purification units	3	8365
Artesian wells	7	60862
Source: General Strategic Scheme -Assuit City 2007		



Figure 3: Garbage dump in the Village of bani Ghalib.
Source: Master plan strategy for Assiut City 2007 [ministry of Housing]

Economic resources

Poverty and income distribution

The percentage of the poor population is 60.6% and most of the poor population 22.7%, and average per capita GDP is about 6700 pounds per capita in 2006 .[28]

The labor force and unemployment

The labor force reached 43.5% in 2006 of the total population of working age and for females did not exceed 26.9% of the total female, which means high dependency ratio, The unemployment rate was about 14.0% in 2006.[28]

Agriculture

The cultivated reins in the city reached 3624 Acres with traditional field crops (such as wheat, corn, cotton, and bean).

Livestock and poultry

It is estimated to be about 14 thousand head, (Cattle, buffalo, sheep, goats, camels) and the poultry are estimated to be about 44 thousand chickens.

Industrial activity and craftsmen

There is an important industrial base in the city, represented in the food industry, wood, chemical, and the following Table shows the existing industries in the city. There is also about 1669 and Workshops working in various craft activities in Assiut.

Tourism activity

The city has many Islamic, Coptic & historical touristic potentials .There are a number of touristic facilities that serve tourism in the City and is represented in seven hotels (3 stars) .[29]

Infrastructure

Transport and Roads

The City of Assiut is linked to the rest of the Egyptian Cities through: (a) Roads: Linked to the city of Cairo from the city via the (Cairo / Aswan) road east of the Nile, and by (Cairo / Assiut) Desert road West Nile. (b) Railway: Also linked to Cairo through the railway line (Cairo / Aswan), which passes by Assiut. (c) River Lines: Link the City of Assiut to the nearby villages Located on the east bank of the River Nile through River transport.

Air transport

One civilian airport serving the city with a capacity of 150 passengers / hour linking the rest of the airports of Egypt [29]

Road network at the city level

(a) Most of the city's roads are narrow and need to Re-paving, lighting and maintenance. (b) Railway (Cairo / Aswan) passes by mass Construction of the city from north to south, (c) Dividing it the east and west. (d) Parking in the streets is neither organized nor planned.

Drinking water

There are two main sources for the Drinking Water in the City of Assiut:-

The Old Purification plant and Czech purification plant, other than some moveable units located in Al-Arb'een, Arab El Madabegh, Al Gam'a and artesian wells (Al Arb'een, Al Hamra' 1, Al-Hamra' 2, Al-Mu'alimeen.

Sanitation

There is an old purification plant for wastewater treatment, designed of capacity of 25 thousand cubic meters/day currently implementing the new sewage treatment plant design capacity of 30 thousand cubic meters per day.

Electricity and Energy

Assiut is being currently fed through two power plants stations, they are Assuit steam station in Al-Hamra' and the New Assuit Station. The average per capita consumption for Electricity, 270 V. A [30].

Communications

The city has two digital call-centers which provide about 61.6 thousand lines serving approximately 60.5 thousand subscribers.

Solid Waste

Solid waste is collected from all sectors (residential, Service projects, ...) through the neighborhood and moved to the garbage dump in the village of Bani Ghalib at a distance of 15 km from Assuit or to the garbage dump in Al-Basra area 24 km of the city. The quantities of solid waste resulting from Assuit is valued to be (160-200) tons per day. Waste is recycled at the organic fertilizers factory or recycling paper plant and cardboard factory in Nasiriyah.

Environmental Pollution

Noise

noise source for the city activities from the industrial & craftsmen activities (55-60 db), while markets and workshops and shops located within the residential block is (60-65 db) and that is based on what the Environment Affairs Center, extension of the Environmental Law No. 4 of 1994.

Water pollution

The result of expelling cooling water from Al-Hamra' power plant directly to the Nile as well as disposal Of the output of dredging, dumping of solid waste, and agricultural drainage and what it contains from high levels of fertilizers and pesticides.

Air pollution

Resulting from gases emitted from industrial activities and brick kilns and coal and power plant in addition To the exhaust of vehicles on the roads and burning agricultural waste household dropping wastes in the Roads and burning it [31].

Soil Pollution

Soil pollution is produced as a result of the various usages Of pesticides, fertilizers and industrial waste and reflected on the capacity of the land productivity and thus on its fertility and plants And animals and leading to deterioration of soil quality and negatively affect the human that is based on what [31]

WHY THINKING OF NEW ASSUIT CITY

High growth rate population in the exciting city with the stability of the populated area led to many problems in the Architectural urban forms of the city and negatively affect the sustainability of the natural environment, also making it negatively affects the different development processes, the population of Assuit City increased from 343662 in 1996 to 409950 in 2010.

While there is no change for the available area for development, the focus of this population increased on the limited agricultural area in a form of unplanned random growth over and above the rapid urban increase in the unplanned slums are may have contributed to the emergence of environmental, urban, social and economical problems in Assuit City.

With increasing numbers of administrative problems resulting from the weakness of the governmental departments, problems & challenges that faces urban development in the existing location of the city of Assuit may be summarized as follows: (a) Decrease in fertile agricultural land suitable for cultivation due to increased population and weak control to reduce the unplanned urban growth. (b) The spread of slums and the informal housing area. (c) Shortage and poor distribution of services and basic facilities. (d) Weakness of the local economy and widespread of unemployment. (e) Deterioration of the built environment and land use conflict. (f) Widespread poverty and inability of the poor population to access the urban services. (g) Deterioration of the heritage buildings and the valuable architectural buildings in the city.

Based on the above, it must set priorities in order to create the new city of Assiut to be able to sustainability and to be able to face the changing circumstances, and develop new tools for creating job opportunities and improve the standard of living especially for the poor through a strategic planning approach to develop a future vision for the development of an integrated sustainable development of the new city of Assiut based on the existing resources of the region.

There is serious governmental action to start the new project of new Assiut city to the north east of the existing city of Assiut, with a distance of 22 Km, this project could improve the current circumstances, and improve the living in Assiut, some issues should be conceded while establishing the new sustainable city of Assiut: (a) Usage of renewable energy. (b) Waste management in sustainable ways (c) Design according to the carrying capacity (d) Water resource management, for drinking, and irrigations. (e) Set a transportation methods in a sustainable ways

ASSESSMENT AND INDICATORS FOR MEASURING THE SUSTAINABILITY

There are some available models to be used for the assessment and measurement of the indicators while design the new sustainable city of Assiut like : (a) (SAM) Sustainability Assessment Model (b) (STAR) Sustainability Tracking and Assessment Model (c) China Index for Sustainability

These models will be used for setting the goals and priorities by comparing the assuming weight of the new sustainable design of the new city of Assiut with the actual weight of the previous Sustainable cities examples.

STUDYING THE VISIBILITY OF THE PROJECT

In this step SWOT analyses tools could be used, in addition to the deep community participation, conferences, public hearing, studying the evaluation and the impacts of the projects.

In the case of Upper Egypt the government should support the local communities towards the Sustainable development process, and make it an urgent task, European countries as an examples help and support their communities to start the sustainability process by giving incentives to the projects and ideas, many European cities started successful sustainable process.

CONCLUSION

The paper hypothesizes that the current situation in Assiut city makes the city less Sustainable, in terms of Economical, Environmental, and Social aspects. Reviews of some present facts and features have been stated. Building new Assiut city on the principles of

sustainability that used in similar sustainable cities is one of the solutions. Yet more researches and tests are required to develop the new Sustainable city of Assiut.

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