

# **A Vision for the Revitalization of Tinnis Island**

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**Amal H. Gaber, Mona M. R. El-Sayed and Rania Aly Maher**

## **Abstract**

The paper is an endeavor to offer a proposal for revitalizing and interpreting the natural and cultural heritage of Tinnis Island. The island is located approximately 8 km south of Port Said ,northeast of Lake Manzalah .The island houses an archaeological site known as” Tell Tinnis “which stands upon the ruins of the Islamic city” Tinnis ;“it was once a prosperous city in the Middle Ages .Tinnis was a fortified port and a major center for marine trade .It was well known as a key center for manufacturing high-quality textiles .Tinnis Island is a part of the wetland reserve” Ashtum El Gamil and Tinnis Island Reserve “.It is a major stop for migratory birds and includes an important biodiversity of fish ,numerous plants ,and wild and aquatic birds .The main goals of the proposal are to conserve and develop the island as an ecotourism destination and revitalize the traditional crafts that serve the community.

## **Keywords**

Tinnis Island, Lake Manzalah, Ashtum El Gamil Reserve, Cultural and Natural Heritage Revitalization.

## **Research Hypothesis**

Tinnis Island is an archaeological and geoheritage site ;it is part of the Ashtum El Gamil Reserve .The island represents a blend of charm and culture .Yet ,Tell Tinnis is virtually unknown .The research hypothesis is to revitalize Tinnis Island’s natural and cultural heritage ,interpret the island as a cultural ecotourism destination ,and present it as a scientific and educational center. The revitalization approach will preserve heritage values ,enhance economic growth ,and foster the local community’s lifestyle.

## **Research Significance**

Tinnis was a wealthy Islamic city that became famous in the Middle Ages ;it is also a part of a Natural Reserve that is a major stop for migratory birds and includes important biodiversity .The significance of this paper is to shed light on Tinnis Island .It offers proposals for revitalizing the natural and cultural heritage of Tinnis Island ,and interprets the site as an ecotourism destination that respects nature ,preserves heritage values ,and revitalizes the traditional crafts that serve the community.

## **Research Methodology**

This study applied a theoretical descriptive approach to spotlight Tinnis Island and its significance .An observation approach, field visits ,and expert interviews were conducted to help the researcher develop a new vision for revitalizing the island.

## **Research limitations**

The limitation of the research was the difficulty in estimating the budget of the revitalizing proposal .As a recommendation, further study should be done.

## **Introduction**

Tinnis Island in Lake Manzalah is an archeological site called Tell-Tannis” Kom-Tannis “is a geoheritage site .The island houses the ruins of the Islamic city of Tinnis .It is one of the vanishing cities of Egypt and was once one of the most important economic and commercial centers .The island is also part of the Ashtum El Gamil and Tinnis Island Reserve .Tinnis flourished

during the Islamic era .It changed from a little island encircled by marshes into a well-known town whose fame reached far into the distance .It has developed into one of the most significant economic and commercial hubs.

The literature reviews describe Tinnis ,its importance ,and its fame in the Middle Ages ,and emphasize the importance of its archeological mound and buried treasures .The classical writings referred to the descriptions of the city ,economic activity ,and the routes navigated by internal and foreign trade .Ibn Bassam Al-Tinnisi's accurately depicted the city and its suburbs ,where he worked as Muhtasib.

Al-Qusy) 1981 (wrote" From the News of the Disappeared Islamic Cities :Tinnis " ,he discusses the history of the vanished city ,the economy ,and the textile industry ,that contributed to its fame and economic growth throughout the Fatimid era .The author explains the decline of the textile industry and the role of intensified Crusader invasions that led to its evacuation and its eventual destruction in 1227.

Gascoigne was particularly interested in Tinnis ;in her 2002 research" The Impact of the Arab Conquest on Late Roman Settlement in Egypt " ,she discussed how the town was affected and became a ribat .She refers to the prosperity of Tinnis which became an industrial center in the medieval era.

Gascoigne) ,2007 (analyzed" The Water Supply of Tinnis -Public Amenities and Private Investments " .She addresses the historical and archaeological evidence regarding the water supply to Tinnis ,and how access to water resources is changing socially in the city in light of Islamic law and private ownership of water .Gascoigne et al .publication) 2020" (The Island City of Tinnis :A Postmortem " ,analyzes historical and archaeological evidence ,placing the physical remnants of the island within the context of historical narratives to contextualize newly acquired information and providing more in-depth knowledge of the city.

Provençal-in two papers) -2015" (A philological and zoological description of the bird names given by Yāqūt Al Ḥamawī and Zakariā' Al- Qazwīnī in their description of the island of Tinnis "offers philological and biological commentary on the list of 134/135 bird names obtained from descriptions of the island of Tinnis in Lake Manzalah ,given by Yāqūt al-ḥamawī) 1179-1229 (in KitabMu'ajam al-Buldan ,and al-Qazwīnī) 1203-1283 (in his Cosmography ,Kitābfī' Aghā'ib al-Maḥlūqātwa Ġarā'ib al-Mawḡūdāt.

Al-Husayni's publication) 2016" (The Precious News about the History and Antiquities of Tinnis Island "offered a historical, political ,economic ,and social portrait of the city .His methodology is based on theoretical and practical study .He documented and analyzed the unearthed of all seasons 'excavations.

Taha and Al-Asmar's paper) 2018"(Geo-Archeoheritage Sites Are at Risk ,the Manzala Lagoon ,NE Nile Delta Coast ,Egypt" aimed to draw attention to the geological ,historical ,and archaeological significance of the sites of Lagan and Tinnis in Lake Manzalah .It reveals the expansion of landfilling processes for agriculture ,urbanization ,and fish farm construction on Lake Manzalah .The study recommends turning Lake Manzalah into a tourist attraction and turning the archaeological islands into an open-air archeo-geoheritage museum.

The island represents a blend of charm and culture .Yet ,archaeologically ,it is unknown and neglected .The previous literature did not address revitalizing Tinnis Island .Through the researcher's repeated visits to the island as part of her archeological work on the hill ,the researcher argues that it requires a plan for revitalizing its natural and cultural heritage .This study intends to present a vision for revitalizing Tinnis Island and interpreting its natural and cultural heritage.

The research hypothesis was that the revitalizing natural and cultural heritage would revive Tinnis Island as a cultural ecotourism destination and present it as a scientific and educational center .The revitalization strategy should preserve heritage values ;enhance economic growth ,and the local community's lifestyle .This paper includes an overview of Tinnis ,highlights its geographical location and historical background ,and then offers a vision for revitalizing Tinnis Island .The author's vision is based on two revitalization concepts :to revive the tangible and intangible heritage of Tinnis Island" ,The Medieval City".

## **Tinnis Island**

Tinnis is an Island in Lake Manzalah that houses an archeological site Tell-Tinnis ;it stands upon the ruins of a prosperous Islamic city in the Medieval Ages .Tinnis was a prominent Christian center and bishopric under the Patriarchate of Alexandria<sup>1</sup> ,and participated in the Council of Ephesus in 431and the Council of Chalcedon in 451 <sup>2</sup>.Tinnis was listed as a sacred city in the lower part of the Madaba mosaic in Jordan in the 6<sup>th</sup> century <sup>3</sup>and is depicted in the St .Stephen ,Umm al-Rasas church

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1 Henri Munier" ,Vestiges chrétiens à Tinnis" ,Annales du Service des Antiquités de l'Égypte18 ;72-73 :(1919) ,Philippe Brissaud" ,Au Nord De Dibgou ,La MajestueuseTinnis ,Reine Des Îles Du Menzaleh " .CSFFT.5 :(2016) ,

2 Desbordes,andBrissaud" ,Au Nord De Dibgou.5 " ,

3 Desbordes and Brissaud" .Au Nord De Dibgou.5" ,

mosaics in the 8<sup>th</sup> century<sup>4</sup>. The location of Tinnis has been determined speculatively in the Outremer Map) c.1200-59<sup>5</sup> (,and was represented with the name Tafnis on Mappa Mundi 1290<sup>6</sup>.

Ministerial decree No .10357/1951 added Tell Tinnis to the list of antiquities .The overall area of Tell Tinnis is around 100 hectares ,equal to one square kilometer<sup>7</sup>.

Tinnis Island is a part of the Ashtum El Gamil Reserve ,registered as a nature Reserve by decree of Prime Minister No. 459/1988 ,and modified by decree No.2780/1998<sup>8</sup>.The Ashtum El Gamil Reserve and Tinnis Island is a wetland reserve<sup>9</sup>.It is a major stop for migratory birds that provide food and rest during their journey in the” autumn and spring “seasons<sup>10</sup>.The biological community in the reserve includes birds with up to 118 species ,fish with up to 17 species ,and insects with up to 36 species .It has 80 plant species ,24 species of bacteria ,and 47 species of fungi<sup>11</sup>.

The Supreme Council of Antiquities carried out numerous excavations on the site between 1979 and 2019 .The foreign missions also conducted archeological surveys ,which provided us with valuable insights into the layout of the city and the evidence of the city’s uniqueness .The most important output of the excavations is collection of applied arts ,which are within Port Said National Museum’s collection and depots of the Ministry of Antiquities .Dye-works ,water facilities ,cisterns ,around 155 m of canals and pipes supplying and transferring water between the cisterns ,and one tower of the citadel were unearthed<sup>12</sup>.

The surface survey using satellite imagery by foreign missions revealed the presence of significant structures ,such as ;the central square and Basilica church ,the congregational mosque ,and a caravanserai<sup>13</sup>.

## The Geographical Location

Tinnis Island is located in the northeastern sector of Lake Manzalah <sup>14</sup>,approximately seven kilometers southwest of Port Said, on the way to the navigation line of the El Manzalah Canal ,which connects Port Said to El Mataria-Dakahlia <sup>15</sup>.Lake Manzalah “formerly Lake Tinnis “is the largest coastal lagoon that follows the Nile Delta’s shoreline<sup>16</sup>.The lake is located on the northern

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4 Manucla Lehmann and Mohamed Kenawi“ ,Cities of The Delta on The Mosaic of The Church of St Stephen ,Umm El-Rasas, Jordan ”,In :Ayman Wahby and Penelope Wilson) eds (.The Delta Survey Workshop :Proceedings from Conferences held in Alexandria (2017) and Mansoura ,(2019) Oxford ,Archaeopress Egyptology.225 :(2022) ,41

5 Philippe Brissaud” ,Des Croisés Dans Le Delta Du Nil “,CSFFT no ,(2017) 10 .SFFT.51 :(2018) ,

6 William Bevan ,and Henry Phillott ,*Mediaeval Geography ,An Essay in Illustration of the Hereford Mappa Mundi*, )London :Stanford ,Cornell University Library.88-89 ,(1873 ,

7 Tariq al - Husayni ,Al-Khabar al-nafis fi tarik waathar jaziratt inis] The Precious News about the History and Antiquities of Tinnis Island) [al-majlis al-a ‘lali-l-athar ,al -Qahira.290 ,(2014 ,

8 Mona Mostafa et al“ ,„Environmental Assessment of Wetland Vegetation :A Case Study of Ashtum El-Gamil Protectorate ,Lake Manzala ,Egypt ”.*Egyptian Journal of Aquatic Biology and Fisheries* ,27 no) 3 .May.571 :(2023 ,1 <https://doi.org/10.21608/ejabf2023.304854>.

9 State Information Service A gateway to Egypt.

10 Muhammed Ali Ahmed .El-mhmyat el-tabyllyafymasr] Natural reserves in Egypt) ,[Cairo :maqtat el-a’sra.24-25 ,(2007 ,

11 State Information Service ,Your Gateway to Egypt .Ashtum El Gamil Reserve and Tennis Island) ,June ,(2023 ,3 <https://beta.sis.gov.eg/en/egypt/tourism/environmental-tourism/ashtum-el-gamil-reserve-and-tennis-island>) /Accessed on2 March.(2024

12 Al - Husayni” ,Al-Khabar al-nafis.321“ ,

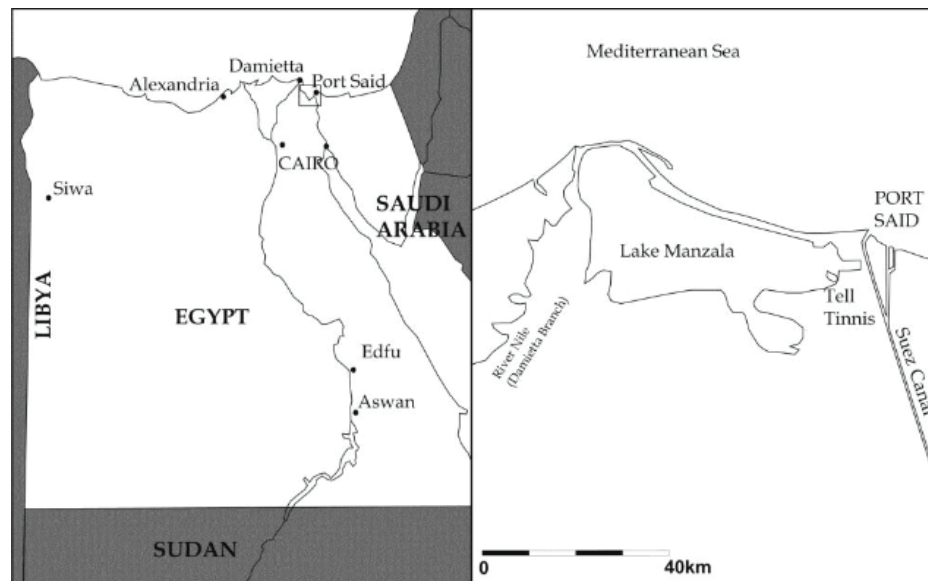
13 Alison Gascoigne ,John Cooper ,and Ziad Morsy ,The Roman and Islamic City of Tinnis :A Historical and Archaeological Introduction),Barakat Trust.12-13 ,(2020 ,

14 Jean-Daniel Stanley“ ,Submergence and Burial of Ancient Coastal Sites on the Subsiding Nile Delta Margin, Egypt”,*Méditerranée* ,(no) 104 .April. .65 :(2005 <https://doi.org/10.4000/mediterranee.2282>.

15 Al-Husayni ,Al-Khabar al-nafis.64 ,

16 Philippe Provençal“ ,A Philological And Zoological Description Of The Bird Names Given By Yāqūt Al-Ḥamawī And Zakariā Al Qazwīnī In Their Description Of The Island Of Tinnis ” ,*Arabic Biology & Medicine*1 ,(no) 3 .May.1 :(2015

shoreline of the Nile Delta at latitudes 318000–318300 N and 318160–328200 E<sup>17</sup>. The Suez Canal borders it to the east, and the Damietta Branch of the Nile to the west<sup>18</sup>. Its northern border is a narrow sandbar that separates the lake from the sea<sup>19</sup>. Tell Tinnis covers an area of approximately 93 hectares. However, the ruins of the entire city occupy an area of about one square kilometer<sup>20</sup>.



Map (1) The Location of Lake Manzalah and Port Said ,Archaeological Prospection Services of Southampton ,Report on the Geophysical Survey at Tell Tinnis ,Governate of Sharqiyya ,Egypt ,unpublished) ,April.4 (2012

## Historical Background

The name Tinnis is derived from the Greek word *Nesus* νησί “,which means) island ,(implying that the name came from a natural location description of the city<sup>21</sup>.

Theologian Jean Cassian was the first to mention Tinnis for the first time in his conferences ,with the Coptic name “Θεννησος“ it was the first point of his entrance into Egypt around) 385–400 AD<sup>22</sup>(.He attributed the location of Tinnis to flooding after an earthquake ,which turned a once-rich agricultural hinterland into salt marshes<sup>23</sup>.

Written sources state that the area beneath Lake Manzalah ,now was originally inhabited ,and cultivated land .On July 21 ,365 AD ,a powerful earthquake struck the south coast of Crete ,causing a huge tsunami to hit most of the eastern Mediterranean

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17 Gamal El-Shabrawy ,and Germoush Mousa“ ,Seasonal changes and abundance of rotifers in ashallow Manzalah lake )Egypt” ,(Ecohydrology and Hydrobiology.244 :(2014) 14

18 Mona Ahmed ,et al“ .Eutrophication Impacts on Physio-chemical and Isotopic Water Characteristics of a Northeastern Nile Delta Lake ,Egypt” ,Arab Journal of Nuclear Science and Applications 46 no.2 :(2013) 1.

19 Mohamed Hereher” ,The Lake Manzala of Egypt :an ambiguous future “,(Environmental Earth Sciences) 72 September .1802:(2014DOI/10.1007:s12665-014-3088-x

20 Alison Gascoigne” ,The Water Supply of Tinnis :Public Amenities and Private Investments “,in Cities in the Pre-Modern Middle East :The Urban Impact of Space ,Society and Religion ,eds .Bennison ,A.K .and Gascoigne ,A.L) ,.London/ New York :Rout ledge.161 ,(2007 ,

21 Al-Husayni ,Al-Khabar al-nafis.67 ,

22 Katherine Blouin” .God Is in the Marshes :Late-Antique Asceticism and the Northeastern Nile Delta “,*Journal of the Canadian Society for Coptic Studies*) 11 September .47 :(2019 <https://doi.org/10.5913/jscs.2019.75377755>.

23 Gascoigne” ,The Water Supply.161“,

coasts .The submersion of Egypt's coasts was far more dramatic because the shoreline was low and flanked by shoals .The sea then pushed itself into what is now Lake Manzalah .Tinnis was one of the surviving settlements due to its high location <sup>24</sup> .This occurred a hundred years before the Muslims conquered Egypt<sup>25</sup> .

Gascoigne argues that marginal wetland environments have been systematically exploited since ancient times .The northern delta's swamps and lakes contained many villages ,which likely existed before the 365 AD earthquake .She believes that the origin of Tinnis is considered swamp villages with delta environments ,which refers to long-term environmental processes rather than sudden seismic events<sup>26</sup> .

Diocletian reorganized Roman Empire provinces toward the end of the third century ,transferring administrative authority to smaller territorial entities .Supposedly ,Tinnis was separated from the province with which it was affiliated and given its organization<sup>27</sup> .In Cassian's days ,Tinnis had certainly been occupied for a period ,as it was already an important port and bishopric by the late fourth century <sup>28</sup> ;he mentions that it was Oppidum <sup>29</sup> .In 606AD ,it was first identified as the capital of a constituency separate from Damietta in George of Cyprus 'description of the Roman world<sup>30</sup> .

After the Arab conquest in 642 AD ,Tinnis grew in importance ,becoming the provincial capital and giving its name to the lake surrounding it<sup>31</sup> .Within the era of governors ,Tinnis was a refuge for some commanders who disobeyed the Abbasid caliphate<sup>32</sup> .Abd al-Aziz al-Jarawi was a power commander ,who sought safety in Tinnis .He and his sons succeeded in creating the emirate of the Coast ,taking in Tinnis as its capital ,throughout the period 814–825AD<sup>33</sup> .

During the Tulunid era ,Tinnis was one of the Egyptian ports ,and its frontier had tariffs on internal and foreign trade through its port <sup>34</sup> .Tinnis was located on an island in a lake where the water was not potable .It faced challenges in acquiring and storing fresh water to fulfill its growing population requirements for ablutions ,public baths ,or industry use<sup>35</sup> .It was reported that Ahmed Ibn Tulun entered Tinnis in the year 882 AD and built cisterns and numerous shops in the market ,these cisterns were known as the " Prince's cisterns"<sup>36</sup> .Since the end of the Fatimid era ,the menace of the Normans and the Crusaders has been threatening Tinnis and the northern coast of Egypt ,it became the first target of the Crusaders<sup>37</sup> .

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24 Christelle Desbordes and Philippe Brissaud" ,Dibgou et l'histoire du lac Menzaleh" ,CSFFT no .,(2015) 8 .SFFT.8 :(2016) ,

25 Al -Maqrizi .Al-Mawa'iz wa'l-I'tibar fi Dhikr al-Khitatwa'l-Athar [Admonitions and Lessons from the Accounts of Cities and Regions,[eds .,Muhammad Zeinuh and Madiha Al-Sharqawi) ,elqahra ,maktabmadbwly ;384-85 ,(1997 ,Ibn Duqmaq ,al-a'ntsar lewast [qad al-a'msar] The Triumph through the Compendium of Cities) ,[pulaq.78 ,(1893) ,

26 Gascoigne" ,The Island City of Tinnis.9 " ,

27 Desbordes ,and Brissaud" ,Au Nord ;5 " ,Gascoigne ,The Impact of the Arab ;4 ,Gascoigne ,Tinnis From Ancient Town.8 ,

28 Blouin" God Is in the Marshes.47 " ,

29 Alison Gascoigne" ,The Impact of the Arab Conquest on Late Roman Settlement in Egypt " ,PhD .Dissertation ,University of Cambridge ;49 ,(2002) Gascoigne ,The Island City of Tinnis .8 ,The term " Oppidum "may be use refer to" settlement" larger than a village .See ,Cartwright" ,Oppidum " .World History Encyclopedia ,June .2024 ,5 <https://www.worldhistory.org/oppidum> /Accessed on Jun.(2024) ,6

30 Desbordes ,and Brissaud" .Au Nord De Dibgou.6 " ,

31 Desbordes ,and Brissaud" .Au Nord De Dibgou.2 " ,

32 Attia Al-Qusi" ,Mna'hbar el mudn el e'lanya el mndtra :Tinnis] " ,From the news of the disappeared Islamic cities :Tinnis[ el meqla el rrabialelqlwm el'nsanya1 ,no.64 :(1981) ,2 .

33 Al - Husayni ,Al-Khabar al-nafis86 ,

34 Muhammad Jamal al-Din Surur ,Taryh al-dawla al-fatmya fy Maṭr] History of the Fatimid State in Egypt) ,[al-qahra ,dar al-fekr al-Ḍaby.41 ,(1966) ,

35 Gascoigne" ,The Water Supply.163" ,

36 Yaqt ,KitabMu'ajam al-Buldan [Lexicography of Countries [vol) .2 .Beirut ,darṣader.52 ,(1977) ,

37 Al - Husayni" ,Al-Khabar al-nafis105 ,

Fearing that the enemy might take the city ,in 1192 AD ,Saladin issued an order to evacuate their population and relocate them to Damietta<sup>38</sup>.

Maqrizi reports that in 1227AD Sultan al-Malik al-Kamil ben Ayyub “had the city of Tinnis destroyed ,which was one of the most considerable cities ,where the linen cloths and the veil of the Ka’ba were woven ”,He demolished it ,fearing that the Franks might occupy it <sup>39</sup>,to end the strategic uncertainties linked to the manifest weakness of the defenses of Tinnis<sup>40</sup>.

## A Vision for the Revitalization of Tinnis Island

Revitalization activity has become an important ideal of sustainable development<sup>41</sup>.When something is revitalized ,it is restored to health or life because essential components are still present and thriving ,and it will return to a better status once more<sup>42</sup>.The vision for revitalizing Tinnis Island has two aspects) fig .1 .(The first is to preserve and interpret the natural and cultural heritage of the island .The second aspect is to revive the intangible heritage of Tinnis Island” ,The Medieval City“.

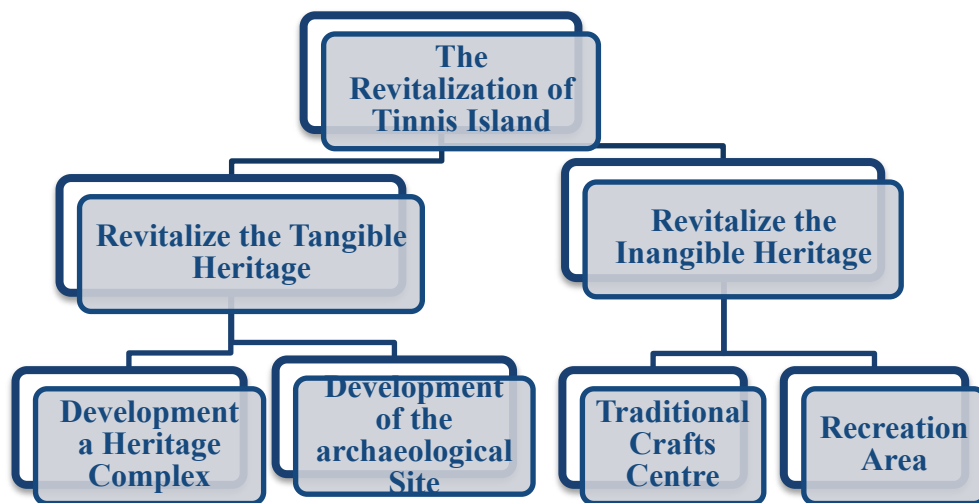


Figure) 1 (Graphic showing the Visualization of Revitalize Tinnis Island © ,The Author

### Revitalize the Tangible Heritage

The first approach represents the revival of tangible heritage ,which includes the development of the site and the establishment of a heritage complex to preserve and interpret the island’s natural and cultural heritage.

38 Al -Maqrizi ,al-slwk lemŀrft dwl al-mwlwk ]The Behavior for Knowing the History of Kings [ed .Muhammad Mustafa Ziada ,vol) 1 .alqahra ; (1936 , ,Maghazi ,Mamdouh“ Ġarat Nwrman Saqlyhŀaly madynt Tinnis almasryh548-573) AH/ 1154-1177AD :(mhawlha leltafsyrl” ,Norman Sicilian Raids on the Egyptian City Tinnis 573–548) AH 1177–1154/AD (an Attempt at Interpretation ,[Journal of the Faculty of Arts) ,21 ,Benha University.(2009 ,

39 Maghazi” ,Ġarat Nwrman.18 “,

40 Brissaud” ,Des Croisés Dans Le Delta Du Nil.51“ ,

41 MałgorzataWilczkiewicz and Wilkosz-Mamcarczyk” ,Revitalization :Definition ,Genus ,Examples“ ,*Geometrics, Land management and Landscape* No. 2 .72:(2015) <http://dx.doi.org/10.15576/gll2015.2.71/>

42 Vocabulary.com Dictionary ,s.v” .revitalize “,Available at :<https://www.vocabulary.com/dictionary/revitalize>) Accessed on May23.(2024 ,



## Heritage complex

The heritage complex will house educational ,scientific ,and other services ,using environmentally friendly technologies like natural lighting and renewable energy ,while ensuring accessibility for all.



Figure (2) the proposed location for establishing the Heritage Complex A (June 30 axis ,B (Coastal International Road ,C( Al-Manzalah Navigational Canal

Tinnis Island ,2 (the Line of the Enclosure Wall ,3 (the Southern Canal ,4 (Heritage Complex ,5 (Traditional Crafts Center ,6( Recreation Area ,7 (Photovoltaic Cells .The Author based on Google Earth) .Accessed March 12 ,2024.(

**The proposed site :**The heritage complex is proposed to be on the eastern side of the Manzalah Navigation Canal ,northwest of Tell Tinnis ,outside the archeological hill boundaries .The proposed location was selected for various reasons ,first ,to preserve the archeological hill and to avoid encroachment of the site with new structures .Tinnis Island will be revitalized as an island accessible by boat via the main visiting route using water transport units via the Port Said-Matraya line) fig .2 (.Development efforts and the current road network have altered the island's natural appearance .Consequently ,facilitating tourists 'access to the island via boat reinstates the site's appearance as an island ,which was previously only reachable by water.

The proposed location is near the coastal road connecting Damietta and beyond ,providing essential infrastructure such as electricity ,water ,and a road network .With the surrounding natural landscape ,the vision comprises conducting cruises on Lake Manzalah and establishing a fishing camp area.

## Proposed of the Heritage Complex

1. Boats Dock.
2. Administration Offices.
3. Tourism Facilities.
4. Visitor Center.
5. Site Museum.
6. Ecological Center.
7. Heritage Education Center.
8. Traditional Crafts Center
9. Conference and Training Center.
10. Commercial Area.
11. Photovoltaic Cells

The following elements will be considered the most affecting the site's revitalization) fig .3(.

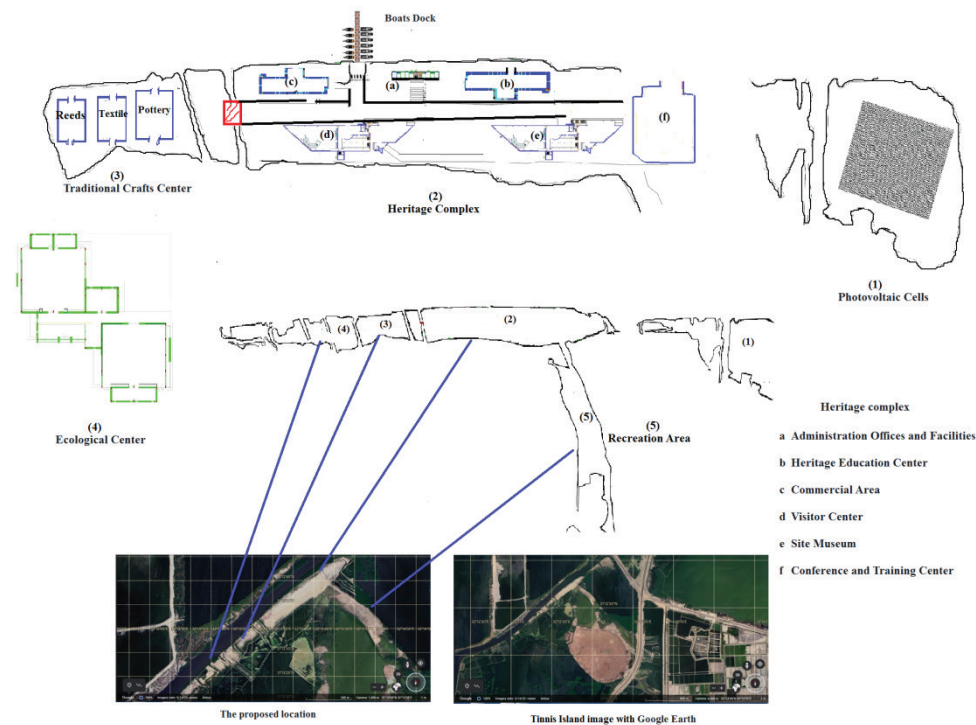


Figure) 3 (the proposed design of the heritage complex ©The Author

## Visitor center

Visitor centers are multi-functional <sup>43</sup>;they serve as the first point of entry for visitors <sup>44</sup>,using modern communication methods to encourage interaction and create a memorable experience<sup>45</sup>.

Visitor Centers promote the area ,develop attractions ,manage visitor flows ,and replace on-site visits<sup>46</sup>. Tell Tinnis is a sprawling site and could benefit from a visitor center for management and conservation .The visitor center could offer information about Ashtum El-Gamil Reserve's ecosystems .It can interpret information about Tinnis's textile collections that are kept in museums worldwide via interactive screens ,enhancing the visitor experience.

The Tinnis Visitor Center could employ augmented reality and three-dimensional models to revitalize abandoned buildings in Tinnis ,such as enclosure walls ,the citadel ,the cisterns ,and the network of water supplies that feed the cisterns with water.

<sup>43</sup> Philip Pearce” ,The Functions and Planning of Visitor Centers in Regional Tourism “,The Journal of Tourism Studies,15, no) ,1 .MAY8 :(,2004 ,

<sup>44</sup> Taneem ,Aljahani” .Visitor Center Design and Possibilities for Visitor Engagement at Ad Dir'iyah Heritage Site“, .73 :(2019)[http://purl.flvc.org/fsu/fd\\_2019/Fall\\_Aljahani\\_fsu0071\\_N](http://purl.flvc.org/fsu/fd_2019/Fall_Aljahani_fsu0071_N) 15581 \_Accessed on March.(2024 ,28

<sup>45</sup> Manz ,Kerstin ,Nicoletta Flora ,and Claudia Brincks-Murmann“ ,*Communicating World Heritage -A Guide for World Heritage Information Centres*” ,German Commission for UNESCO ;19 :(2018 ,Aljahani” ,Visitor Center.11 “,

<sup>46</sup> Pearce” ,The Functions and Planning.9 “,



## Site museum

Site museums are situated near or within archaeological sites ,the significant sites where excavations have occurred<sup>47</sup>. They are a museological concept that facilitates the in-situ preservation of both movable and immovable artifacts<sup>48</sup>.

A site museum focuses on a single site's history ,preserving its significance and perishable aspects ,rather than investigating multiple archaeological sites from different eras<sup>49</sup>. Architectural remains suffer hazardous deterioration processes from the moment they are discovered during archaeological excavations .Site museum conserve the site and its contents ,it follows preventative maintenance rules<sup>50</sup>.

One of the proposed tasks of the museum is to be a scientific center ,serving as a scientific center for pottery and ceramic studies .It also promotes community participation to inform society about the efforts undertaken to conserve the heritage and enhance visitor education.



Figure) 4 (Marble plaque engraved with the name of Abdul Aziz bin Al-Wazir Al-Jarwi ,the governor of Tinnis 814–825 AD (.In Al-Husayni ,Al-Khabar al-nafis ,457 ,fig .117

The site museum houses and displays findings of the previous and future excavations. The proposed concept of the museum display is to be according to the materials. The objects date back to the Abbasid, Tulunid, and Fatimid eras and illustrate the industrial prosperity of the city. These collections include various forms of pottery, surgical instruments, textile industry-related bone tools, glass weights, glazed and unglazed lamps, fragments of marble and granite, metal objects, jewelry, hand grenades, lusterware, etc. The marble plaque, with the name of Abdul Aziz bin Al-Wazir Al-Jarwi, will be the main object of the “Tinnis Site Museum” (fig. 4.) It is one of the Port Said National Museum collections.

<sup>47</sup> Government of Tamil Nadu ,Department of Archaeology” ,Site Museums .(2019) “,Available at :[https://:www.tnarch.gov.in/site-museums](https://www.tnarch.gov.in/site-museums)) Accessed on 24 March.(2024

<sup>48</sup> Hermanus Moolman” ,Site Museums :Their Origins ,Definition and Categorization “,*Museum Management and Curatorship* ,15 ,no) ,4 .December.397 :(1996 <https://doi.org/10.1080/09647779609515499/>

<sup>49</sup> Paarde kooper Roeland” ,the Story of your Site :Archaeological Site Museums and Archaeological Open-Air Museums“ ,”EXARC Journal “ ,Ethnoarcheology ,12 no) 2 .April.(2020 [https://:exarc.net/ark.88735/10540/](https://exarc.net/ark.88735/10540/):

<sup>50</sup> Zbigniew Kobyliński ,Weronika ,Kobylińska-Bunsch ,and Louis ,Nebelsick“ ,Landscape with ruins :preservation and presentation of archaeological relics of architecture ”,*ARCHAEOLOGIC Hereditas* ,10 ,Preventive conservation of the human environment .Architecture as an element of the landscape) ,Warsaw.131 :(2017 ,

## Heritage education center

Establishing an interactive learning center that serves as an institution of heritage education in collaboration with other educational institutions represents a critical step toward community service. The main target groups are school and university students. The center's activities will complement the educational process and help with educational outcomes that improve the quality of education and serve the community. It should have a multipurpose area for seminars and meetings and a hands-on area for children and youngsters. The center's task is to teach the natural and cultural heritage of Tinnis Island. It could explain the significance of Ashtum El Gamil Reserve as a wetland reserve, support workshops, and provide educational materials that help clarify and understand the official educational curriculum.

## Ecological center

Lake Manzalah is a dynamic aquatic ecosystem that has experienced major changes in its physical, chemical, and biological composition. This is due to human activities such as wastewater discharge into the lake and the ongoing drying processes of human habitation. This could have a significant negative impact on human health and the environment<sup>51</sup>. The concept of the Tinnis Ecological Center is to strengthen the relationship between inhabitants and the environment and promote environmental sustainability and scientific research. The center works in cooperation with the Ashtum Gamil Reserve and Port Said University, and Port Said Governorate to provide a research environment for addressing the issues and hazards that affect the Lake Manzalah region.

## Development of the archaeological site

Heritage sites have unique stories, and preserving the partially damaged ruins is crucial because they are integral to the site's narrative<sup>52</sup>. Ruins are a "memory object" rich in significance because they tell a tale. Once a building is destroyed, it can "speak" a universal language and embody different destinies<sup>53</sup>.

## Preservation of the site

The first step is to document and inventory the excavated structures and artifacts from the prior season's excavations at the site. The next step will be to create databases on Tinnis' natural and cultural assets using online tools. After that, preventative steps will be implemented to conserve the site's authenticity. Preserving and restoring antiques to perfection is possible using 3D model technology. Scanning artifacts and archeological sites with laser-scanning technology can be used to restore what the original site contained<sup>54</sup>.

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51 Ahmed Ismail" ,Environmental Damage Caused by Wastewater Discharge into the Lake Manzala in Egypt " ,American Journal of Bioscience and Bioengineering ,5 no .141 :(2017) 6 .<https://doi.org/10.11648/j.bio> ; .20170506.14.Eman Zahran ,Samia Elbahnaswy ,and Al-Zahraa Mamdouh" ,Xenosteroids in Aquaculture with Special Consideration to Lake Manzala) Northern Delta Lake ,Egypt :(Types ,Sources and Mechanism of Action " .Aquaculture Research ,52 no) 12 .July,30 .(2021<https://doi.org/10.1111/are.15504>.

52 John Marshall Brown ,Ruin and Rebirth :Balancing Natural and Build Environments in the Conservation of Architectural Remains ,M.A .Thesis) ,The School of Architectural of Tulane University.43 ,(2016 ,

53 FrancescaCoppolino" ,Ruins andnew narrations .Design strategies for a cultural re-appropriation of spaces in ruin .A: Arquitectonics" ,International Conference Arquitectonics Network :Mind ,Land and Society ,Barcelona 31 ,May 1-2 ,June :2017(Final papers) . "Barcelona :GIRAS .Universitat Politècnica de Catalunya .(2017 ,<http://hdl.handle.net/2117/12041/4>ISBN978-84-697-8413-6

54 Marc Michail" ,The Legal Protection of Egyptian Antiquities in Light of Digital Transformation" . *Journal of Law and Emerging Technologies* ,2 no) ,2 .October .40 :(2022 ,<https://doi.org/10.54873/jolets.v2i2.90>.

## A short-term and long-term excavation plans

....“Many more ,remain to be addressed by future work .It is clear that there is much that archaeology still has to tell us about this important city<sup>55</sup>”.

The main fort or the citadel area needs priority for further comprehensive archaeological examination<sup>56</sup>.

- Restore and reconstruct the unearthed structures.
- Develop a long-term plan to complete the excavation work on the archaeological Tell.
- Conduct excavations in areas where satellite images revealed the presence of important buildings such as Basilica Church, open square) Plaza ,(Caravanserai ,and Congregational Mosque) fig ,5.(

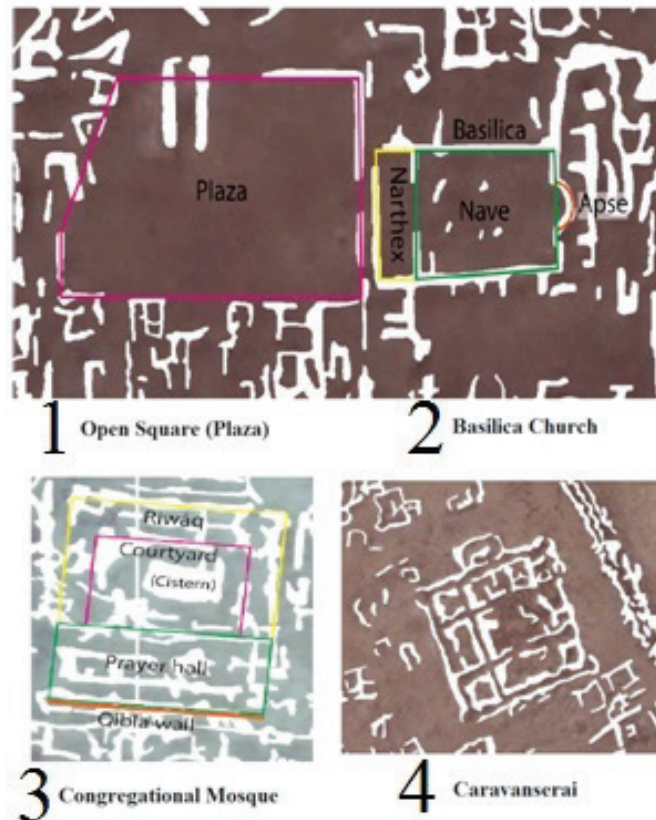


Figure) 5 (the satellite images present important buildings) open square) Plaza ,(basilica church ,congregational mosque, and Caravanserai (Google Earth ,interpretation by ,Gascoigne ,and Cooper .In :Gascoigne ,et al ,the Roman and Islamic, 12-13

55 Alison Gascoigne ,et al” .The Topography of the City of Tinnis “in *The Island City of Tinnis :A Postmortem* ,ed .Alison Gascoigne),American University in Cairo Press ,Cairo104 ,(2020 ,

56 Gascoigne ,et al” .The Topography.91 “,

## Re-drilling the Southern Canal

According to the topographical investigation ,the route of the southern canal was approximately 240 m towards the north of the town <sup>57</sup>.The concept is to dig the canal to simulate the contours of the city ,and to use small boats to enable visitors to access easily the main excavation area.

## Reconstructing the city walls

It is possible to trace the remains of the layout of the city walls ,where the wall takes irregular shapes that surround the ruins of the city from the outside<sup>58</sup>.

## Interpreting the Site

Access to Tinnis Island will be made using the station of the marine line transport) Port Said-Matara (,which was canceled a few years ago .Visitors will use the boats to transport them to the proposed location of the heritage complex ,which will be on the eastern side of the Manzalah Navigation Canal .Design effective ,safe visitor routes .The pathway should be made of wood with two lanes ,one for electric vehicles and cyclists and the other for walkers ,without compromising the site's natural ,historical, and cultural values.

- The main point of the visit) :map .2(
- The main excavation area no.1)seasons 1979 ;1992 :1998(
- The excavation area no .2)seasons 1991 ,2003 ,2010 ,2019(
- The excavation area no .3)seasons 2009(
- The remains of the castle.
- The enclosure wall.
- The southern canal.

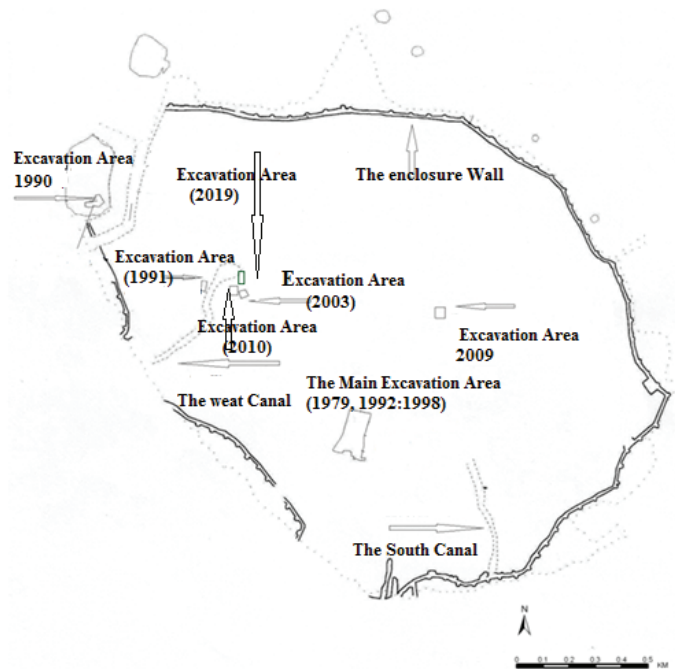
Interpretive signage at the entrance and throughout the site is essential to giving visitors a sense of the place .Design tactile-scale replicas of the site including the location's plan data and descriptive writings in relief and Braille ,to enable individuals and visitors with visual disabilities to enjoy visiting.

An acrylic overlay sheet will be erected next to one cistern to interpret the cistern and the structure that once stood above it.

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<sup>57</sup> Gascoigne ,et al” ,.The Topography.94 “,

<sup>58</sup> For more details about the city wall see :Al-Ḥusayni ,Al-Khabar al-nafis ;301 ,Gascoigne” ,The Arab Conquest ;62 “,Al-Maqrizi,al-Khitat ;508 ,Stéphane Pradines” ,Le Qalat al-Qabsh et les forteresses abbasides d’Egypte. “Journal of Oriental and African Studies2015) 23 a.114–86:(



Map 2(The enclosure Wall ,and the excavation areas © The Author based on Al-Husayni ,Al-Khabar al-nafis ,303 ,map 13 ,A

## Revival of the Intangible Heritage

In recent decades ,the international community has given more attention to intangible heritage and adopted the UNESCO Convention on the Safeguarding of Intangible Cultural Heritage in 2003<sup>59</sup>. ICH's economic growth adds to the social and cultural needs of society .The vision is to revive the intangible heritage of Tinnis ,by documenting the traditions ,costumes, crafts ,and other intangible heritage that belong to medieval Tinnis .Establish a center for traditional crafts next to the heritage complex ,create a recreation area for camping and fishing.

## Traditional Crafts Centre

Traditional crafts are vital for generating income ,creating jobs ,and reducing poverty<sup>60</sup>. The crafts produce essential goods for daily life and export surpluses abroad .These crafts transform economies from consuming to productive and creative<sup>61</sup>.

Traditional crafts are economically and environmentally feasible given their low-cost ,locally produced raw materials ,even though they face obstacles like a lack of capital ,technology ,and skilled labor<sup>62</sup>.

International organizations have paid attention to traditional crafts and defined them into four dimensions :historical ,cultural, social ,and economic .The historical dimension reflects the interaction of civilizations and society ,while the cultural dimension

<sup>59</sup> Suzy Harrison” ,Howis England’s Intangible Cultural Heritage being safeguarded“ ,? PhD ,Diss .,Nottingham Trent University.10 (,2013 ,

<sup>60</sup> Yongzhong Yang ,et al“ ,Preservation of Cultural Heritage Embodied in Traditional Crafts in the Developing Countries .A Case Study of Pakistani Handicraft Industry ”,*Sustainability* ,10 no) 5 .April .1336 :(2018 ,<https://doi.org/10.3390/su10051336>

<sup>61</sup> Heba Abdel Hafez” ,Mstqbl al-hraf al-tqlydyahrfat al-fharnmwdġan] “ ,The Future of Traditional Crafts :pottery Craft as a Paradigm ,[JSSA ,16 no.2 :(4) .

<sup>62</sup> Maya Alkateb-Chami” ,Traditional Crafts and Supply Chains :Lessons from the Syrian Silk Craft “ .Proceedings of Heritage :2014The Fourth International Conference on Heritage and Sustainable Development ,Guimarães 22-25 ,July ,Green Lines Institute for Sustainable Development ,Barcelos.433 (,2014) ,



reflects cultural ,spiritual ,and civilization components .The social dimension extends beyond individual work to families ,and the economic dimension can generate income and add value if linked to tourism<sup>63</sup>. Traditional crafts facilitate knowledge sharing and collaboration ,poverty reduction ,empower communities ,especially women and youth ,and instill competitiveness values, thereby reducing reliance on government aid<sup>64</sup>. Three crafts related to Tinnis could be revived textile ,pottery ,and reeds crafts.

## Traditional Textile craft

Tinnis was a significant center for fine textile production ,renowned for its vibrant ,colorful linen and other textiles frequently adorned with gold embroidery .This industry played an important role in Tinnisi economy.

The textile industry encompasses many crafts like spinning ,weaving ,dyeing linen ,loom creation ,dyeing basin-making ,well-trading raw materials ,and manufactured materials<sup>65</sup>.

### Textile workshops in Tinnis traditional crafts center would:

- Produce a variety of textiles ,like clothing ,accessories ,tapestries ,carpets ,souvenirs ,and more) fig .6.(
- Revive the traditional methods of textiles ,such as spinning ,weaving ,dyeing ,embroidering ,and printing.
- Encourage sustainable practices and safeguard the traditional textile craft through training initiatives ,workshops ,and exhibitions.
- Collaborate with the textile workers ,merchants ,customers ,historians ,and fashion designers to host fashion shows on Tinnis Island.
- Create markets and fairs for traditional textiles in partnership with regional communities and craftspeople.



Figure) 6 (Suggestions for souvenir designs inspired by Tinnis textiles housed in international museums © Amr Gaber.

## Pottery craft

Egypt has a long history of pottery production ,and one of the main drivers of that growth has been the supply of clay along the Nile River <sup>66</sup>. The pottery industry was significant in Tinnis during the Islamic era and up until the city’s destruction) Fig .7.( Pottery was a major industry in the city ;merchants would sell their goods in freestanding clay pots .The materials were available

<sup>63</sup>Abdel Hafez” ,Mstqbl al-ḥraf.6“ ,

<sup>64</sup> Alkateb” ,Traditional Crafts.440“ ,

<sup>65</sup> Hanna Nacem” ,al-nasyġ al-yadwybea[ḥmym]“an-nasīj al-yadwī bi-Akhmīm ,[meġltā al-fnwn al-šbyā ,al -hyḏatā al -mṣrytā al-ḏamtālktab.39-40 :(2011) 37-69 ,89 ,

<sup>66</sup> Heba Abdel Hafez ,Mstqbl al-ḥraf al-tqlydya ḥrfat al-fḥar nmwdġan]The Future of Traditional Crafts :pottery Craft as a Paradigm[JSSA 16 ,no.2:(2015) ,4 .<https://doi.org/10.21608/jssa2018.12887>.

resources like clay ,sand ,and silt from the Nile<sup>67</sup>.



Figure) 7 (Pottery vessels and amphorae from Tinnis  
In:Al-Husayni ,Al-Khabar al-nafis ,434

The researcher conducted a field study in Fustat ,Cairo ,interviewing pottery manufacturers and workers to understand manufacturing stages ,workshop operations ,and necessary tools .Pottery production primarily uses clay ,a soft ,colloidal material formed from rocks 'breakdown ,with natural impurities affecting its color .Clay's natural properties depend on impurities like alkalis ,iron compounds ,calcium carbonate ,quartz sand ,and water<sup>68</sup>.

## The Reed crafts

Over the past few decades ,global understanding has grown of the significant role biodiversity and natural resources play in the well-being and subsistence of the rural poor<sup>69</sup>. Plant fibers are commonly used to create culturally significant objects like baskets ,mats ,brooms ,and ropes .They are sold to non-traditional markets for their unique value and to generate income in the communities where they are produced .Craft economies ,based on traditional skills and local resources ;provide employment opportunities for those with limited opportunities ,offering capital-free ,home-based production .Women and youth are taught and trained in reed crafts ,educating them for ecosystem preservation<sup>70</sup>.

Reeds have been valued in handicrafts since ancient times and used in traditional industries and crafts to meet daily needs. Reeds are a means of increasing income if used well <sup>71</sup>. It grows on the island's edges ,so ,the raw material required for these crafts is readily available on Tinnis Island) fig .8.(

<sup>67</sup> Al - Husayni ,Al-Khabar al-nafis197 ,

<sup>68</sup>Osama Mahmoud ,Tamer Fahim ,and Najeh Omar” ,traḥḥfat al-fḥar be-altabyq’lyqrytfaḥws “ ,JIHTHA ,16 ,no:(2022)1 . 300-31.9

<sup>69</sup> Taryn Pereira ,Charlie Shackleton ,and Sheona Shackleton“ ,Trade in Reed-Based Craft Products in Rural Villages in the Eastern Cape ,South Africa ”, *Development Southern Africa* ,23 no) 4 .October .478 :(2006 <https://doi.org/10.1080/03768350600927235/>

<sup>70</sup> Taryn ,Shackleton ,and Shackleton“ ,Trade in Reed.477-78“

<sup>71</sup> Intisar Abdel Moneim“ ,ḥrf al-a’ḡdadmstaql al-a’faded] ,The Ancestors ’Craft is the Future of the Grandchildren,[ selselata’qr’ ”,dar al-maḥarf ,Cairo.155-77 ,(2015 ,



Figure) 8 (Reeds grow on Tinnis Island's edges ©The Author.

## Recreation Area

Tinnis Island offers natural landscapes for leisure activities like camping ,fishing ,canoeing ,and bird-watching .An outdoor theater could be established for social and cultural events.

As for the bird-watching activities) Fig .9 ,(in collaboration with the Ashtum El Gamil Reserve and the Port Said Governorate, the General Authority for Tourism Promotion has organized a bird-watching and photography festival for two consecutive years ,2022 and 2023.



Figure) 9 (The First Port Said International Festival for Photography and Bird Watching ,November 2022 © .The Author

The festival aims to highlight the migratory birds that make Tinnis stop on their migratory journeys .Tinnis could be a recreational area during the Bird Watching Festival celebrations .The researcher followed an observational approach, conducted a survey ,and conducted interviews with specialists and interested parties during the festival .Upon analyzing the data ,the researcher highlights the significance of improving the festival in its upcoming editions as follows:

- Develop an application and website for bird identification and tracking.
- Offer suitable equipment for bird-watching ,binoculars ,and books.
- Develop an online platform for scientists and researchers to share their observations and findings.
- Make a map of the paths available to the most important bird-gathering points and how to reach them.
- Bird identification contests are organized for public ,school ,and university students ,while workshops for children and school students cover drawing ,colors ,and birdhouse construction.

## The Community

With the growing relationship between cultural heritage and social well-being ,more public involvement in conservation efforts is being widely acknowledged .Public participation is vital to the ethical practice of cultural heritage management .An effective participatory program has to determine ,arrange priorities ,and map stakeholders<sup>72</sup>.

The neglect of Lake Manzalah for nearly a century caused its area to decline from 750,000 acres to only 125,000 acres. In 2019 ,a project of developing ,dredging ,and increasing the lake's depth was one of the giant national projects that began .Over 4,100 unauthorized cottages ,houses ,and fish farms from the encroachments and violated the laws regulating fishing were demolished .It was said that the lake development process will be completed by 2021 ,and it will be a tourist destination<sup>73</sup>.However ,the development work has not been completed.

The researcher interviewed a group of this community who lived on small ,isolated islands in the lake ,and their huts were demolished .The interviews generated a helpful conclusion .The local community supports developing the island as a tourist destination .This group of the local community lived a simple life on small islands in the lake ;their educational level was Intermediate education or without any education qualifications .Their source of income was fishing and poultry farming. Since they have limited income ,and after the reduction in fishing opportunities ,they hope that the Heritage Crafts Center will educate them and provide alternative job opportunities .Especially ,some of them already practice the reed craft.

The residents of Port Said embraced the concept of developing Tinnis Island ,especially after the city's status as a free zone declined .The point of view the experts that such this project will put Port Said on the tourism agenda ,attract investment, improve the infrastructure and services of Port Said city ,and other businesses.

The researcher believes developing a strategy for training the community to engage in the revitalization process is beneficial. The plan should consist of three stages .Pre-revival stage :to raise awareness about the importance of revitalizing Tinnis Island through preparing seminars and community dialogue ,introducing the project ,and educating the community about participation .Implementation stage :establish Tinnis Island Association ,to support the revitalization efforts and fund-raising. The third stage is preparing cadres to oversee the craft center .They will train and educate the targeted community groups on traditional crafts.

## The stakeholders

Stakeholders are individuals or organizations involved in a project ,whose interests may be impacted by its execution<sup>74</sup>.The participation of stakeholders in the planning and management process is important ;it will save time and money Stakeholders have responsibility ,and authority ,and give financial and political support .Identifying ,managing ,and understanding the influence of stakeholders will ensure the successful execution of the project ;failure to understand their positions can delay or block projects<sup>75</sup>.

## The key stakeholders

- Ministry of Tourism and Antiquities.
- The Egyptian Environmental Affairs Agency affiliated with the Ministry of State for Environmental Affairs.
- Authority of Fisheries Resources within the Ministry of Agriculture ,and Water Resources and Irrigation.
- National Federation of Tourism Chambers.
- The Coast Guard affiliated with the Ministry of Defense
- Water bodies 'police affiliated with the Ministry of Interior.

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<sup>72</sup> –Pui Yu Chan” ,Community Participation in Heritage Management :A Case in Macau “,MA ,Thesis ,Columbia University .12 ,(2016)

<sup>73</sup> State Information Service Your Gateway to Egypt ,Development and clearance of the Northern Lakes ,November,23 .2023<https://beta.sis.gov.eg/en/projects-initiatives/projects/development-and-clearance-of-the-northern-lakes/> )Accessed on July.(2024 ,4

<sup>74</sup> Mohammadreza Hajjalikhani“ ,A Systematic Stakeholders Management Approach for Protecting the Spirit of Cultural Heritage Sites ”,ICOMOS16 th General Assembly and Scientific Symposium ,Quebec.1 :(2008) ,

<sup>75</sup> Hajjalikhani” ,A Systematic Stakeholders.72 ,1 “,

- Local government) governorates.(
- Local Community ,Civil society ,the private sector.
- Ministry of Petroleum and Mining.
- Ministry of Health.
- Universities/research institutes.

The project team should select appropriate management processes to ensure the project's success .The“ Project Management Institute ”in the United States has created a systematic strategy for managing stakeholders of projects and programs figure )10 ,(which may be highly modified for cultural heritage sites<sup>76</sup>.The researcher adopted the strategy of) PMI (in managing the implementation of a proposed project to revitalize the island of Tinnis.



Figure) 10 (Structure for project Management ,based on Project Management Institute ,USA  
In :Hajjalikhani“ ,Systematic Stakeholders «,5.

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<sup>76</sup> Hajjalikhani” ,A Systematic Stakeholders.1 “,



## A proposal for the administrative structure of Tinnis Island

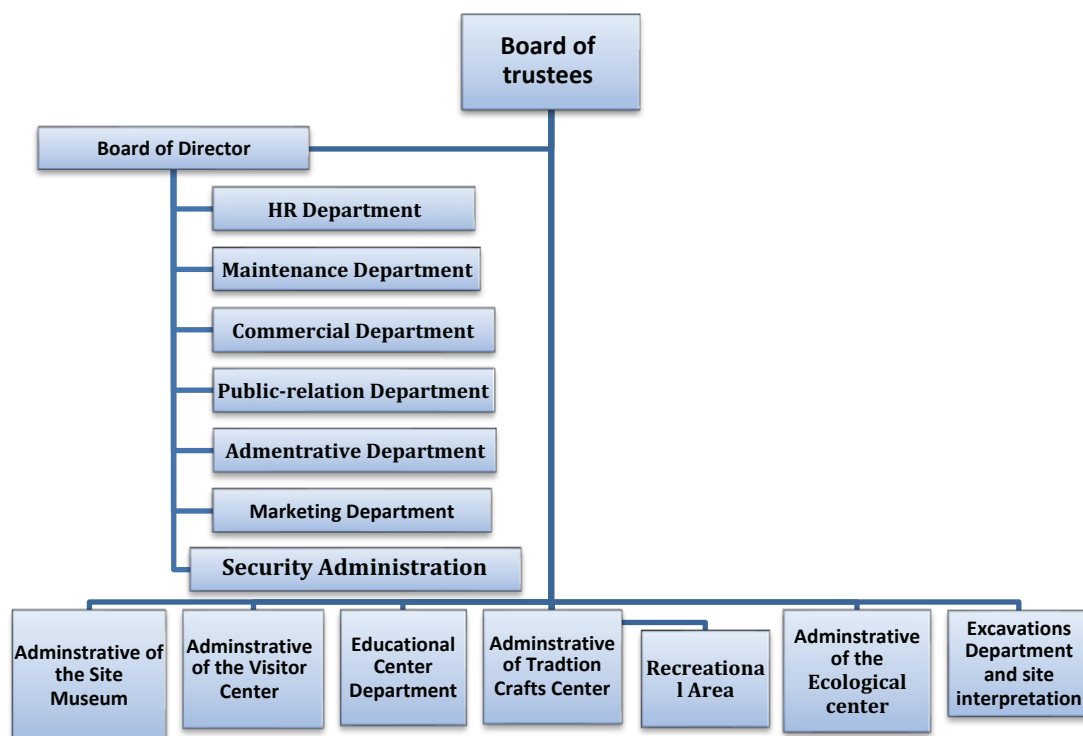


Figure) 11 (A visualization of the organizational structure of the Tinnis Island administration© .The Author

## Conclusion

Tinnis Island ,as an archaeological site representing cultural heritage ,is in harmony with the surrounding natural landscapes. It is a part of the Ashtum El Gamil Reserve .So ,the Natural and cultural heritage of the Island synergize and complement one another ,with the potential to promote the site as a sustainable eco-tourism destination .From this point ,revitalizing Tinnis Island involves enhancing its natural and cultural significance ,and making it accessible to visitors ,ensuring they can appreciate its heritage values .It should be noted that the visitor center will develop Tinnis as a recreational area for all visitors ,including those with disabilities .It could improve the visitors 'experience and provide information about the ecosystems of Ashtum El-Gamil Reserve .The site museum within the island conserves the site and regularly maintains the excavation outputs .It serves as a research hub for experts in pottery and ceramic studies .From another angle ,the Ecological Center in Tinnis assists scientists ,academics ,and students in conducting scientific research ,which helps to solve the issues and risk mitigation of the Lake Manzalah region .The center could also translate scientific knowledge into practical management actions that improve fish productivity.

Noteworthy ,traditional crafts preserve cultural and artistic traditions ,foster skills ,are environmentally friendly ,and suitable for economic investment ,especially in developing countries ,and offer numerous skills and techniques .It can provide livelihoods for craftsmen by supporting and generating revenue opportunities .Moreover ,the Heritage Education Center is an educational institution that helps understand and simplify educational curricula .In conclusion ,the synergy of Tinnis 'natural and cultural heritage supports economic growth ,job creation ,and social inclusion ,contributing to the community's sense of place and preserving its unique heritage.

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