

The Role of Nile Islands in Tourist Attraction Development

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Abstract: Nile islands in Egypt are the real breathing space for its surrounding cities and villages. In an environment abound with numerous economic, environmental, services and over population problems, combined with erosion of agricultural lands due to urban sprawl and poor agricultural techniques, Nile islands did neither receive adequate studies attending to highlight advantages of its natural resources which act as tourist attraction points, nor adequate developing efforts were done in order to get better services for its residents or improve their local environment. The research proposes some practical solutions for Nile island's problems based on studying sample models of successful of river islands all over the world getting use of their previous experience, as well as studying architectural design of a sample of existing successfully developed Nile islands in Egypt, their potentials, development methods and what was accomplished to make them act as tourist attraction points. The research took one of the neglected Nile islands proximate to the Maadi Corniche as an example. Proposed a development architectural design to make that island act as a refreshment area for its surrounding region and improve its tourist attraction capabilities. The research ended by concluding a general architectural design proposal that can be applied for most of the undeveloped Nile islands in Egypt.

Key words: Nile River Islands • River Islands Development • Tourism Attraction • Egypt

INTRODUCTION

Tourism is one of the main foundations of the Egyptian economy, it accounts for almost 40% of the total services, 19.3% of foreign exchange earnings and about 7% of GDP directly. Tourism industry is intertwined with many of the production and service sectors exceeding 70 feeding industries. Tourism is also one of the most important sectors of the state providing directly and indirectly job opportunities, that reaches about 12.6% of the total employment in Egypt [1]. A number of combined factors made the tourism industry have such high place in Egypt[2]. God had endowed Egypt with many natural and human constitutes which made it characterized with diversity of the tourist product, where those who are interested in monumental tourism, beach tourism, therapeutic tourism, festival tourism, Nile cruises and others heading thereto.

Nile cruises have its own taste and special charm on the Nile surface in Egypt (Fig.1) [3]. Nile cruise trips have acquired popularity among tourists and became one of their popular destinations; some tourists consider a trip for recreation and meditation in the beauty of the nature

and the charm of the history [4]. Cruise boats pass along the Pharaonic relics and temples accompanied by tour guides who explain in detail every archaeological site [5].

Nile islands are characterized as the most fertile lands in Egypt, some of which are considered resting stations for migratory birds, others are characterized by their unique topographic position due blending of sand dunes mountains on both Nile banks with the greenery of the islands in the presence of vegetation and animal diversity which is rarely to be present in other environments [6, 7]. Uniqueness of such areas as clean dry climate is desired by tourists from all over the world particularly in the winter [8]. Despite of the fact that the Nile islands in Egypt make use of several characteristics compared to their likes of other river islands in the world. But the current situation on these islands still yelling from the negative human intervention and waiting for a good development system that allows maximizing the benefits from its aesthetic sources and biodiversity, putting in consideration the potentials of sustainability for the benefit of future generations and maintaining the Nile water quality and tourist attractions. Nile islands nowadays face many problems [9] (Fig. 2 and Table 1).



Fig. 1: Special charm on the surface of the Nile in Egypt



Fig. 2: Nile islands face many problems such as sewage & wastes littering

Table 1: Environmental problems of Nile Islands

Environmental problems Nile Islands	
Agricultural crop residues	Agricultural wastes and crop residues storage problem pervades, leading to proliferation of many animals and insects, in addition to pollution of the general appearance [10].
Drinking water	Most island residents consume untreated drinking water, thus their health is exposed to disease.
Sewage	Island's sewage problem is a health and environmental problem affecting in origin its inhabitants. As well its bad impact on the health of all Nile Valley surrounding populations, due to the leakage of sewage contaminated water to the course of the Nile through porous soil, bad smell, spread of mosquitoes and harmful insects happen [11].
River erosion of the islands	River abrasive action of the islands increases in the summer, causing erosion of the borders of these islands and adversely affecting the lives of the population and agricultural activity because some of these islands are submerged in whole or in part [12].
Transportation	Prevailing means of transportation is boats that connect the island to residential assemblages on the beach closest thereto, therefore, the difficulty of going to schools and emergency medical transportation in a timely manner is one of the most important problems that affect the lives and health and welfare of the residents of these islands in addition to the lack of safety in this means, transportation problem negatively affect agricultural products marketing, which reduces yield to the farmer [6].
Wastes	Agricultural waste, household waste and remnants of barns that accumulate leading to the breeding of insects and the spread of odors and leaking of these pollutants to the waters of the Nile where there is no separation systems or recycling of garbage, which is abusive to the overall appearance and in case the garbage were burned, they cause air pollution.
Plant Diseases	Being located in the River Nile the islands are exposed to negligence by the agricultural supervisors and high humidity causes the emergence of many diseases.
Widespread unemployment	Unemployment becomes prevalent due to the increase in number of population and the lack of industrial projects or educational facilities, where that is accompanied with problem of dropouts due to the difficulty of reaching to schools and the declining economic situation of the population.
Encroachment on the sanctity of the Nile islands	Islands suffer from exploitation of the tourism companies to establish cafeterias and wooden stalls [13].
Negative impact of human activity on the bird migration	Most Nile islands, the southern ones in particular, are located on the path of bird migration, so that they are sort of stations for break and breeding and feeding. Migratory birds are exposed to many risks as a result of brick burning kilns, emitting smoke and hot air, which repel away birds from these islands, thus losing comfort and food and expose them for destruction, besides, the use of pesticides, herbicides and chemical fertilizers affects the lives of these birds when they exist on these islands, as well as eliminating of natural vegetation off some islands replacing it with cultivation, added to the above the deterioration of some island lands that have been subject to salting and increase of alkalinity and high water level as a result of frequent dredging operations on these lands, which affects negatively not only on migratory birds, but also on the income of the population and the continuity of their reliance in livelihood on agriculture on this earth.
Sandy islands in the course of the Nile	The phenomenon of sandy islands scattered in the middle of the Nile in wintertime as a result of the falling down of the water level of the river represent a threat to Nile tourism sector in Egypt, as it is the phenomenon that caused water leaks to some of cruise ships.

River Nile islands vary in terms of numbers and geographical distribution [14], the variation in the number, sizes and areas of islands can be explained due to differences in study times, as there are small islands covered with water completely in the summer while other islands disappear partly and islands ranging in respect of its area, so, we find that Central Facility for Mobilization and Statistics (CFMS) had estimated the islands number by about 163 islands and in the reports of *Nile Research Institute* (NRI) the number became 128 islands, whereas the General Authority for Survey (GAS) had estimated the number to increase to 181 islands and the Land & Water Research Institute (LWRI) has estimated the number of islands by about 209 islands and the Ministry of Water Resources had reported that the number is 197 islands, while the decision of the Prime Minister No. 1969 of 1998 had identified 144 islands as natural reserves (wetland reserves) and defined their names and geographical locations in Egypt, [15]. These islands are located in 16 governorates, namely Aswan- Quena- Sohag- Assuit- Minya- Beni Suef- Giza- Cairo- Qalyoubbeya - Menouffeya- Gharbbeya- Kafr El-Sheikh- Behaira- Dakahlleya- Luxor- Damietta.

- River Nile Main Waterway: The number of islands in the mainstream is 15 islands from Aswan in the south to Delta Barrage north, with a total area of approximately 32,500 Feddan [16].
- Rosetta Branch: The number of islands in Rosetta branch is 30 islands, located in the governorates of Behaira, Menouffeya, Gharbbeya, Kafr El-Sheikh, with a total area of approximately 3,400 Feddan.
- Damietta Branch: The number of islands in Damietta branch is 19 islands, located in the governorates of Qalyoubbeya-Menouffeya, Gharbbeya, Dakahlleya and Damietta. With a total area of approximately 1250 Feddan [17].

Considering the Egyptian River Nile part, we can notice several islands formed within its waterway, such formed islands are divided in two groups [18]:

Southern Islands: Located within the range governorate of Aswan (Fig.3), those islands were formed as a result of the strong rush of water in the past decades to find its way through facing rock formations, which broke away from each other to become Nile islands such as Saloga, Ghazal, Peja and Aglica.

Northern Islands: Beginning of Minya to the mouth of the river In the Mediterranean Sea through Damietta and Rosetta branches, which are loam Islands formed as a result of the slow speed stream of water, especially after the construction of the High Dam.

Difficulties That Faced the Research During the Study:

- Absence of earlier development geographical studies concerning Nile- Islands.
- Difficulty of obtaining data from reliable sources and sometimes such data and information contradict by source.
- Difficulty to access some of the islands, especially small and unpopulated ones or those are cultivated seasonally, mainly in times of low water level in winter, where there is no means of transport available.
- Most of the island settlers are of hand layers, thus being cautious when talking with any stranger and would often give misleading information about their land areas and what they grow.
- Dynamism of many of the islands due to the rise and fall of the Nile water level and because of erosion, deposition processes and other factors such as building of dams, barrages and all adjustments of Nile discharges.
- Difficulty of the field study and statistics because of scattered islands in the Nile waterway.

Due to the Previously Mentioned Difficulties the Research Is Based on the Egyptian Law 102 of 1983:

Table 2 illustrates the areas and uses of a chosen sample of Nile islands, by studying the chosen sample we can notice the variety of island's uses, some are residential, agricultural, entertainment, mixed use and neglected. The percentage of the neglected islands reaches 20% of the chosen sample. The research concentrates on the neglected islands architectural development methods from tourist attraction point of view [8, 19, 20].

Nile Islands in Egypt are divided Depending on Usage:

The Nile islands can be divided in Egypt, according to use (Fig.4): to residential islands-tourist islands- agricultural islands- and neglected islands that may be explained down below [21]:

Populated Nile Islands: Many of the Nile islands in Egypt have been exploited for residential purposes, such as the island of Zamalek, El Roda and others:

Table 2: Shows many Nile islands in Egypt and their areas and uses

Location	Current use	Name	Area	Location	Current use	Name	Area
Behaira	Agricultural	Saad	0.004km2	Behaira	Recreational	Rahmaniya	Unknown
Kafr El-Sheikh	Agricultural	Dmenkh	14f.	Kafr el-Sheikh	Agricultural - Residential	Mahala dieye	19f.
Kafr El-Sheikh	Agricultural - Residential	Jmajmon	56 f.	Kafr el-Sheikh	Agricultural - Residential	Safya	22 f.
Kafr El-Sheikh	Agricultural - Residential	Moftah	32 f.	Kafr el-Sheikh	Agricultural	Cypret	10 f.
Kafr El-Sheikh	Agricultural	Brembal	4 f.	Kafr el-Sheikh	Immersed	Elsayad	1 f.
Cairo	Residential	Rawda	Unknown	Kafr el-Sheikh	Agricultural - Residential	Elwakel	96 f.
Cairo	Agricultural	Warraq	1540 f.	Cairo	Residential	Zamalek	Unknown
Giza	Tourist	Jacob	32f.	Giza	Agricultural - Residential	Alqrsaah	420f.
Giza	Agricultural	Alkiratian	Very small	Giza	Agricultural - Residential	Dahab	650 f.
Dakahlleya	Agricultural	Saud	Unknown	Dakahlleya	Recreational	Elward	Unknown
Aswan	Tourist	Alheisa	80f.	Aswan	Tourist	Island	300f.
Aswan	Nature reserve	Beja	f. 25	Aswan	Nature reserve	Awad	40f.
Aswan	Tourist	Shash	Very small	Aswan	Tourist	Ogelka	Unknown
Aswan	Nature reserve	Kovso	Some of rocks	Aswan	Tourist	Philae	(380 m) long and (120 m) broad
Aswan	Nature reserve	Ghazal	13f.	Aswan	Nature reserve	Suhail	60f.
Aswan	Nature reserve	Omeonarta	4f.	Aswan	Nature reserve	Saluja	42f.
Aswan	Nature reserve	Plants	17f.	Aswan	Tourist	Elephantine	50f.
Aswan	Tourist	Altawia	200f.	Aswan	Tourist	Alkopia	65f.
Aswan	Tourist	Arab kiblya	46f.	Aswan	Tourist	Bloih	250f.
Aswan	Tourist	Mimih kiblya	51f.	Aswan	Tourist	Mansouria	1125f.
Aswan	Tourist	Fares	250f.	Aswan	Tourist	Akulait	51f.
Aswan	Tourist	Karabila	124f.	Aswan	Tourist	Silwa kiblya	70f.
Aswan	Tourist	Alfozh wasta	51f.	Aswan	Tourist	Alfozh kiblya	88f.
Aswan	Tourist	Alklh	260 f.	Aswan	Tourist	Alfozh baharia	102 f.
Luxor	Tourist	El Temsah	Unknown	Luxor	Residential	Armant	870 f.
Luxor	Residential	Awayed	Unknown	Luxor	Agricultural	Almoz	Unknown
Minya	Agricultural	Malatiah	843 f.	Minya	Agricultural	Shaybah	Unknown
Minya	Agricultural - Residential	El Bayadeya	100000f.	Minya	Agricultural	Barsha	500 f.
Minya	Agricultural	Albehu	Unknown	Minya	Nature reserve	Dmares	145 f.
Minya	Agricultural	Zahra	Unknown	Minya	Agricultural	Albergaah	Unknown
Minya	Tourist	Gabal elteer	Unknown	Minya	Agricultural	Sharona	Unknown
Sohag	Agricultural - Residential	Shuraniya	600 f.	Sohag	Residential	Albouhh	Unknown
Sohag	Recreational	zohor	4 f.	Sohag	Recreational	Qaraman	25 f.
Sohag	Residential	Shandaweel	Unknown	Sohag	Agricultural - Residential	Tama	Unknown
Sohag	Residential	Albedaa	Unknown	Sohag	Agricultural - Residential	Mahroos	Unknown
Qena	--	Dom	Unknown	Sohag	Agricultural	Awlad hamza	5000f.
Qena	Agricultural - Residential	Armant	650 f.	Qena	Immersed in summer	Alaliqat	Small islands
Qena	Nature reserve	Alabl	>400 f.	Qena	Agricultural - Residential	Qamola	>400 f.
Qena	Agricultural - Residential	Aldemoukrat	800 f.	Qena	Agricultural - Residential	Hammoudi	>400 f.
Qena	--	Alsya	50 f.	Qena	Agricultural - Residential	Zawaida	Unknown
Damietta	--	Alreda	Unknown	Qena	--	Gnawi	Unknown
Damietta	Agricultural	Mitt Kholi	49 f.	Damietta	Agricultural	Alramla	50 f.
Damietta	--	Dnjuaa	Some of islands	Damietta	Agricultural	Kafr Elnaeem	48 f.
Damietta	Agricultural	Kafr elkareneen	43 f.	Damietta	Agricultural	Sarawa	44 f.
Qualyoubbeya	Agricultural Residential	Alshoer	355 f.	Damietta	Agricultural	Elsafen	46 f.
Qualyoubbeya	Residential	Alahrar	Unknown	Qualyoubbeya	Agricultural	Aboul Gheit	10.5km ²
--	--	--	--	Assiut	Nature reserve	Abu Tig	Unknown
Beni Suef	Tourist	Abu Saleh	Unknown	Assiut	Agricultural	Alnakhila	Unknown
Beni Suef	Residential	Alfokai	Unknown	Assiut	Agricultural	Bani mor	59 f.
Beni Suef	Residential	Bpa	Unknown	Assiut	Agricultural	Mejres	40 f.

- The island of Zamalek in Cairo is one of the most important residential Nile islands, where there are numerous hotels, leisure clubs, parks and shrines such as Cairo tower, making it as a tourist area of the first degree. On the plan of Zamalek (Fig.5), the big parks immediately stand out. These functions are not public and for the common cairenese never accessible

since the membership prices are very high. The other main functions are the banks and schools, attracting inhabitants from all over Cairo to the island.

Impressions: Western attitude: Nightlife at boats on the Nile, Streets filled with school kids in the afternoon, High income recreation: Cairo Opera House.



Fig. 3: Southern Islands located within the range governorate of Aswan, Available at: http://www.travelegypt.com/cruise_map.htm

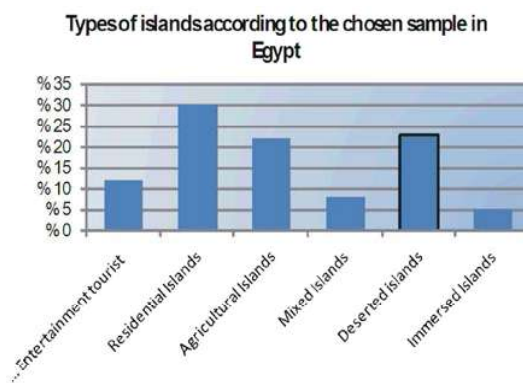


Fig. 4: Types of islands according to the chosen sample in Egypt (source: Authors)

- While El Roda Island is one of the finest residential Nile islands, Fig. 6, including the Grand Hyatt Hotel and Manasterly Pasha Palace and

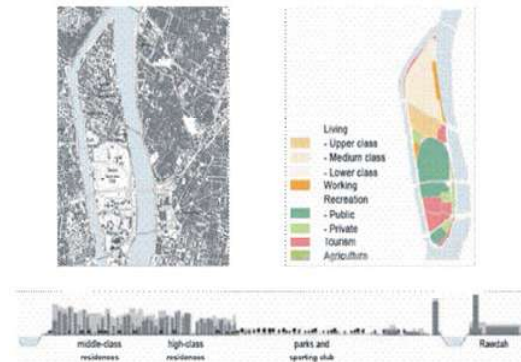


Fig. 5: Zamalek island and its functions (Islands on the rivers:

http://www.studio-basel.com/assets/files/files/13_IslandsNile_web.pdf)

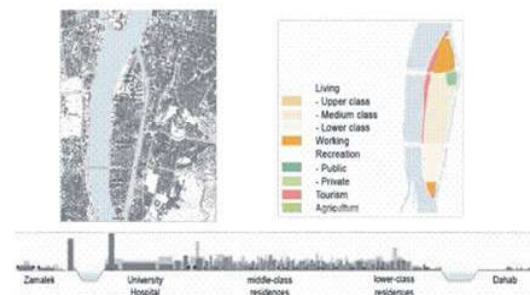


Fig. 6: El Roda island and its functions (Islands on the rivers: http://www.studio-basel.com/assets/files/files/13_IslandsNile_web.pdf)

Umm Kulthum Museum. Rawdah is an island with a clear structure. The most significant axis stretches over the length of the island. Two other main connections over the width of Rawdah divide the island in three functional zones. In the north zone of the island is mainly occupied by a university hospital complex for patients from all over the country. The two thirds of the island are mainly used for housing, with the middle zone for middle class income and the south zone for lower income residences.

Impression: Crowded Main Street with high residential buildings, quiet back street with lower residential buildings.

Nile Tourist Islands: El-Temsah Island is one of the most famous and beautiful tourist Nile islands in Luxor [22],

Fig.7: Including the Movenpick Hotel, Jolie Ville, within a tourist resort including several buildings, chalets, playgrounds, swimming pools and restaurants

- Plants Island in Aswan is one of the oldest Nile Islands, a botanical garden, full of exotic and rare plants and trees, imported from all over the world [23]. It is of an area of 17 Feddan near by the island of Phiela facing the city of Aswan and to the east thereto, there is Elephantine Island, which includes the Museum of Nubia Monuments [21]. The island is a living museum of plants and animals wherein more than 500 species of plants, making it well suited to receive the different birds in addition to the Nile trip using the sail boats. As well as Hissa island to the east of the city of Aswan on which inscriptions and the pharaonic monuments are scattered (Fig.8).

Nile Agricultural Islands: Nile Islands are of the most fertile agricultural soils on the land of Egypt [24], where some of these islands are so large that they may accommodate for agriculture such as El Quarssaya Island Alqrsaah in the heart of the River Nile in Cairo and also El Warraq Island is well known for its booming cultivation, then turned from an agricultural patch to construction patch in aim of exploiting its distinguished position and converting it to investment attraction by either evacuation of its residents or buying large plots in different areas and exploiting them (Fig.9).

Nile Neglected Island: There is a large number of Nile islands suffering from severe neglect, including the island of Dahab. Life on Dahab has only begun to develop over the last few generations. In the recent years, the Egyptian Government has noticed the potential of Dahab as a big, green and empty central space in Cairo. several studies have been done to examine the potential of the island and to make plans for the future. If nothing is done, the island is likely to gradually transform in another urban neighborhood of Cairo. It is important that a design is chosen which takes into account the existing characteristics of Dahab, which simultaneously ensuring sustainable development and avoiding massive urbanization (Fig10).

Impressions: Main Street in a village on the north of the island, Buildings with local materials and methods [25], Agricultural activities, Village centre in a village on south-Dahab

In this plan, Fig.11, a part of Maadi is also considered, as part of a master plan that aims to take advantage of lucrative land next to the river bank. the plan focuses on using the land all around the banks as saleable property. This model would require a complete overhaul of the existing infrastructure on the islands. The path from the north to the south of the island would have to be removed, to make way for east-west connections that link up clusters of saleable land. however; the proposal does take note of the current character of the island and retains the bulk of the existing greenery.

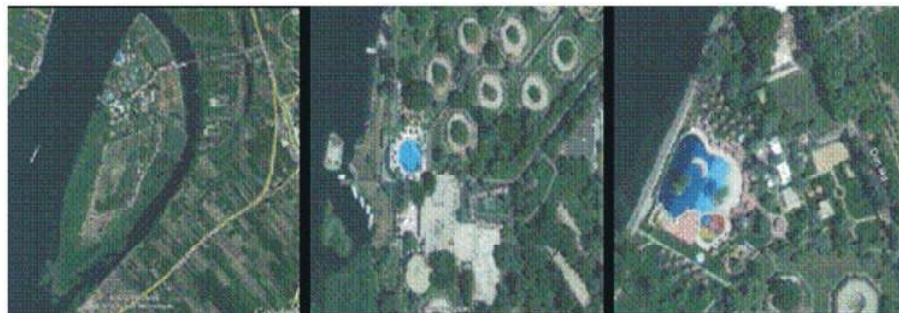


Fig.7: El Temsah island (Image source: Google earth 2012)

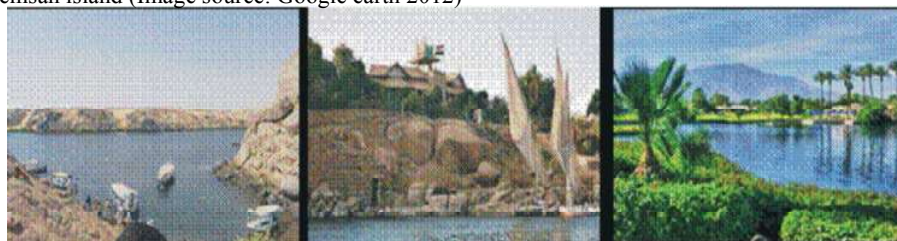


Fig.8: Plants Island, Elephantine Island and Hissa Island



Fig. 9: Quarssaya Island and El Warraq Island (Image source: Google earth 2012)

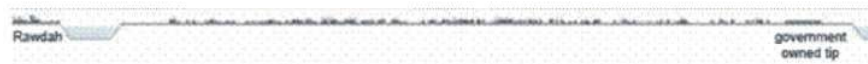


Fig.10: Dahab Island (Islands on the rivers: http://www.studio-basel.com/assets/files/files/13_IslandsNile_web.pdf)



Fig. 11: The design connects between Dahab Island and Maadi Island (Islands on the rivers: http://www.studio-basel.com/assets/files/files/13_IslandsNile_web.pdf)

Some World Projects to Benefit from the Nile Islands:

A series of thousands of islands spread over on the US-Canadian borders in the St. Lawrence River (Fig. 12) which comes out of the northeast corner of Lake Ontario. The islands lie along 80 kilometers of the St. Lawrence River, which is ranging from 6 to 11 km in width. Those rocky islands are distinguished with their beautiful landscapes. It range in size at more than 100 square kilometers and the smaller islands may be occupied by one house and there are many small uninhabited islands, which are home to migratory waterfowl. As many people have summer resorts and luxury homes. Among these islands 17 islands included in the National Park of St. Lawrence River Islands, which has been converted into an entertainment center and a reserve for Games.

Seine River is one of the most important landmarks in Paris (Fig.13). The island of "Il de la Cite", located in the middle of the river, includes important tourist places such as the Church of Notre Dame. There are 37 bridges in Paris crossing the Seine River and the river is 776 kilometers in length. The Seine River rises from the Burgundy region and flows into the English Channel (Manche). There are many cruises for tourists passing through the river. On the sides of the river, there are several shops selling souvenirs and books. In the summer months Paris mayor would organize events on the banks of the river nicknamed Paris beach.

Studying a sample of international river islands such as "Il de la cite" in Sine river – Paris and a series of islands in St. Laurant river, river tourism either for river islands or river sides depend on three main activities. The cruises, water sports and fishing. Elements of river side activities are as presented in Table 3.

A deep water depth is an advantage for ship docks closely located near to the previously mentioned activities, as big cruise ships can dock getting more tourists to visit the area.

- Monumental places : Locating cruise ship docks close to monuments and historical areas is a must, river islands monumental tourist visits are enhanced by linking different transportation services such as bus terminals, train stations and international and local airports to cruise ship docks, together with the availability of monument tourist guides facilitates tourist investment through cruise trips marketing (Fig.14).
- Nature and wild life: Most of the rivers all around the world supply a good environment to wild life, various kinds of native and immigrant wild birds can be noticed during river cruise trips. Sustainable tourist activities are required during cruise trips for not interrupting island's wild life (Fig.15). The St. Lawrence River fish community contains a diverse array of fishes with nearly 50 species
- Restaurants, cafes and Green areas: River side restaurants, cafes that can be visually seen during cruise trips act as attraction points for tourists as ships can dock during its trip at intervals and let tourists use river side services and facilities. Having a verity of restaurants, kiosks and shops with different grades enhances a wider verity of tourists to shop (Fig.16). There is a splendid little park at the western tip of the Il de la Cite, which is an island in the middle of the Seine where Nortre Dame is located.
- Hotels: Cruise docks should be located close to hotels as tourist residence before, during or after cruise is an integrated part in the marketing process. River side's and islands having various grade hotels, motels and lent apartments close to docks enhance a wider verity of cruise trip programs (Fig. 17).
- Museums and exhibitions: Museums and historical buildings located on river sides and islands, also open air painting exhibitions can be visited during cruise act as tourist attraction points (Fig. 18).

Table 3: The elements of river side activities.

Activity	Resource
River Cruises	
Monuments	Location of a monument or historical area on an Island or close to river side [19]
Wild Life or environment reservation	Existence of environment protection reservation, wild life, or emigrating birds close to the river [26]
Restaurants and green areas	River visually connected green areas, floating cafeteria, riverside selling kiosks
Hotels	Location of hotels close to river preferably having boat dock
Museums and exhibitions	Existence of historic building close to the river that can be used as a museum
Water Sports	Existence of clear and safe surface water area that can be utilized for water sports
Fishing	Existence land areas close to fish path that can be used for fishing activities

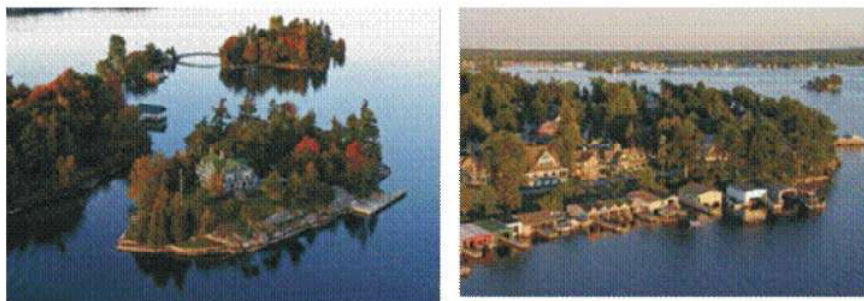


Fig.12: A series of thousands of islands in the St. Lawrence River for Park and an entertainment center. <http://www.starahmed.com/vb/showthread.php?t=38713>



Fig.13: The Church of Notre Dame (the important tourist place) in Seine River <http://www.frenchpedia.com/seine.html>.



Fig.15: The St. Lawrence River fish community (Thousand Islands Biological Station: <http://www.esf.edu/tibs/>)

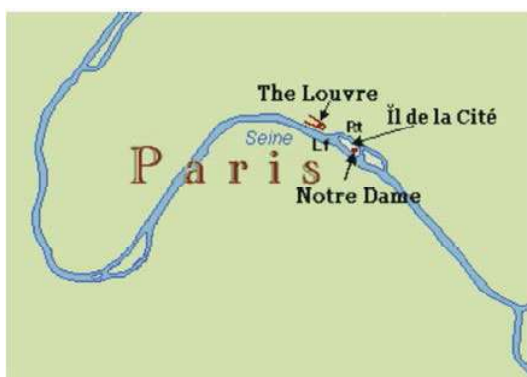


Fig.14: Notre Dame Cathedral on Il De La Cite (<http://www.aviewoncities.com/paris/iledelacite.htm>)



Fig.16: A splendid little park at the Il de la Cite (<http://www.aparisguide.com/ile-de-la-cite/index.html>)

- River water sports: Existence of a safe surface water space that can be used for water sports adds marketing activity advantage for the island (Fig.19).
- Fishing: Islands that are located close to fish path can be equipped by fishing services facilities which add an activity for tourist during their cruise trip



Fig.17: A boat that cruised the Seine and passed Notre Dame Cathedral among other notable sites (http://goparis.about.com/od/sightsattractions/a/Paris_Boat_Tour.htm)



Fig.19: canoes On the St Lawrence River (The 1000 Islands: <http://ontariooutdoor.com/landscapes.aspx?pname=1000&language=en>)



Fig.18: There is a small bridge that connects Île Saint Louis with its neighboring natural island, Île la Cité. (<http://europeantrips.org/ile-saint-louis.html>)



Fig. 20: The St. Lawrence River is home to several popular sportfish (Thousand Islands Biological Station:

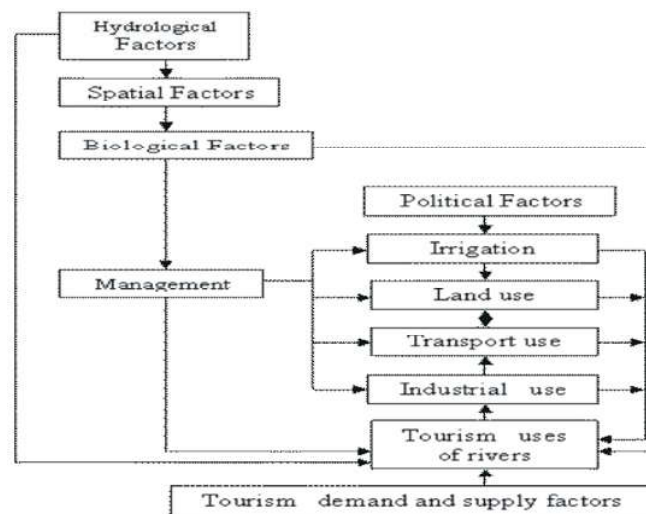


Fig. 21: The river tourism typology simplified diagram illustrates the range of factors that affect the ability of the tourism industry to use rivers for touristic purposes.



Fig. 22: Maadi Island contains as an recreational area in Cairo-Egypt (Image source: Google Earth 2012)



Fig. 23: Jacob Island (Pharaonic Village) a fascinating tour to learn about the ancient Pharaonic lifestyle, Giza-Egypt



Fig. 24: A group of neighboring neglected Nile islands close to Maadi area, Cairo Egypt was chosen to act as a case study(Image source: Google earth 2012)

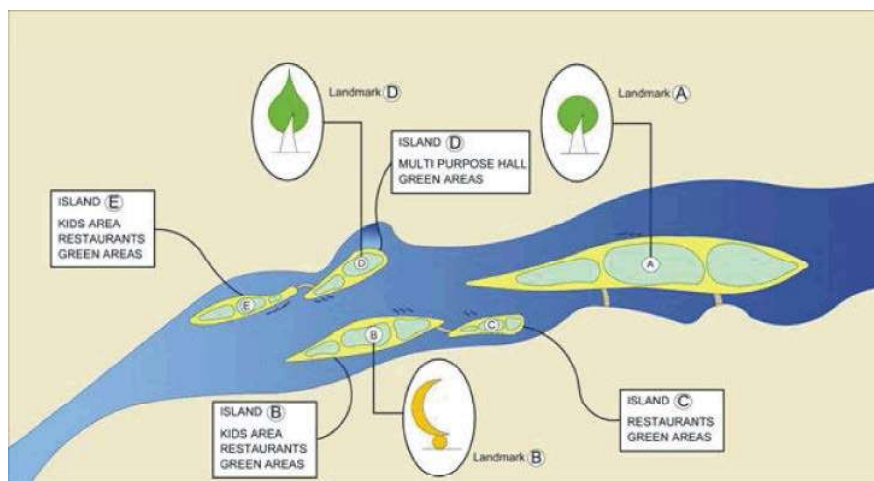


Fig.25: Nile islands close to Maadi area can be designed as tourist attraction that generates investment opportunities.
(Source: Authors)

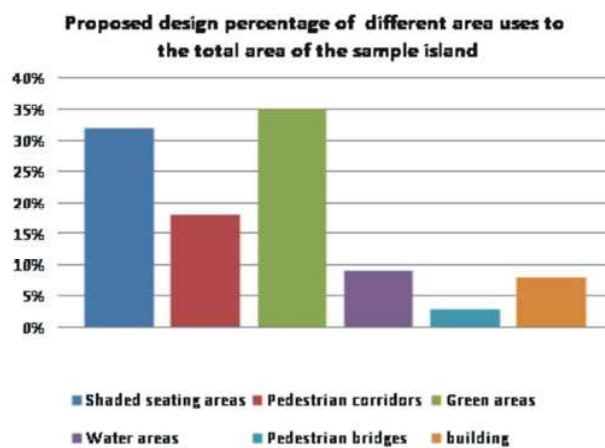


Fig.26: Proposed design percentage of different area uses to the total area of the sample island (source: Authors)

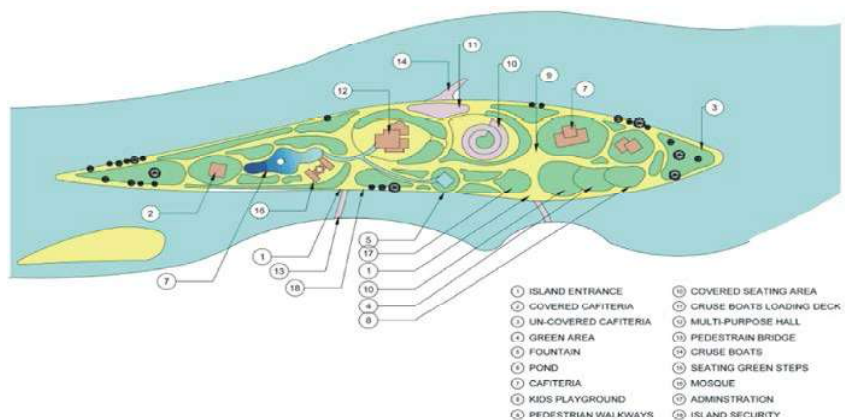


Fig. 27: Proposed design of the island A (source: Authors)

(Fig. 20). The St. Lawrence River is home to several popular sportfish including: muskellunge, northern pike, walleye, largemouth bass and smallmouth bass. Popular panfish species include yellow perch, rock bass, black crappie and pumpkinseed and bluegill sunfish.

Since the beginning of humankind, rivers have played a critical role in human survival, modernization and, more recently, economic development. In ancient times, rivers facilitated long- and short-distance travel, trade and hunting. They were also instrumental in the industrial revolution and in many transportation innovations still utilized throughout the world today [16]. Rivers and their manipulation by humans allow deserts to bloom with agricultural produce and recreational opportunities to be corrected [27]. Several direct relationships between tourism and rivers have been identified (Fig.21).

Some Successful Projects in Making Use of Neglected Nile Islands in Egypt: There is a decision to transfer Nile islands to natural reserves to utilize them so as to be a green lung to Cairo and stop the encroachment thereupon, where the armed forces provided a model for the development of one of these islands opposite the Maadi Hospital, where it was completed and citizens benefited thereof as an recreational area (Fig. 22).

Jacob Island (Pharaonic Village) is located on the island of Jacob in Giza (Fig.23). The Pharaonic Village present to its visitors a vivid detailed picture of the Egyptian pharaohs life, it goes, with them, three thousand years back and takes them on a fascinating tour to learn about the ancient Pharaonic lifestyle. That would be on board of motorboats or sailboats equipped with benches to sit the visitors. Through the boat passage across many entwined channels surrounded by trees and grass, visitors can see in front of them performed scenes carried out by over a hundred actors and actresses depicting details of Pharaonic life. As the actors filmed all daily activities of the Pharaohs, such as agriculture, sculpture, spinning, pottery and others, in addition to showing some of the fables and ancient stories, pharaonic statues of the gods and models of simple peasant houses and palaces of kings and historical temples renowned. Pharaonic Village contains 14 museums representing different periods of the history of ancient and modern Egypt [5].

Case Study: A group of neighboring neglected Nile islands close to Maadi area, Cairo Egypt was chosen to

act as a case study (Fig. 24). The islands can be linked together to form a recreational tourist area that serve the surrounding residential areas, construct various tourist attraction projects that generate investment opportunities, such as cafe's, restaurants, Nile cruise decks and kids playgrounds.

RESULTS AND CONCLUSION

There are plenty of Nile islands in the Egyptian territory that have tourist advantages, few Nile Islands close to Cairo city are already developed and utilized by previous Egyptian generations, others have tourist investment advantages, capability to be developed but still neglected by governmental authorities.

- 144 islands: Total number of Nile Islands according to the Egyptian Law 102 of 1983 provides the legislative framework for establishing and managing protected areas in Egypt which are defined as, "any area of land or coastal or inland water characterized by special flora, fauna and natural features having cultural, scientific, tourism or aesthetic value."
- 12% Nile Islands that are developed by previous generations.
- 23% Neglected Nile Islands having Tourist advantages and can be developed.

Field study for a sample of populated Nile Islands reached common environmental and services problems previously mentioned. In order to overcome these problems the research suggests the following:

- Establishment of a sewage network for each island and a desalination plant.
- Customizing intermediate stations for garbage collection and its safe disposal.
- Applying organic farming and bio-control systems.
- Creating environment-friendly urban for each island.
- Organizing awareness-raising trips for schools and universities.
- Regularization of polluting facilities on the islands.
- Collecting and recycling of agricultural waste materials.
- Implementing environmental law of 1994.
- Requiring private enterprises and activities located on the Nile River for studying its environmental impact.

Utilizing Nile Islands Should to Be Maximized Through the Following:

- Preserving migratory birds by activating Ramsar Convention, maintaining wetlands as a way station for migratory birds [28].
- Preserving River Nile water against pollution as a result of non-rational use of pesticides, fertilizers, remnants of households and barns, such pollutants seep into the river in the absence of strict control.
- Rationalizing disposable income from using such islands and converting them to fertile agricultural lands. That may provide huge financial return out of its cultivation of crops, vegetables and fruit directed for export as a natural product, without introducing therein the fertilizers and pesticides, etc.
- Provision of agricultural supervision that enhances planting crops of national need such as wheat and corn.
- Maximizing the environmental return through interest in creating open gardens and parks for breeding birds and watching them, spas and hotels on the Nile banks in Upper Egypt.
- Some of the lands on such islands may be leased for beneficiaries and transferring its ownership of other parts that may yield a return of about 5 million pounds a year. Implementing one of the above-mentioned proposals, such sum may be doubled several times while maintaining the environmental situation of the islands and waters.

Recommendations: For Nile islands that are already developed, totally or partially serve as tourist attraction points, the research recommends sustainable improving for its tourist facilities and services. Reduction of the human impact on its environmental resources. Applying green solutions to get rid of its garbage disposals, getting green use of its sewage system and rationalizing the use of insecticides for its planted areas. For neglected Nile islands that are capable to development and could act as tourist attraction points, the research recommends applying sustainable architectural design and green construction systems. Island's architectural planning should be meeting international safety standards and local security regulations, also it should be flexible enough to include some areas that can be lent or sold to private investment sector which construct various services such as restaurants, water sports facilities,

floating cafes etc. Maintenance work is to be done on regular basis for boat decks, water ways and public facilities. Local and international advertising for Nile Cruises and Nile islands is an essential tool for tourist investment enhancement for both kinds of Nile islands.

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