

アレキサンドリア・コムアルナドゥラ文化遺産サイトのための持続可能な代替の未来： NSDS エジプトビジョン 2030

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Sustainable Alternative Future for Kom Al-Nadura Cultural Heritage site, Alexandria, NSDS Egypt Vision 2030

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National sustainable development strategy (NSDS) Egypt vision 2030 represents a foothold on the way towards inclusive development and focuses on three main pillars, economic, social, and environmental. “Kom al-Nadura” is the remained historical heap of five that distinguish Alexandria, which is a cumulative hill that covers 6.5 acres and raises up to 25m. During the Fatimid period (909-1171 CE), Kom al-Nadura was a Muslim cemetery known as “Kom Wa’la”.

Recently, Kom al-Nadura is a protected archaeological site by the law due to its outstanding value that includes a variety of archaeological features including barracks, tombstones, and a park filled with large number of coastal cannons. DMUCH-Ritsumeikan University in collaboration with Geodesign-Hub is developing Kom al-Nadura micro-project focusing on preservation, urban mobility, and environment, within NSDS, Egypt vision 2030, in participation of archaeologists from the Ministry of Tourism and Antiquities.

1. Introduction

National sustainable development strategy (NSDS) Egypt vision 2030 represents a foothold on the way towards inclusive development and focuses on three main pillars, economic, social, and environmental. “Kom al-Nadura” is the remained historical heap of five that distinguish the historical topography of Alexandria. Kom al-Nadura is a cumulative hill that covers 6.5 acres and raises up to 25m above sea level. Recently, Kom al-Nadura is a protected archaeological site by the law due to its outstanding value that includes a variety of archaeological features including barracks, tombstones, and a park filled with large numbers of coastal cannons.

DMUCH-Ritsumeikan University in collaboration with Geodesign-Hub is developing Kom al-Nadura micro project focusing on preservation, urban mobility, and environment, within NSDS, Egypt vision 2030, joining archaeologists at the Ministry of Tourism and Antiquities.

2. Historical Urban Context of the Study Area

During the Fatimid period (909-1171 CE), Kom al-Nadura was a Muslim cemetery known as “Kom Wa’la” attributed to the grave of ‘Abd al-Rahman ibn Wa’la al-Sabai al-Masri, the famous companion of ibn Abbas, Prophet Mohamed’s cousin. Furthermore, famous Islamic characters such as al-Salafi and Abu Bakr al-Tartoushi in

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c. 12th CE were buried there (Salem 1982). Later on, during the Fatimid period, a new tower was erected at the top to observe and monitor the ships in the western part, which was of interest to Caliphs and Sultans, until it had been reconstructed again by King Fouad I in 1926 CE, with a height of 25 meters. During the French campaign 1798 - 1801 CE, Napoleon Bonaparte ordered the construction of a fort known as "Tabiya Caffarelli", attributed to "De Valga Caffarelli", a military engineer of the French army, who passed away during the siege of Acre in April 1799 CE (Le Père 1826) (Fig. 1). By Mohamed Ali's reign (1805-1848 CE) and his successors (1805-1952 CE), a cistern was established in 1839 CE and a short astronomical observatory was erected (Fig. 2) (Soliman 2014).



Figure 1 Kom al-Nadura before 1910



Figure 2 Kom al-Nadura after 1926

(Source: Museums of the World:
<https://museu.ms/collection/object/256252/alexandria-native-bazar-and-fort-napoleon>)

3. Methodology and objectives

NSDS of Egypt vision 2030 needs to be linked to a more flexible project to keep up with changing social urban and economic situation for Kon al-Nadura

community, who looks forward to improving environment, particularly NSDS 2030 has followed the sustainable development principle as general framework for improving quality of live and welfare. Consequently, Kom al-Nadura project aims to create new design of cultural heritage preservation in order to achieve visual continuity for its historical urban context. In this regard, the project vision is achieving sustainability through integration among the relevant stakeholders, basically official institutions, private sector, local community and NGOs. Accordingly, the adopted methodology is running around how spatial intervention based on the Geodesign framework can be connected with heritage information especially in "Kom al-Nadura", on the other hand engaging it to the urban context via providing more flexible accessibility to enhance development opportunity (Fig. 3).

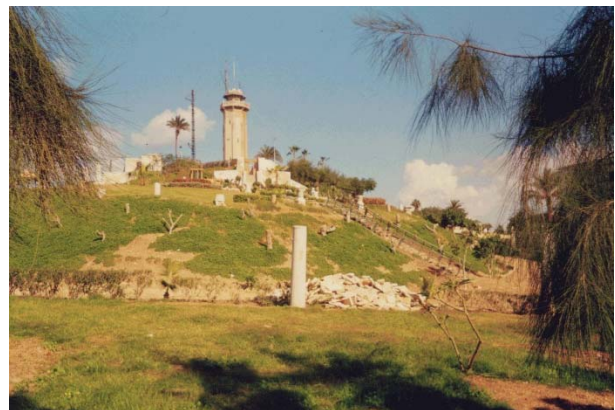


Figure 3 Kom al-Nadura 2021

Goedesigning Kom al-Nadura faces two main challenges; first, is achieving protection and development criteria of heritage, second is adopting implementable change model, particularly urban mobility. However, the project considers the strategic plan targets for preserving Alexandria cultural heritage, including Kom al-Nadura. On the other hand, transportation system aims to improve the urban mobility for visitors and tourists to Kom al-Nadura, taking into account the environmental consideration and the socio-economic sustainability for the local community. Environmentally, existing transportation system around Kom al-Nadura represented

in noise and pollution impacts negatively on the site. As a result, the project adopts design to harmonize the urban mobility around Kom al-Nadura. In the same context, high-density urbanism of Alexandria pushes to create design that improves public spaces surrounding Kom al-Nadura, in line with Egypt vision 2030, Alexandria in particular (Fig. 4).



Figure 4 Kom al-Nadura study area

- Core zone
- Study area

4. Geodesign project innovation

4.1. Urban mobility

Geodesign Kom al-Nadura adopts transportation development plan as the road network suffers from traffic congestion, as a result of the high-density urbanism and topographical characteristics of the city. Change model facilitates accessibility to Kom al-Nadura based on upgrading transportation means clarified as:

a) Upgrading the Tramway infrastructure between Sant Catherine and Bab 10 Tram on al-Shaykh Mohamed Shalaby street stations that penetrates (E/W) the urban fabric of the study area. In addition, developing Sant Catherine Tram Station terminal station as a part of upgrading the infrastructure and substructure of Alexandria Tramway network, as well.

b) Developing a bus station in Bab 10 area is an ultimate requirement, as Bab 10 is the main gate of Alexandria harbor.

On the other hand, innovation of urban mobility change model facilitates the pedestrian movement. So, creating smart traffic lights streets, such system is perfect

to systemize and control the urban mobility flow crossroads surrounding Kom al-Nadura, aiming to achieve smooth traffic. Consequently, two streets smart traffic lights were identified for pedestrian between Bab 10 / Sant Catherine. Al-Shaykh Mohamed Shalaby Street that (E/W) connects with Mahmoud Mostafa Street (S/N) penetrate the urban fabric of the study area. In the same context, Bab 10 / Saint Catherine axis via al-Mansheya square and al-Nasr Street, is highly recommended to be upgrading for pedestrian, integrating with traffic that facilitates walking around the historical urban fabric of Kom al-Nadura.

Regarding the adopted integrating change model; establishing a smart taxi stop for the first time in Egypt. Taxi stop is allocated on al-Seka al-Gadida east to Kom al-Nadura, in order to enable visitors to reach the site easily. Eventually, creating circular one-way road improves the flow of traffic and vehicle speeds up and its intersections are simpler. Therefore, four streets as one-way street surrounding Kom al-Nadura core zone are adopted; east: al-Saba' Banat St., west: al-Seka al-Gadida St., south: Bahary Bek St., finally Warsha al-Topgeya in north (Fig. 5).

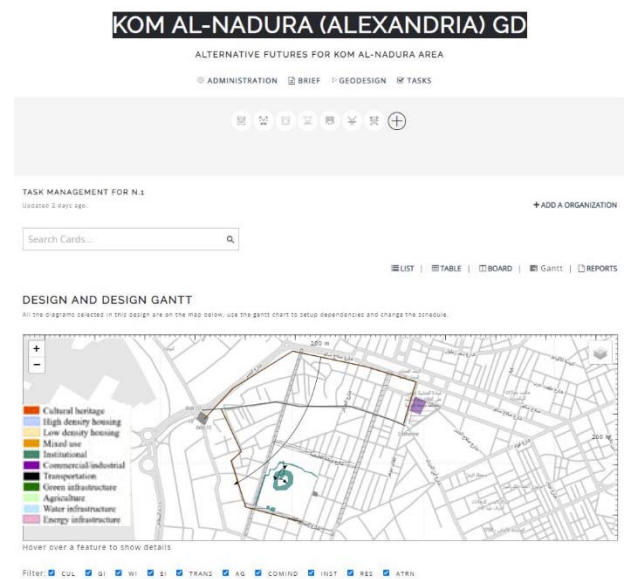


Figure 5 Kome al-Nadura Geodesign change model

4.2. Site management of Kom al-Nadura

Developing Kom al-Nadura as a protected cultural

heritage site required adopting synthetic approach for intervention based on Geodesign and site management. This approach achieves six major targets:

- a) A wind break will surround the edge of Kom al-Nadura site, which is a planting usually made up of one or two of trees. Outcome of that green wind break achieves mitigation of land sliding, reduction of the cost air-conditioning, keeping the hill and the landscape away from the rain drifting. Additionally, green wind break preserves the landscape and improves the panorama by reducing the visual distortion and the mitigating traffic noise.
- b) Developing an open museum adds value to Kom al-Nadura by utilizing the existed atrifacts that dated back to various ages, basically columns, tombstones and pottery pots, and large numbers of costal cannons.
- c) Developing bazars as a big *Souq* in which traditional handicrafts distinguishes Alexandria and souvenirs will be displayed, supported with other facilities such as, traditional food shops and public utility.
- d) Developing visitor center will introduce a room equipped with digital screens to display Kom al-Nadura and Downtown Alexandria.
- e) Adapting the maritime signal tower as a tourist observatory, due to its advantage of 25m height, overlooking Downtown Alexandria including the harbor.
- f) Adapting the barracks to be used as a restoration pottery lab and pottery workshop, add to archaeological documentation section (Fig. 4).

5. Conclusion

The concept of Geodesign Kom al-Nadura project argues for the positive integration of cultural heritage into urban development and policies as a way to conduct sustainability for Alexandria cultural heritage, in light of (NSDS) Egypt vision 2030 for achieving the sustainable development goals. Highly demanded targets support the governmental plan to develop Alexandria. On the other hand, Kom al-Nadura project provides good opportunity for building capacity of young archaeologists of Ministry

of Tourism and Antiquities to learn a new methodology and technique (Geodesign), mainly those who are specialists at various heritage preservation fields.

Synthetic approach based on Geodesign and site management is adopted to develop a change model for Kom al-Nadura and upgrading the urban mobility around. Consequently, the urban mobility change model organizes road network to reduce the traffic density and improving quality and capacity of public transportation on the study area, basically Tramway.

In the same context, implementing integrated activities accomplish the development targets in Kom al-Nadura, represented in adaptive reuse of vacant historical buildings. Erecting a Bazar is a highly recommended to remind visitors with this unique site, while other facilities should be provided to accommodate them, so the northern side of Kom al-Nadura will be accessed with staircase, food shops, and path room. On the other hand, green wind break around Kom al-Nadura site is required to preserve its landscape and improves the panorama by reducing the visual distortion and the mitigating traffic noise.

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