

Reviving the Original Visual Image of Heritage Gardens Documenting the Current Situation of Al-Azbakeya Garden in Cairo

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ABSTRACT

Heritage gardens, imbued with historical significance and meaning, hold a special value due to their rich aesthetic and historical qualities. These qualities are often evident in the distinctive architectural, urban, and design elements of the landscape, creating a unique visual image that reflects the cultural and historical context of the time. Such gardens represent a sustainable cultural asset for future generations. In Egypt, during the latter half of the 20th century, rapid urban development, often disregarding cultural and historical values, led to the neglect of public gardens and green spaces, particularly heritage gardens. These gardens suffered from deterioration and loss of area, resulting in a distortion of their original visual image. This constitutes a significant research problem, as these gardens must be preserved through the development of tailored plans based on their current conditions. This research aims to develop a methodology to revive the visual image of the heritage gardens. In this context, three research methodologies are employed: theoretical, analytical, and applied. Initially, the concept of heritage gardens, the reasons for their deterioration, methods of preservation, and the most important heritage gardens in Egypt are explored. Adopting a case-study approach, Al-Azbakeya Heritage Garden in Cairo is analyzed, examining its historical significance, heritage value, and the changes in its layout over the years. Finally, the applied methodology involves documenting the garden's current condition and assessing the extent to which its visual image has been restored by reviving its original design and, ultimately, the proposed methodology is tested.

KEYWORDS

Heritage Garden; Visual Image; Landscape Design; Reviving; Sustainable.

1. INTRODUCTION

Heritage parks are not just green spaces, but rather living repositories of history, reflecting the political, cultural, aesthetic and social dimensions of previous eras. Their unique architectural and urban design, coupled with the diverse arrangement of their elements, creates a distinct visual identity.

Egypt boasts a rich heritage of gardens, many of which are suffering from significant deterioration due to a confluence of planning, legal, social, economic, and administrative challenges. This neglect has led to a decline in both size and value, eroding their original visual character, a crucial component of Egypt's urban memory. This research aims to address this critical issue by developing a comprehensive methodology for reviving the visual image of heritage gardens.

The study will focus on Al-Azbakeya Garden in Cairo as a case study. By documenting the garden's current state and analyzing the design-related obstacles encountered during its

rehabilitation, this research seeks to develop a replicable framework for revitalizing other heritage gardens across Egypt.

This research employs a multi-faceted approach combining theoretical, analytical, and applied methodologies:

- Research Approach: Describe the multi-faceted approach employed in the study:
 - o Literature Review: Comprehensive review of existing literature on heritage gardens, their preservation, and the challenges faced in Egypt.
 - o Historical Research: In-depth analysis of Al-Azbakeya Garden's history, including its origins, development phases, and significant changes over time.
 - Field Study: Detailed documentation of Al-Azbakeya Garden's current condition, including:
 - Visual Analysis: Assessment of the garden's overall appearance, spatial organization, and visual character.
 - Inventory of Existing Elements: Detailed inventory of plant species, architectural features (fountains, buildings, pathways), and other design elements.
 - Site Analysis: Evaluation of the garden's current use, visitor patterns, and any existing issues or conflicts.
 - Data Analysis: Analysis of collected data to identify key trends, patterns, and relationships between historical factors, current conditions, and the challenges faced in rehabilitation.
 - Document the current state of Azbakeya Garden and create a comparative analytical table for all the design elements of the garden to determine the extent of their conformity with its original image.
- Finally, reach a proposed methodology through the "Guidelines for Revitalizing the Original Visual Identity of Heritage Gardens with Distinct Architectural Styles" when rehabilitating and developing any heritage garden."

2. THEORETICAL STUDY:

2.1 Concepts of Heritage Gardens:

Most definitions agree that heritage gardens should preserve their original form and visual appearance due to their inherent historical and architectural value. This is illustrated by the following core components of the heritage garden concept (Legacy, S., 2002), (National Organization for Urban Harmony (NOUH), 2022), (Egypt, 2006), Fig.1:

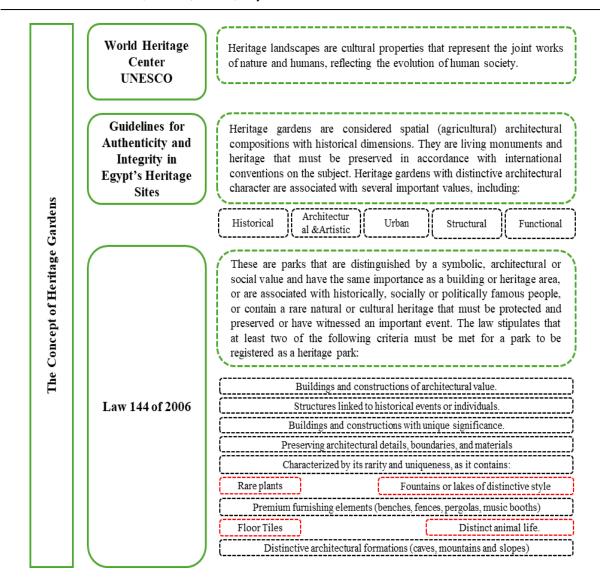


Figure (1): The Concept and Characteristics of Heritage Gardens.

Source: Author

2.2 Classification of Heritage Gardens in Egypt

Gardens with distinctive architectural character can be divided into, (Ahmed, H. F., 2006), Fig.2.:

- Botanical Gardens: These gardens focus on scientific collections of plants, often with labeled specimens and research facilities.
- Gardens Attached to Palaces, Universities, or Museums: These gardens serve as extensions
 of the main institutions, often reflecting the architectural style and historical context of the
 attached building.
- Specialized Gardens ("Fish/Animal"): These gardens focus on specific themes, such as aquatic life (like the Fish Garden) or zoological collections (zoos).
- Independent Gardens: These are stand-alone gardens designed as public spaces or for specific purposes, not directly connected to another institution.

Distinguishing features of architecturally significant gardens in Egypt include:

Rare Plants: Such as a type of camel's foot tree called *Bauhinia monandries*, a non-deciduous variety that blooms with pink flowers in autumn and winter. These can be found in the Kanater Gardens (حدائق القناطر الخيرية).

- Old-Growth Plants (Perennials): Like those found in the Orman Garden (حديقة الأورمان), which highlight mature specimens of various species.
- Rare Plants: Such as Pistachia terebinthus found in the Zahriya Garden (حديقة الزهرية).
- Distinct Architectural Formations and Structures: Including caves, artificial hills (جبلایات), plant houses (الصوب), etc. An example is the artificial hill in the Fish Garden (الأسماك).
- Gardens Linked to National History: Such as the Al-Azbakeya Garden (حديقة الأزبكية),
 which holds historical significance within the nation's narrative.
- Gardens Used as Tourist Destinations: Like the Montazah Garden (حديقة المنتزه) in Alexandria, which attracts visitors for its scenic beauty and historical importance.

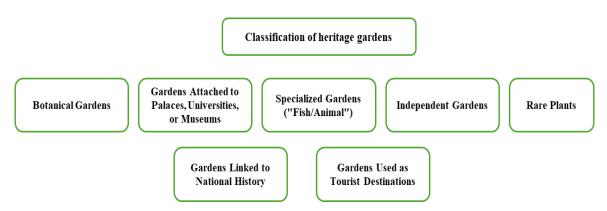


Figure (2): Classification of Heritage Gardens.

Source: Author

2.3 Causes of Deterioration of Architecturally Distinct Heritage Gardens:

- Planning Causes: (National Organization for Urban Harmony (NOUH), 2022)
 - Lack of comprehensive and integrated planning for green space distribution across the entire city to establish environmental and urban balance and achieve equitable distribution for citizens, especially in deteriorated urban areas.
 - Insufficient new parks and recreational areas to match population growth, increasing pressure on existing architecturally distinct heritage gardens. (Gardens established in Greater Cairo, originally serving around one million people, are now expected to serve over 18 million.)
 - Treating green spaces as unproductive or non-beneficial voids has led to urban development prioritizing-built areas at the expense of green spaces, including architecturally distinct heritage gardens.
- Legal (Legislative) Causes:
 - Ineffective enforcement of laws and regulations related to the maintenance of facilities, including the preservation of architecturally distinct heritage gardens.
 - Lack of specific standards and criteria for preserving architecturally distinct heritage gardens.
- Socio-Cultural Causes:
 - Need to raise public awareness regarding public ownership and shared responsibility for preserving architecturally distinct heritage gardens.

- Need to activate the role of existing gardens in developing citizens' aesthetic appreciation, enriching their senses, and satisfying their emotions through music or artistic, architectural, and sculptural works, a role played by the gardens of the Khedive Ismail era over a century ago.
- Need for educational curricula to instill and develop a love for plants and their care among young and older students through practical gardening activities.

Economic Causes:

- Lack of adequate budgets to cover the needs of these gardens, including financial support for maintenance, repair, and ongoing care.
- The central location of these gardens (where land values are high) leads to their inappropriate exploitation.

Administrative Causes:

- Architecturally distinct heritage gardens require specialized management due to their components that need expert intervention for the preservation of their heritage elements.
- Multiple entities oversee these gardens (e.g., the Orman, Zoo, and Fish Gardens are under the Ministry of Agriculture; the Kanater Gardens are under the Ministry of Water Resources and Irrigation; the Antoniadis and Shallalat Gardens are under the Alexandria Governorate; the Plant Island is under the Aswan Governorate), hindering unified coordination and experience sharing in their care.
- Lack of archives in administrative bodies documenting the urban development of architecturally distinct heritage gardens to restore their area and image after various construction projects.
- Architecturally distinct heritage gardens require specialized labor in all fields, especially horticulture, to preserve their unique plants.
- Poor maintenance has led to the disappearance of some distinctive and unique plant and tree species that were imported from their original habitats, such as India, China, South Asian islands, central Sudan, and South America, and treated in greenhouses to acclimatize them to Egyptian climate and soil before being planted in their designated places in various gardens according to the defined plan.

2.4 Manifestations of Deterioration of Heritage Gardens:

Some architecturally distinct heritage gardens suffer from problems leading to their decline and deterioration on both urban and design levels. The most important manifestations of this deterioration include, (Elminiawy, M. A., et al., 2023):

- Manifestations of Deterioration on the Urban Level:
 - The disappearance of many of these gardens is due to either random urban sprawl or population explosion.
 - Shrinkage of the area of some other gardens, disappearance of their features, and appropriation of land for other uses.
- Manifestations of Deterioration on the Landscape Design Level:
 - Reduction of lawn areas and uprooting of trees in many gardens due to their replacement with other uses and activities and their conversion into areas not originally designed for them.
 - Distortion of some landmarks and design elements of some architecturally distinct heritage gardens.
 - Lack of necessary maintenance and care for many architecturally distinct heritage gardens, both for their structural and natural elements.
 - Addition of elements within the garden that are incompatible with the original architectural style.

• Failure to distinguish between historical heritage elements and added modern elements.

- Hosting activities have a negative impact on the quality of the garden.
- Some architecturally distinct heritage gardens are not protected or have their importance highlighted, making them public spaces exploited in a way that is inconsistent with their original design, such as encroachment by street vendors.

3. HANDLING HERITAGE GARDENS

3.1 Policies for Handling Heritage Gardens Conservation:

This means achieving standards that enable the preservation of the site's form, the integrity of its elements, and its characteristics to reinforce its historical value and significance. It aims to maintain as much of the site's historical form as possible according to its evolution over time and focuses on continuous maintenance and repair of the original materials and elements of the architecturally distinct heritage gardens, (Fekete, A. et al., 2021).

- Rehabilitation: This means finding the appropriate use for the site's elements according to their characteristics through modification, addition, and repair in a way that helps these elements retain their historical and cultural value. This is in response to the necessary use or need for the place, provided that the use is compatible with the historical value of the garden. This policy maintains the site's specific form and composition while allowing for some minor or appropriate changes or simple new additions.
- Restoration: This means recreating the visual and material image of the site as it was in a specific time using one of the following methods: reassembly, restoring the previous state, removal or deletion of added elements that are incompatible with the building's value.
- Reconstruction: This means restoring the site's image and form by building important historical elements and characteristics that have been lost from the place or recreating details of the site after large parts of it have been destroyed to show them once again in the same way they were in a previous time period. Both restoration and reconstruction must be supported by historical research that monitors and documents the state of the original and current elements and components of the site.

3.2 Methods of Preserving and Handling Plants

Protection:

- Plant elements must be protected and maintained from external influences and harmful factors, which increase their lifespan. Protection methods used include support systems (staking), tipping, and installing barriers.
- Maintenance: Plants must be maintained. Examples include fertilizing the soil, weeding, and harvesting, pruning, and transplanting plants, and using appropriate irrigation techniques.
- Treatment: Treatment methods should be used to repair any damage/disease or deterioration in the plant's condition and attempt to restore its vigor.
- Replacement: Deteriorated or damaged plant elements that cannot be treated should be replaced with other healthy plants of the same type if available, or a substitute for the same strain.

4. CHANGES IN THE DESIGN OF AL-AZBAKEYA GARDEN OVER TIME

4.1 Historical Overview of the Al-Azbakeva Area

The Al-Azbakeya area in Cairo has undergone a dramatic transformation over centuries, evolving from a private estate to a central urban district and a beloved public garden. This timeline traces the key stages of this evolution, beginning with its establishment in the Mamluk

period and continuing through significant developments under Muhammad Ali, Khedive Ismail, and subsequent eras. It highlights the changing landscape, architectural features, and the various influences that have shaped Al-Azbakeya into the space it is today, marked by periods of prosperity, neglect, and redevelopment. This historical overview provides crucial context for understanding the importance of preserving and restoring this significant urban space, (Abd al-Wahhab, H., 1957), Table 1.

Table 1: Al Azbakeya Timeline from 1799 until 2025

Al-Azbakeya Garden: A History		
Year	Description	Garden Design Layout
1799	Saif al-Din ibn Azbak completes construction of a mosque, library, bathhouse, and trading agency on land granted to him by Sultan Qaitbay. The area became known as Al-Azbakeya, named after Azbak. A pond is dug, trees are planted, and a palace is built, attracting wealthy residents. Celebrations of the pond's opening begin (Zaki, A. R.,1966).	Cunsal et Calekych Place Kalekych
		Figure (3) : Al-Azbakeya Garden Design layout (1799). Source:
		https://egyptedantan.net/egypt.html
1837	Muhammad Ali fills in the pond and removes debris, transforming the area into a garden. The land, previously an endowment of the Al-Bakri family, is incorporated into public lands. Burhan Bey orders the creation of a 60-feddan garden, (Ismail, M. H. D., 1996).	Figure (4): Al-Azbakeya Garden Design layout (1837). Source: https://egyptedantan.net/egypt.html
1927	Khedive Ismail returned from the Paris Exposition inspired by modern urban planning. He began acquiring properties in Al-Azbakeya to redevelop the area in a European style (Soulié, R.,1999). The new 20-feddan garden, designed by French landscape architect Barillet-Deschamps, is inaugurated. The Khedivial Opera House is built nearby. The garden features gas lamps, fountains, and an octagonal shape, with the surrounding area developing European-style buildings, theaters, cafes, and shops. The garden is open to the public for a fee (Ismail, M. H. D., 1997).	Figure (5): Al-Azbakeya Garden Design layout (1927). Source: https://egyptedantan.net/egypt.html

	Al-Azbakeya Garden: A History		
Year	Description	Garden Design Layout	
1964	Following the Cairo Fire, significant changes occurred. Al-Azbakeya Square is divided into sections for various uses, including the Central Bank, a gas station, and government buildings. Part of the garden is used for the Opera telephone exchange, and 26th of July Street is built through it. Al-Azbakeya wall is rebuilt in stone, and book sellers are granted kiosks and libraries, making it a cultural landmark. (Shubl, D., 2012)	Figure (6): Al-Azbakeya Garden Design layout (1964). Source: Egyptian Survey Authority. (n.d.). Retrieved from https://www.esa.gov.eg/	
2008	The garden's features, including the Gebalaya (artificial hill), fountain, lighting, wall, plant life, and furnishings, undergo various changes, deteriorations, and replacements due to neglect, redevelopment, and construction projects like the Ataba Metro station. Many original elements are lost or significantly altered.	Figure (7): Al-Azbakeya Garden Design layout (2008).	
2025	Rehabilitating the park to its original condition in line with the surrounding urban developments and changing its area to reach 11 acres by reviving the original visual image of the park by rebuilding all the distinctive architectural elements that were present in it and preserving the remaining part of the planted areas with planting the rest of the area and restoring the historic fountain. Some landscape elements were also created, such as security gates, bathrooms, and signboards, to be ready for public visits in 2025. (Sites International. ,2024).	Figure (8): Al-Azbakeya Garden Design layout (2025). Source: https://bit.ly/4gOFeyv	

Source: Author after Ismail, M. H. D., 1996; Shubl, D., 2012; Sites International, 2024; Soulié, R., 1999; Zaki, A. R., 1966

4.2 Key Architectural and Botanical Elements That Existed in the Garden

This research, through observation and analysis, reviews the most important architectural and botanical elements that exist in the garden, their status, and what has been lost from them

throughout different eras. It clarifies the original elements and those introduced to the original plan, along with the condition of each according to successive interventions and continuous encroachments on its land, as follows in Table 2.

Table 2: Key Architectural and Botanical Elements That Existed in the Garden

	Key Architectural and Botanical Elements That Existed in the Garden			
Element	Description	Photo		
The Historic ''Gebalaya'' (Artificial Hill)	The historic Gebalaya is in the western corner of the garden. It was formerly the site of the "Rock with Caves," designed by the French engineer "Compaz" in the late 19th century (1881 AD). It was considered one of the important and distinctive landmarks that adorned the garden, as it was connected to the lake by water channels. It was filled in, and the current Gebalaya, which contained a garden of succulent and thorny plants and some old plants such as jujube, silk floss tree, banyan fig, and Markhamia tree, was built in its place. Now, the Gebalaya itself suffers from signs of deterioration and neglect and has become an area devoid of plants and trees. Only some types of cacti and a banyan fig tree remain (Sadek, S., 2024).	Figure (9): The historic Gebalaya. Source: https://egyptedantan.net/egypt.html		
Al-Azbakeya Teatro	It was known as the Teatro Al-Azbakeya and was in the southern part of the garden, opposite the Opera House. The Italian engineer Verrucci designed it, (Abd El-Wahab, A., 2019).	Figure (10): Al-Azbakeya Theater. Source: https://egyptedantan.net/egypt.html		
The Historic Fountain	This marble fountain, a centerpiece of Al-Azbakeya Garden, dates back to the era of Muhammad Ali Pasha. Designed by Burhan Bey, it showcases intricate carvings and decorations. Originally, the fountain comprised two sections: a central part connected to a pond for water supply and an ornate facade. However, due to neglect and lack of maintenance, the fountain currently lies unused and in a state of disrepair, surrounded by a metal fence, (Mubarak, A. P. ,1886), (Farouk, S., 2024).	Figure (11): The Historic Fountain. Source: https://bit.ly/4acsAXK		
Lighting Elements	The lighting units inside the garden were originally oil lamps, then they were converted to gas lanterns when Khedive Ismail introduced the gas lighting system. He signed a contract with a French company starting from Muharram 13, 1280 AH/1863 AD to install lighting units in the streets, squares, and gardens of Cairo, giving the city beauty and splendor at night. Many copper lighting poles were distributed in various parts of the garden at various levels. Now, the lighting is electric, and the existing units have been replaced with steel lighting poles like those found in public streets and squares, different in shape and character from those that existed before. There is no longer any trace of the old poles, (Ismail, M. H. D., 1997).	Figure (12): Lighting Element design. Source: https://egyptedantan.net/egypt.html		

	Key Architectural and Botanical Elements That Existed in the Garden			
Element	Description	Photo		
The Garden Fence	The Al-Azbakeya fence, a prominent Cairo landmark, has a rich history intertwined with the city's intellectual life. Initially, booksellers operated near the fence, facing challenges and displacement. However, they persevered, eventually establishing a thriving book market that became a cultural hub for decades. Despite the fence's demolition and subsequent reconstruction, the book market continued to flourish, offering a unique blend of old and new books to both Egyptian and Arab readers. (General Authority for Information Services, 2016), (Ahram Online. 2011).	Figure (13): The Garden Fence. Source: https://bit.ly/4aacZb7		
Plant Life	The garden contained many rare trees and plant species, with over eight hundred rare trees of the rarest kinds imported from many countries around the world. These included the "Frankincense" and "Powderpuff" trees from Australia, the "Rubber" tree from India, and the Royal Palm from Cuba, which characterized the Khedival gardens, in addition to paper trees from Brazil and many trees from Africa, as well as Lebbek and Cypress trees, which are no longer present. Now, only the banyan tree that was in the center of the garden remains. It is currently located opposite the current entrance to the garden on Gomhoreya Street & dates to the time of the garden's establishment. There is also the historic Gebalaya, which replaced the "Rock with Caves" used to contain many rare plants but has now become an area devoid of plants except for some types of cacti, (Sadek, S., 2024).	(14-a) The palm trees (14-b) the banyan fig tree Figure (14): Plant life in the garden. Source: https://egyptedantan.net/egypt.html		
Furnishing Elements	The garden contained many furnishing elements with a distinctive historical character, such as pergolas, music kiosks, and benches. Now, all these elements have disappeared except for parts of the structure of a music kiosk next to the fountain, raised on three iron columns. The column's capital is adorned with prominent engravings and carries a cornice of wrought iron topped by a half-dome from the time of the garden's establishment during the reign of Khedive Ismail. It was surrounded by a wooden fence, which was removed during the metro project. The shapes of the benches in the garden have also changed, indicating multiple and uncoordinated interventions, (Al-gazzar, H., et al., 2011).	Figure (15): The Crown Metal Dome. Source: https://bit.ly/4acsAXK		

Source: Author after Al-gazzar, H., et al., 2011; General Authority for Information Services, 2016; Ismail, M. H. D., 1997; Farouk, S., 2024; Sadek, S., 2024; Mubarak, A. P., 1886; Abd El-Wahab, A., 2019

5. DOCUMENTING THE HISTORICAL STATUS OF A HERITAGE GARDEN

5.1 Objectives and Importance of Historical Documentation of a Heritage Garden

Historical documentation aims to identify the original state of a heritage garden and any changes that may have occurred to the garden since its establishment, as well as to gain a broader understanding of its specific characteristics and features that reflect its historical value and importance.

The documentation process includes the elements and characteristics involved in the design and landscaping of the heritage garden, represented in the plant elements (softscape) and external construction works (hardscape), while monitoring the aesthetic and visual values achieved by the design. It also includes identifying the original historical status and understanding the previous historical periods of the site's life and its stages of development.

The historical research that is prepared beforehand helps in forming an information base through which decisions related to the site can be made. (National Organization for Urban Harmony (NOUH), 2022).

Elements of Historical Documentation:

The following table shows the elements that should be documented in gardens with a distinct architectural character before carrying out the preservation and improvement process, and the historical information that should be documented for each element, Table 3.

Element Historical Information to be Documented Softscape Elements Plant Elements All plant species are present in the garden, especially those most capable of (Softscape) continuous growth and survival. **External Construction Works (Hardscape)** Details of pathways, paying materials, walls, fences, gates, bridges, and other hardscape features. Original layout, materials used, any changes over time (additions, Circulation & Hardscape removals, alterations). Dimensions, materials, construction techniques, dates of construction/modification. Details of ponds, fountains, streams, irrigation systems. Original design, water **Water Features** sources, flow mechanisms. Materials, dimensions, decorative elements, historical significance. Details of any structures within the garden (e.g., pavilions, kiosks, greenhouses). **Buildings** Architectural style, materials, dimensions, purpose, historical context. Changes in use or appearance over time. Details of benches, lighting fixtures, sculptures, signage, and other furniture. Original **Site Furniture** design, materials, placement, historical significance. Changes or replacements over time. Original lighting methods (e.g., oil lamps, gas lamps, electric lights). Types of Lighting fixtures, placement, and changes over time. Water Sources and Details of original water sources (e.g., canals, wells) and irrigation systems. Changes **Irrigation Methods** in water management practices over time. Details of any support facilities (e.g., restrooms, maintenance buildings). Their **Supporting Facilities** original design, purpose, and any changes over time.

Table 3: Historical Information for landscape elements

Overall design principles, spatial organization, visual axes, views, and aesthetic qualities of the garden. How the design has changed over time and the impact of these changes. Original and current visual character. Relationship of the garden to its surrounding urban context. Historical photographs, maps, and drawings showing the garden's appearance at various times. Literary descriptions or artistic depictions of the garden.

Visual & Aesthetic Aspects

Source: Author

5.2 Sources of Historical Documentation

The historical documentation process for a heritage garden relies on two types of information sources:

5.2.1 Archival Sources:

These are documentary sources of information about the site, whether drawn, written, or photographed. They are either primary source of information, (Concordia University Libraries, 2024), such as Fig.16:

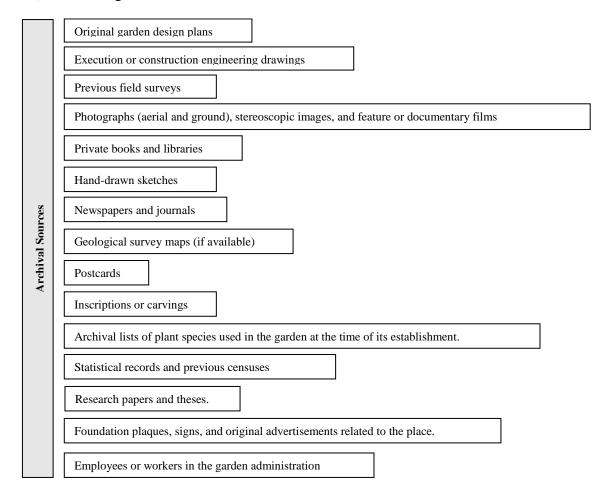


Figure (16): The Archival Sources Source: Author

There are secondary sources of information, such as store inventory lists, oral accounts from residents surrounding the garden, personal interviews, old amateur recordings, and any other sources that can be used in documentation.

5.2.2 Field Sources: Survey Resources

Through field surveys of the garden and the use of some analytical tools, historical information related to the original design and the natural and structural design elements can be collected, and field documentation can be made for them if they retain their historical form as they were at the time of their establishment. The field documentation is as follows:

• Structural and Construction Elements: Identifying and documenting historical architectural buildings, construction works, water features, furniture elements, lighting units, and other elements with all their dimensions, whether using traditional or modern surveying methods, including identifying historical layers.

• Natural Elements: Identifying and documenting the plant elements in the garden that existed at the time of its establishment and are still present. Thus, they can be documented in the field in terms of type, classification, shape, age, and spatial distribution. If some of these plants have disappeared or become extinct over time, analytical tools can be used to determine the types of these plants and their spatial distribution. These tools include the following:

6. RECORDING THE CURRENT SITUATION OF AL-AZBAKEYA GARDEN

6.1 Challenges and Obstacles to the Development of Al-Azbakeya Garden

Before recording the current situation of the garden, the development challenges and obstacles it has faced must be identified.

The presence of the underground metro station in a specific area of the garden creates limitations for tree and palm cultivation due to the station's roof. This is in addition to the existence of metro ventilation openings and an emergency exit for the station inside the garden. The construction of the metro station led to the demolition of all buildings within the garden except for the remaining part of the metal dome and the historic fountain. Moreover, with the exception of those by the wooded hill, all plantings were removed.

Old photographs and documented films were consulted to recreate the same designs for all the buildings, lighting elements, and furnishings to rehabilitate the garden and restore its original visual appearance, which is the aim of this research.

Therefore, the project was executed in five phases to ensure a successful and satisfactory outcome, as shown in Fig.17.

The Egyptian government, represented by the Ministry of Housing, Utilities, and Urban Communities and the Cairo Governorate, enlisted Sites International, the consultancy firm in Cairo, to prepare plans for the garden aimed at reviving its original visual image in all site layout elements and its urban character, while introducing some elements that are important and appropriate for the current time and user needs. Approximately 90% of the various components have been completed. This includes the construction of walkways and green spaces, the development of the Roman theater, the enhancement of the tree-lined hill area, the rehabilitation of the 1200 square meter artificial lake completes with 2 fountains and 2 bridges featuring metal frames and wooden decks, the development of the tiered seating and stone steps, and the restoration and improvement of the historic fountain, (Al Masdar, 2024).



(17- a) The boundary of the Attaba station under the garden



(17 - b) The Five Development Phases of the Garden



(17 - c) Escape exit at Attaba station in the garden

Figure (17): The working phases of the garden

Source: https://bit.ly/3WhHvtN, https://www.sitesint.com/projects/renovation-of-al-azbakia-garden/, Author

6.2 Current Boundaries and Area

The outer boundaries of Al-Azbakeya Garden have been determined, and it was found that the garden's size has been reduced to roughly 11 acres from its original 20 during the reign

of Khedive Ismail. This means that its area has decreased by about 47%, almost half its original size. This reduction in area is due to several factors, the most important of which are the construction of the central telephone exchange building and the establishment of the Ataba metro station, as shown in Fig.18.



(18 - a) Al-Azbakeya Garden Boundary (2000)



(18 - b) Al-Azbakeya Garden Boundary (2022)



18 - c) Al-Azbakeya Garden Boundary (2024)

Figure (18): The Green Line (-----) indicates the Garden Boundary and the Red Line (-----) indicates the Buildings Boundary Source: Google Earth

6.3 Recording the Main Design Elements

The researcher recorded the main design elements present in the garden and the extent of their conformity with its original image. These are:

- The shape of the gates.
- The trees.
- The historic fountain.
- Furnishing elements.
- Several pergolas.
- The garden restaurant building.

- The shape of the fences.
- The wooded hill.
- Lighting elements.
- The artificial lake.
- The metal dome.
- The cafeteria building.

Various components have been completed with an implementation rate of about 90%, which included the execution of walkway and green area works, the execution of the Roman theater development works, the development of the wooded hill area, the rehabilitation of the 1200m² artificial lake, which contains 2 fountains and 2 bridges with a metal structure and wooden floors, the execution of the development works of the stands and stone stairs area, and the upgrading and restoration of the historic fountain.

In addition to the above, new elements have been added to the garden to be compatible with user needs, including security gates, restrooms, a Roman theater, and a children's play area. Book kiosks, for which Al-Azbakeya Garden was historically known, have also been built and designed to be consistent with the general urban character of the garden, Table 4.

Table 4: Al-Azbakeya Features from Khedive Ismail's Era to the Current Situation

Al-Azbakeya	1872 (Khedive Ismail's Era)	2024 (Current Situation)
Features	Area (20 Feddans)	Area (11 Feddans)
Garden Layout	Figure (19): Source: https://egyptedantan.net/egypt.html	Figure (20): Source: https://www.sitesint.com/projects/renovation- of-al-azbakia-garden/

Al-Azbakeya Features	1872 (Khedive Ismail's Era) Area (20 Feddans)	2024 (Current Situation) Area (11 Feddans)
Garden Visual Image	Figure (21): Source: https://egyptedantan.net/egypt.html	Figure (22): Source: Author
The Main Gate	Figure (23): Source: https://egyptedantan.net/egypt.html	Figure (24): Source: Author
Garden Fence	Figure (25): Source: https://bit.ly/40fzEOR	Figure (26): Source: Author
Planting	Figure (27): Source: https://egyptedantan.net/egypt.html	Figure (28): Source: Author
The archaeologica l mountain	Figure (29): Source: https://egyptedantan.net/egypt.html	Figure (30): Source: Author

Al-Azbakeya Features	1872 (Khedive Ismail's Era) Area (20 Feddans)	2024 (Current Situation) Area (11 Feddans)
The historic fountain	Figure (31): Source: https://bit.ly/4acsAXK	Figure (32): Source: Author
Lighting Elements	Figure (33): Source: https://egyptedantan.net/egypt.html	Figure (34): Source: Author
Site Furniture	Figure (35): Source: https://egyptedantan.net/egypt.html	Figure (36): Source: Author
The Lake	Figure (37): Source: https://egyptedantan.net/egypt.html	Figure (38): Source: Author
Pergola 1	Figure (39): Source: https://egyptedantan.net/egypt.html	Figure (40): Source: Author

Al-Azbakeya Features	1872 (Khedive Ismail's Era) Area (20 Feddans)	2024 (Current Situation) Area (11 Feddans)
Pergola 2	Figure (41): Source: https://egyptedantan.net/egypt.html	Figure (42) Source: Author
Pergola 3	Figure (43): Source: https://egyptedantan.net/egypt.html	Figure (44): Source: Author
Pergola 4	Figure (45): Source: https://egyptedantan.net/egypt.html	Figure (46): Source: Author
Crown Dome	Figure (47): Source: https://bit.ly/4acsAXK	Figure (48): Source: Author
Restaurant Building	Figure (49): Source: https://egyptedantan.net/egypt.html	Figure (50): Source: Author

Al-Azbakeya	1872 (Khedive Ismail's Era)	2024 (Current Situation)
Features	Area (20 Feddans)	Area (11 Feddans)
Cafeteria Building	Figure (51): Source: https://egyptedantan.net/egypt.html	Figure (52): Source: Author

Source: Author after https://egyptedantan.net/egypt.html

Looking at the preceding table, we see that a satisfactory level of conformity has indeed been achieved in the architectural details and landscaping elements. Efforts were made to replicate the garden's original layout, while considering the obstacles encountered in achieving the goal of restoring the garden's original visual appearance, Table 5.

Table 5: New Features Added in Al-Azbakeya Garden in tits new landscape design 2025

New Features Added			
Security Gates	Figure (53): Source: Author	Signage	Figure (54): Source: Author
Toilets	Figure (55): Source: Author	The Roman Theater	Figure (56): Source: Author
Kids Playground Area	Figure (57): Source: Author	Books Stores	Figure (58): Source: Author

Source: Author

From the preceding table, some elements necessary to keep pace with the modern era and meet user needs, including all ages, have been newly introduced to make the garden safe and sustainable.

7. DISTINCTIVE ARCHITECTURAL STYLES

From the above, we arrive at a methodology for reviving the original visual image of heritage gardens with distinctive architectural styles, which includes the following table that must be followed by the competent authorities and concerned parties, as it contains guidelines that must be accounts when starting to revive the original visual image of heritage gardens, Table 6.

Table 6: Guidelines for Revitalizing the Original Visual Identity of Heritage Gardens with Distinct Architectural Styles

	Styles
	The Proposed Guidelines
Objectives:	• Prioritize garden preservation over other potentially conflicting aims (economic, social, or recreational).
External Environment:	 Integrate the garden with its surroundings and manage entrances effectively. Prevent any infringements on the garden's perimeter wall (if present). Ensure convenient access
Garden Area:	 Prevent any encroachment or reduction of the garden's area to maintain its original size. Strive to recover the garden's original boundaries where feasible.
Design Concept:	 Use symbolic markers for original areas that are impossible to reclaim. Acknowledge and respect all historical phases of the garden, prioritizing the presentation of specific periods. Respect and attempt to reinstate the original design principles. Highlight key historical periods by restoring the layout and direction of main and secondary pathways, plant selection, and furnishing elements. Remove incongruous structures that clash with the site's character and prevent any form of vandalism. Modify the architectural style of incompatible modern structures to harmonize with the garden's overall aesthetic. Allow design deviations from the intended restoration if necessary for crucial reasons, such as providing accessibility for people with disabilities or essential services.
Design Elements:	 Conserve existing original design elements and implement suitable strategies for their handling (preservation, rehabilitation, restoration, or reconstruction). Attempt to reinstate all architecturally significant elements that contribute to the site's character and historical narrative. Replace historic elements only if the original is severely deteriorated. Clearly differentiate between original and newly introduced elements. Choose building and finishing materials that complement the garden's overall style. Maintain the garden's original biodiversity and eliminate non-native plant species that are incompatible with the original flora. Reproduce rare and endangered plant species that were present in the garden and establish a seed bank.
Activity Management:	 Permit only activities suitable for the site's nature that do not negatively impact its historical value. Supervise activities and their execution within these gardens and enforce penalties for violations that detract from the garden's character. Offer educational and cultural programs to raise awareness of the site's historical importance and benefit the local community.
Financial Management:	 Secure sufficient funding for maintenance, restoration, and renovation within architecturally significant gardens. Utilize diverse funding avenues, including self-generated revenue. Allow private sector involvement, provided the historical value is maintained.

The Proposed Guidelines		
Maintenance Management:	 Develop maintenance schedules (daily, periodically, and seasonally) and prioritize tasks. Employ personnel trained in the care of historic gardens. 	
Governance:	 Collaborate with international and local organizations to enhance the expertise of garden managers and staff. Involve the community in management. The goal of governance is to protect the garden's rare natural features and ensure the preservation of development efforts 	
Public Awareness:	 Place signs encouraging visitors to respect the garden, emphasizing its significance and explaining its history. Organize cultural events and volunteer initiatives to promote awareness and a sense of shared responsibility. 	

Source: Author

8. CONCLUSION, FINDINGS, AND RECOMMENDATIONS:

8.1 Conclusion

- The primary outcome of this research is the proposed methodology, which has been applied to Al-Azbakeya Garden in Cairo for both documentation and development purposes. This methodology can be applied to all types of heritage gardens.
- Heritage gardens therefore have their own special importance as they are rich in aesthetic and historical values which are evident through the architectural and urban character and the diverse design of the various site coordination elements, which creates a distinct visual image that reflects the cultural and historical dimension of society at that time, which represents a civilized and sustainable value for successive generations.
- Historical gardens have lost their role and the purpose for which they were established over the past decades, which made them neglected areas exposed to continuous encroachments, especially in the second half of the twentieth century, when their external borders were eroded and areas were cut off from them to expand streets or build buildings and service facilities, which led to changing the shape of their original plan and losing many of their rare elements.
- When making any plan to develop heritage gardens with a distinctive character, especially when choosing a method to revive their visual image, one must refer to the original plans of the garden and its distinctive vocabulary. It is also necessary to refer to its urban character through these terms and elements of site coordination through documented photos, films, etc. of this garden.
- The new plan of Al-Azbakiya Garden has succeeded in reviving its original visual image by rebuilding the distinctive architectural terms of the garden, restoring the historic fountain and the metal crown dome, and preserving the original plants remaining in the place.

8. 2 Recommendations:

- Prioritize Historical Research: Before any rehabilitation efforts commence, a thorough historical investigation should be conducted, including the study of archival documents, maps, photographs, and other relevant sources.
- Develop Comprehensive Management Plans: The development and implementation of comprehensive management plans are crucial for the long-term preservation and sustainability of heritage gardens. These plans should address all aspects of garden management, including maintenance, restoration, visitor management, and community engagement.

- Foster Multidisciplinary Collaboration: Successful heritage garden rehabilitation requires the collaboration of various stakeholders, including landscape architects, historians, urban planners, horticulturists, and community members.
- Promote Public Awareness and Education: Raising public awareness about the importance of heritage gardens and fostering community engagement in their preservation are essential for their long-term success.
- Ensure Adequate Funding and Resources: Adequate funding and resources are critical for the implementation of effective conservation and rehabilitation measures.

By following these recommendations, it is possible to ensure that heritage gardens are not merely preserved as relics of the past but are revitalized as vibrant public spaces that continue to enrich the lives of present and future generations

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إعادة إحياء الصورة البصرية الأصلية للحدائق التراثية (توثيق الوضع الراهن لحديقة الأزبكية في القاهرة)

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ملخص البحث

ان بعض الحدائق التي ذات دلالة ومضمون تراثي، تسمى بالحدائق التراثية لأنها غنية بالقيم الجمالية والتاريخية والتي تتضح دائما من خلال الطابع المعماري والعمراني والتصميم المتنوع لعناصر تنسيق الموقع المختلفة مما يكون صورة بصرية متميزة والذي يمثل في حد ذاته قيمة حضارية ومستدامة للأجيال المتعاقبة. لقد حدث في مصر خلال النصف الثاني من القرن العشرين مع التنمية العمرانية المتسارعة وغير العابئة بالقيم الحضارية والثقافية، إهمال للحدائق العامة وخاصة الحدائق التراثية التي تعاني من التدهور والتاكل في المساحة والقيمة، مما أدى الى تشوه الصوره البصرية الأصلية لها والتي تعتبر جزء من ذاكرة المدينة المصرية وهنا تكمن المشكلة البحثية حيث ان تلك الحدائق يجب الحفاظ عليها من خلال إعداد خطط تختلف بإختلاف الوضع الراهن للحديقة ودراسة عناصر تنسيق المواقع الخاصة بها. من خلال ما سبق، يهدف البحث الى وضع منهجية لإعادة إحياء الصورة البصرية للحدائق التراثية من خلال التطبيق على حديقة الأزبكية في القاهرة بتوثيق الوضع الراهن واختبار المنهجية المقترحة وماهي العوائق التي واجهتها عند إعادة السباب تدهورها، ماهي السليب الحفاظ عليها وماهي اهم الحدائق التراثية في مصر. بعد ذلك تم تحليل حديقة الأزبكية من خلال التعرف عليها تاريخيا ومدى أهميتها تراثيا وماهو مدى التغير الناجم في تخطيطها على مر السنوات الماضية. وأخيرا التطبيق من خلال توثيق الوضع الراهن للحديقة ومدى وصول صورتها البصرية الى وضعها الأصلي من خلال إحياء التصميم الأصلي لها سواء من خلال عناصر تنسيق المواقع اوالطابع المعماري واستدامتها كحديقة لها قيمتها الجمالية بصريا والتراثية تاريخيا.

الكلمات المفتاحية: الحدائق التراثية - الصورة البصرية - إعادة إحياء - تصميم تنسيق المواقع - الإستدامة.