

## The Moderating Role of Islamic Heritage Program in the Effect of Zoo Educational Goal on Sustainable Development

الدور المعدل لبرنامج التراث الإسلامي في تأثير الهدف التعليمي لحديقة الحيوان على التنمية المستدامة

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### Abstract

الملخص

Zoo is an attracting visitor experience especially for a one-day visitor. It can play several roles; one of them is facilitating education in terms of conservation, getting more revenues and supporting the community positive attitudes for animals. The study tends to maximize the educational value of the visit sustainably. The study presents an innovative heritage educational program that enables people to engage with and learn about living animals in an Islamic historical context. In studying the role that zoos have in educating visitors, a variety of methods have been used including: literature review, precedent studies, and passive observation of Giza zoo. In addition, this study adopted quantitative approach through the use of questionnaire for collecting data. A questionnaire was designed to determine the views and attitudes of the visitors about the education and sustainability in zoo. A total of 396 questionnaires were collected in Giza Zoo during May 2023. Results have shown that the Islamic Heritage Program (IHP) will have a positive effect on the relationship between zoo educational goal and sustainable development. In other words, it will improve Giza zoo management and sustain animal welfare, and the flow of visitors.

تعتبر حديقة الحيوان تجربة جذابة للزائر خاصة لزائر اليوم واحد. يمكن أن تلعب عدة أدوار؛ أحدها هو تسهيل التعليم من حيث الحفظ، والحصول على المزيد من الإيرادات، ودعم المواقف الإيجابية للمجتمع تجاه الحيوانات. تميل الدراسة إلى تعظيم القيمة التعليمية للزيارة بشكل مستدام. تقدم الدراسة برنامجًا تعليميًا مبتكرًا للتراث يمكن الناس من التفاعل والتعرف على الحيوانات الحية في سياق تاريخي إسلامي. في دراسة الدور الذي تلعبه حدائق الحيوان في تثقيف الزوار، تم استخدام مجموعة متنوعة من الأساليب بما في ذلك: مراجعة الأدبيات، والدراسات السابقة، والمراقبة السلبية لحديقة حيوان الجيزة. بالإضافة إلى ذلك، اعتمدت هذه الدراسة على المنهج الكمي من خلال استخدام الاستبيان لجمع البيانات. تم تصميم استبيان لتحديد آراء ومواقف الزوار حول التعليم والاستدامة في حديقة الحيوان. تم جمع 396 استبانة في حديقة حيوان الجيزة خلال شهر مايو 2023. وقد أظهرت النتائج أن برنامج التراث الإسلامي (IHP) سيكون له تأثير إيجابي على العلاقة بين الهدف التعليمي لحديقة الحيوان والتنمية المستدامة. بمعنى آخر، ستعمل على تحسين إدارة حديقة الحيوان بالجيزة والحفاظ على رفاهية الحيوانات وتدفق الزوار.

**Keywords:** Giza zoo; Islamic Heritage Program (IHP); Zoo educational goal; Sustainable development.

**الكلمات الدالة:** حديقة حيوان الجيزة؛ برنامج التراث الإسلامي؛ الهدف التعليمي لحديقة الحيوان؛ التنمية المستدامة.

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## Introduction

Globally, the display of animals in a captive environment for recreation and tourism has been increased (Ryan & Saward, 2010; Pilz, 2016). Kings, emperors and caliphs have always been interested in collecting songbirds and animals either wild or domestic for entertainment, hunting or transporting goods, gifts or messages (Sampaio, Schiel & Souto, 2019; Ruscitti, 2022). Zoos play important roles in the entertainment, education and encourage visitors for conservation through deep understanding of the importance of animals (Powell and Edes, 2023; Lynn, 2015; Collins, et. al., 2020). According to UNWTO, wildlife tourism brings benefits for both people and planet and plays a vital role in the 2030 Sustainable Development Agenda. In 2018, the wildlife tourism generated \$120 billion to the global economy (UNWTO, 2019). Zoo is a form of wild life tourism and one of the tourist attractions as they combine both natural and anthropogenic features (Nekolny and Fialova, 2018). The current study aims to expand the base of zoo visitors through increasing and improving the importance of education within a zoo. The research area of zoo tourism could be divided into two main dimensions; firstly sustainability and entertainment, education and conservation (Ham & Weiler, 2002; Pilz, 2016; Greenwell et.al. 2023). Secondly, visitor experience, satisfaction, motivations, goals, preferences and loyalty. The current research addresses multiple gaps; first, there are few studies focused on fauna and modern zoos as tourist destinations in Asia, Europe, Americas, and Australia (Luebke, Kelly & Grajal, 2014; Jensen, 2014; Smith, 2014; Xu, 2020). In other words, it is considered a space area of tourism literature especially in Middle East. Second, the educational goals of the zoo in an Islamic historical context haven't been studied yet. Third, the current study provides a new interpretation of zoo tourism in the light of cultural heritage which has not been widely investigated in tourist studies. Finally, the field study of Giza zoo as an educational tourist destination hasn't been investigated. In the framework of the changing world, zoo unique educational experience is required which is the focus of the current study. Practically, the importance of the current study lies in giving potential visitors a new sustainable tourist experience, which helps zoos to be well promoted, especially in light of a current plan for development in Giza zoo. The study presents an innovative educational heritage program for reaching a new visitor. The proposed content and messages are considered to be enjoyable educational experience and may have the ability to change public behavior understanding of conservation (Smith, 2014). Following this introduction, the second part of the study reviews the literature the third is methodology and data analysis. The following part discusses the results. Finally the implications and future studies are outlined.

## Literature Review

### Zoo as a tourist attraction

Throughout history, zoos have witnessed social and cultural changes in their roles and functions, in line with the changes of human society (Sampaio, Schiel and Souto, 2020). Initially, animals were collected for assistance in cultivation because of their physical strength, and a source of dietary system, then the relationship between human and animals have been progressed. Animals were considered as companions, intimidation of enemies, or as symbols of wealth and social status and many Egyptian gods were in animal forms. The first possession of live wild animals in a captive status was dated to the Paleolithic period and paintings depicted the roles of animals in the social life of humans in different civilizations so that there was no defined name for the different collections of animals. In the 15<sup>th</sup> century the nomination have been changed to "menageries" then zoological gardens", "zoological parks" or "zoo" with the modern concept have been aroused from 19<sup>th</sup> century for conservation and education (noahsarkzoofarm.co.uk ,2014; <http://eslmojo.com>; Xu,2020 Sampaio, Schiel and Souto,2020; Greenwel et.al.2023). The word 'zoo' is an abbreviation of the word 'zoological' and was used for the first time in the Britain song 'Walking in the Zoo on Sunday'

(Nekolny & Fialva, 2018). The recreational role of the zoo is about the major reason for the visit and this is often a memorial experience for family and friends. The zoo also functions as a place for education, research, and conservation for animals (Lee, 2015; Collins, et. al., 2020; Rose & Riley, 2022; ; Widiastuti & Kurniyati, 2022). The modern zoo is a site of animal conservation, environmental education, research, and especially entertainment (Carr and Cohen, 2011; Ballantyne et al., 2018; Karanikola, et. al. 2020). Zoos have a scientific and educational character, which breed species of wild animals or domesticated animals for conservation of animal species and zoos could be considered as theme parks in which live animals and plants exist. (Nekolany & Fialova, 2018). According to Vobruba, 1998; Greenwell et.al. 2023 the four tasks of modern zoos are similar to the museums' which are about conservation of endangered species, science and research, education, and recreation of people. (Demartoto, 2021; Rose & Riley, 2022). It could contain historical buildings interpreting animals and nature. Zoos also have the ability to balance between economic returns and biodiversity conservation. (Nekolny & Fialova, 2018). It is an outdoor free - choice learning environment can influence nature appreciation in visitors especially students (Field & Livemore, 2014).

Zoos include zoological gardens, biological parks, safari parks, public aquariums, bird parks, reptile park and insectariums; there are approximately 10, 000-12,000 zoos worldwide (Sinha, 2010). In North-America, people visits to zoos and aquariums are more than all major sports combined and in 2019, ARTIS zoo received over 1.4 million visitors, which is more than all important top destinations in Amsterdam (Keulartz, J, 2023). Chester Zoo, in North West England receives about 2 million visitors annually (Holmes et.al. 2020). In Germany, Berlin zoological garden received 3.57 million visitors in 2018 (statista.com). Zoo Miami welcomed more than 1 million visitors in 2021 (Zoo Miami, 2021). The cultural and historical side of the zoo is represented for visitors as an open-air museum. Sometimes, it contains socio/cultural elements so that it could be tourist cultural heritage attraction or cultural institution. So that, it is a part of cultural tourism and talks about animals in a different way. In other words, it is man-made landscape and a cultural entity presenting social and cultural relationships between man and animal. As a result, zoo can deliver different messages by presenting live animals and this can be reflected on tourism demand increase, varied scenarios of development and different visitors experiences (Vobruba, 1998; Vaníček 2012; Nekolany & Fialova, 2018)

### **Zoo education and sustainability**

Animals have personalities and emotion, enjoy playing, and have other behaviors similar to humans. Zoo education is considered a vital step to make animal welfare a priority (Demartoto, 2021). Zoo education is also a means of animal knowledge as a tourist attraction. It is not only for watching animals but it is a place to increase understanding, knowledge, interest and new insights (Widiastuti & Kurniyati, 2022). Zoos get visitors closer to animals through education and by creating environments that overwhelms visitors into the natural environment (Queiroz and Young, 2018; Karanikola, et. al. 2020; Collins et al. 2020). In the last 30 years, zoo had a new mission of educating visitors about habitats in zoos through programs and activities addressing many values. Consequently, connection between visitors and nature will allow them to understand the importance of preserving it for the future (Mcelroy, 2015). Rose and Riley, 2022 and Greenwell et.al. 2023 stated that sustainability in zoo should enhance visitor experience, ensure visitor satisfaction and welfare of zoo personnel in a framework of the needs of animals. In other words, sustainable development could create the fifth task of the zoo which is about the wellbeing for animals, visitors and society (WTTC, 2019; Rose and Riley, 2022; Greenwell et.al. 2023). Interpretation could be defined as an educational activity to reveal meanings and relationships to people about a place they visit and the things they see and do there. It is more than delivering factual information but it helps visitors to have

information while using the recreational facilities, then it enriches visitor experience. There are many forms of interpretation divided into two sections; self-guided media (such as web sites, field guides, exhibits, brochures and audiovisual programs) or face-to-face services (such as guided tours, overland excursions, talking to /asking staff and demonstrations). Interpretive programs have the potential to contribute to the intellectual and emotional dimensions of a visitor's exposure to the wildlife and consequently to sustainability (Ham & weiler, 2002; Dublinzoo.ie). In other words, the interpretive service such as signs, brochures, guidebooks, animal shows and displays, audio-visual presentations and interactive computers transmit information to visitor that they constitute informational pathways to better understanding and sustainable tourism. (Ham & Weiler, 2002; zoo.org.au). On the economic side, interpretation could be a pathway to educate visitor through adding value to the experience on/off- site. In addition, it could be a means for provision of job opportunities in the interpretive activities (Ham & Weiler, 2002; Jenkins, 2009). Interpretation also motivates about long-term conservation through learning lessons. This happens when the educational messages influence visitor's beliefs about animals reflected in changing attitudes towards animals, responsible behavior, protection and respect (Ham & Weiler, 2002; environmental auditing.org, 2013). Each theme of interpretive activity expresses a belief about something, consequently, the thematic interpretation is a base of a new belief related to a new behavior. So that, the educational messages in zoo could be labeled as eco-tour, adventure, cultural, or heritage product especially in zoos as natural/cultural heritage sites (Ham&weiler, 2002; Belize Tourism Board, 2011).

### **H1: Zoo educational goal has a positive influence on sustainable development.**

#### **Origins of Zoo in Islamic heritage**

The Arabs and Muslims called the zoos the name "al-Hayr", and the Arabs established such gardens in their cities about a thousand years before the West. The Caliph Hisham bin Abd al-Malik (106-126 AH) (724-743 AD), established the first zoo in Diyar al-Sham and called it (Hayr), with an area of nine square kilometers, and he fenced it with a wall to confine the animals inside it. Animals such as horses, mules, donkeys, deer, rabbits, geese, chickens, and pigeons were kept inside (المسعودى، ج ٣، ص ١٧٠: ١٦٩، ٢٠٠٥، ٨٨، ١٩٢٢، ج ٤، القلقشندى). Caliph Al-Amin (193-198 AH 809-813AD) was also fond of collecting animal and strange types of fish. Caliph Al-Amin used to fish with one of his servants called Kawthar (ابن الطقطقا، د.ت، ص ٢١٤). He also had a lot of frequent visits to gardens for beasts "Hayr al-Wahsh" and he had a special group in Baghdad who was riding mules, hunting lions for him and then transporting them to his palace. Al-Amin collected beasts, lions, and birds from different countries (معروف، ١٩٧٢، ص ٣٧). On the eastern side of Baghdad, Caliph Al M'ammon (198-218 AH) (813-833 AD) carved out an area of the wilderness that he allocated to include a field for horse running and playing with polo and was described as garden of beasts "Hayr al-Wahush". He opened an eastern door for him at the side of the wilderness and ran a small river in it (الخطيب ج ١، ص ٢٩٣، ٢٠١١). In the regime of The Caliph Almo'tassem Billah (218-227 AH) (833-843AD) Samarra became famous for such type of gardens and large squares were built for it, and towers for pigeons and birds were kept in it, pens for animals and beasts, and cages for predators, snakes, scorpions and lions. Caliph Almo'tassem Billah established a garden "Hayr" and collected various types of Animals such as cheetahs, ostriches, lions and faons and people were visiting the garden (معروف، ١٩٧٢، ص ٣٧-٣٨). Caliph Al-Mutawakkil (232-247AH) (847-861AD) built the caliph's palace and developed al-Hayr connected to the palace. It was walled with a mud wall for distances farther from the garden, and it included large numbers of antelopes, deer, lions, birds and ostriches. It was also planted with trees and plants. A pond was dug in the middle of it, and the meteorite river

was dug to draw water towards al "Hayr" ، ٢٠٠٥ ، الحبيطي، مج ٢ ، ص ٢٩ : ٣٤ ، ١٩١٨ ، ج ٢ ، (اليقوي، ج ٢) Caliph Al-Muqtadir Billah Al-Abbasid (295-320 AH) (908-932 AD) was fond of breeding domestic, wild and ferocious animals such as lions, leopards and tigers. He also used to bring strange creatures to Baghdad such as zebra. He also collected birds, animals and lions and took them as a "Hayr" in the caliphate house in Baghdad and these animals was interacting with people, got closed to them and ate from their hands. The historians mention that there were varieties of beasts of every kind in a special place, so there were four Elephants, and in another house a hundred lions, with chains and iron on their heads and necks, and in another place elephants and other lions, as well as giraffes and leopards (ص ١٠٣ - ١٠٤) (الخطيب البغدادي، ج ١ ، د.ت ، ص ١٠٣ - ١٠٤). It was that the knights rebelled in the year (315 AH-927 AD), and went out to the "Musalla" and looted the palace of Thuraya, and slaughtered the beasts in Al-Hayr (ص ٣٨) (الخطيب البغدادي، ج ١ ، د.ت ، ص ١٠٣ - ١٠٤ ، معروف ، ١٩٧٢ ، ص ٣٨). The Abbasid caliph al-Qaher (320-322 AH) (932-934 AD) had in some forts a grove with varieties of blackbirds and parrots, which he had brought from many regions and Caliph Al-Radi (322-329 AH) (934-940 AD) was also passionate about it (ص ٢٦٧) (المسعودي، ج ٤ ، ص ٢٠٠٥ ، ص ٢٦٧). One of the most famous and large zoos in Baghdad was called Ibn Muqla<sup>1</sup>, that was built in al-Zahir on the Tigris by the minister Ibn Muqla. It was a large square shaped garden containing various types of and birds such as partridges, ducks, nightingales, peacocks, falcons, harps. There were also many types of animals such as deer, beast cows, ostriches, camels, and zebras (ص ٣١٠) (ابن الجوزي، ج ٦ ، ص ١٣٥٧ هـ ، ص ٣١٠). There was also a garden in his house of Ibn Bassam<sup>2</sup> that included a "garden for deer and birds" (ص ٢٤١) (المسعودي ، ج ٤ ، ص ٢٠٠٥ ، ص ٢٤١). In the era of Khumarawayh (250-282 AH) (865-896 AD), there was a single stable for each animal such as horses, mules of transportation. He also made a single house for the tigers, leopards, Elephants and giraffes and there were also stables in Giza. The caliph also had stables for horses of racing and jihad. He also built a tower of engraved wood instead of cages, where he gathered birds with a good voice and he also collected other birds such as peacocks, and turkeys. He also built a house for lions, inside his house. One of them was a lion called Raziq and he was harmless as he was guardian of Khumarawayh (ص ٣١٧-٣١٦) (المقرئزي، ج ٢ ، ص ١٩٩٩ ، ص ٣١٧-٣١٦). In AL Andalus, The caliph Abd al-Rahman al-Nasser (316-350 AH) (929-961 AD) made a zoo next to his palace, which included imported exotic birds, Asian and African lions, and rare animals such as antelopes, giraffes, elephants, zebras, and ostriches, and they came in caravans passing through the streets of Cordoba, heading towards their way to the palace garden (ص ١٧٧) (المقرئزي، ج ١ ، ص ١٩٦٨ ، ص ٥٧٨ ، النعمان ، ٢٠١٧ ، ص ١٧٧). Under the Fatimid caliphate, there was a bird house, and the Caliph Al-Aziz (365-386 AH) (975-996 AD) owned a rare group of birds trained in games and racing, and his minister, Jacob bin Killis<sup>3</sup>, had a rare and excellent

<sup>1</sup> **Ibn Muqla (272-328 AH):** He is Abu Ali Muhammad bin Ali bin Al-Hussein bin Muqla. He was born and died in Baghdad. He took over the ministry three times during the days of the caliphs, Al-Muqtarabullah, Al-Qaher Allah, and Al-Radhi Allah. He was the first to put the geometry of the letters, their standards and dimensions (بحر الدين ، ص ٩٤ : ٩٩) (ص ٩٤ : ٩٩)

<sup>2</sup> **Ibn Bassam Al-Baghdadi:** He is Abu Al-Hassan Ali Bin Muhammad Bin Nasr Bin Mansour (230-302 AH) (847-914 AD) and he is called Al-Basami, one of the poets who lived in the first Abbasid era and is attributed to Abrata, a town in southern Iraq. He was responsible for the post office in Egypt and he embraced the Shiite sect. (الكتبي، ج ٣، د.ن. (ص ٩٢)

<sup>3</sup> **Jacob bin Killis:** A Jew who grew up and was raised in Baghdad. He traveled with his father to the Levant and then to Egypt. He appointed him in his court, and in the year 356 AH he converted to Islam and his enemies plotted for him a prison plot. Then he was released and headed to Morocco and entered the service of the Fatimid caliph. Al-Muizz li-Din Allah Al-Fatimi and came with him to Egypt and took over the ministry until his death. (الذهبي، ج ١٦ ، ص ٤٤٢ : ٤٤٤)

group of birds as well, and matches were taking place between the minister and the caliph's pigeons (سلطان ، ١٩٩٦ ، ص٢٣٦). The fair King Nur al-Din Zangi (511-569 AH) endowed the land of Marj al-Sultan, located in Damascus, for stray animals (١٩٨ ص٢٠١٢ ، العدد ٥٦٨ ، ياغى). Sultan Al-Nasser Muhammad (698-741 AH) ( 1299-1341 AD) is considered one of the most passionate sultans in acquiring animals and birds, especially horses, which were brought to him from different countries. It was known about him that he was well acquainted with horses, so he feared them out of envy, so he used to attach beads to them that included some verses of the Holy Qur'an for the purpose of guarding them (السبكي ، ١٩٨٥ ، ص١٤٤). He was keen to bring great number of hunting birds of all kinds, such as falcons, peregrine falcons, gyrfalcons, goshawks.. He also cared about domestic birds, such as geese and providing pens and setting up a number of servants and maidservants to them. He cared about raising large number of pigeons, as round-shaped towers were built with pottery hoppers to attract them.in addition; He also cared about raising sheep, mutton and cows ( توفيق ، العدد ٢٩ ، ٢٠١٢ ) ( ابن إياس ، ج٤ ، ١٩٨٤ ، ص١٧٢). Sultan Al-Ghouri ( 906-922 AH) (1501-1516 AD) was interested in breeding pet birds in his garden, such as nightingales, blackbirds, etc., as well as Abyssinian chickens and Chinese ducks (١٧٢ ص١٩٨٤ ، ج٤ ، ١٩٨٤).

### **Importance of Animals and birds in Islamic History**

Throughout the Islamic history, camels "the Ship of the Desert" were famous for patience, endurance of hunger and thirst, for five days in summer and twenty-five days in winter. It is also comfortable way through the long paths of Hajj. (معطى ، ٢٠٠٣ ، ص١٣٣). What distinguishes the army that uses camels is that its smell frightens the horses of the other army. The Arabs used it a lot in their internal wars and their various invasions (النجار ، ٢٠٠٠ ، ص١٦٨), and also in transporting the wounded ) ( ماجد ، ج٢ ، ١٩٦٧ ، ص١٠٢ ، عبد الباسط ، ٢٠٢٢ ، ص١٣٠-١٣١). The camels caused a war that lasted for forty years, which is the war of Al-Basous, the longest war in the Arabian Peninsula, between the tribes of Bakr and Taghlib. Wael bin Rabi'ah al-Taghlibi, and his nickname Kulaib, was the chief of the army of Bakr and Taghlib. One of the manifestations of his dominance was that when he sat, no one would pass in front of him out of respect for him, and no one's camels would come with his camels. Kulaib had a wife named Jalila, a daughter once from Shayban, who hailed from the Bakr tribe, and he was the mother of ten sons, the youngest of whom was Jassas. Jassas had an aunt named Al-Bassous, who stayed as a guest with her nephew Jassas, and she had a camel called Sarab, which she left to graze with the camels of Jassas. But this camel entered Kulaib's lands, so he caught sight of her and distinguished her, so he shot her with an arrow until her udder was bleeding, so she turned to the yard where Al-Basous and Jassas sat and kneeled, and was rubbed while the milk was mixed with blood. Al-Basous shouted " oh humiliation!". Jassas promised her that he would compensate her with a camel greater than her, but she refused to be satisfied, so he promised her ten camels, but she did not accept them. So he promised her that he would avenge her camel and kill Kulaib, so he ambushed him until he was alone with him and killed him with a spear. This reached his sleazy brother, so he sought revenge for his brother, so the war broke out between Bakr and Taghlib for forty years (الفاخوري ، ١٩٥٣ ، ص٧٣-٧٤). Camels also played an important role in the battle of Al-Qadisiyah on the second day because of war tricks that the Muslims carried out, where the camels were clothed with rags and veils, so it became a frightening sight for them, when the Persian horses saw them, they fled and fled and Muslims won the battle (النجار ، ٢٠٠٠ ، ص١٦٨ : ١٧١ ، الحجيري ، د.ت ، ص٣٦-٣٧). The camel was also famous in the Battle of the Camel in the year 36 A.H-656A.D) during the reign of the Caliph

Ali Ibn Ibn Talib against the Prophet's Companions Talha bin Ubaid Allah and Al-Zubayr bin Al-Awam, in addition to, the mother of the believers, Aisha, went with the city's army in a howdaj on the back of a camel, and that battle was called the "Battle of the Camel." relative to that camel. The battle ended with the killing of Talha and Al-Zubayr and the return of Mrs. Aisha, honored and strengthened (النجار، ٢٠٠٠، ص ٢٦٠ : ٢٦٥). Camels were also used to transport war equipment during the reign of King Nasser Salah al-Din Yusuf ibn Ayyub, according to what al-Maqrizi mentioned. Al-Qadi al-Fadil said that in Rabi` al-Awwal in the year five hundred and sixty-six, he established detailed boats and carried them on camels, and he marched with them from Cairo in a large army to fight the castle of Ayla. It was owned by the Franks and returned victorious to Cairo at the end of Jumada al-Awwal (المقريزي، ج ١، ١٩٩٩، ص ١٨٥). Camels also played a major role in transporting the trade of the Arabs before Islam of aromatic materials, spices, and others represented in the Quraysh trade during the winter and summer journey. The camel was also the only means of travel for the pilgrimage and transporting Kaaba Covering to Mecca through the different ages on The Loader "AL Mahmal" (البتوني، ١٣٢٩هـ، ص ١٧١-١٧٢). The camel that carries the loader also gets a lot of adornment through different pieces of cloth. (الوقاد، ٢٠٢١، ص ١٠٦). The number of camels in the loader in the Mamluk era reached twenty-eight camels, one of which was to carry the frame of the loader, four to carry the covering of the honorable Kaaba, six camels for the water-carriers, and a camel to carry the loader's clothing and two for the judge, one for the kitchen supervisor, one also for the doctor, one for the shrouds and one for the bedding, six camels for the oboe band, and four camels for lights and flares bearers (حلمي، ١٩٩٣، ص ١٠٧ - ١٠٩).

The Arabs took great care of the horses and gave it a high status. The Arab used to address the horse as if he was addressing his dearest son, and he was in pain when they fell ill, and grieved when it perished. Horses were an important tool of war, and a means of transportation (الإبراهيم، د.ت، ص ١٧). It constitutes an important aspect of wealth so that the interest in it was great, and maintaining its health was at the top of their interests, and preserving the good purebred breed (الهواري، ١٩٩٠، ص ٥٠ -). (الناصرى، ج ١، ١٩٩٣، ص ١٦٦ : ١٧٨) "AL Adham" (٥٤). The best breed of horses in fighting and racing is "AL Adham". They also preferred male horses over females in the fierce war because of their strength and steadfastness. (الهاللي، ١٩٨٣، ص ٢٣). In the Umayyad state, Muawiyah bin Abi Sufyan (40-60A.H) (661-680 A.D) was one of the first to establish the traditions of horse racing in the Islamic history, as horse racing was held in Damascus, and knights from all parts of the state participated in it ) (الويس، ٢٠١٥، ص ٢٠). As for the caliph Yazid bin Muawiyah (60-64A.H) (680-683 A.D), he was one of the most interested Umayyads in horse racing if the race took place in the arena, and all successors until the era of the Umayyad caliph Hisham bin Abd al-Malik (105-125 AH) (724-734 AD), when He was the first to set up the largest racetracks to improve the production of horses, and they numbered about four thousand horses, and he had a former horse named "Al-Zaed", and he became famous for that، (المسعودي، ج ٣، ص ١٨١، مرعى، ٢٠١٦، ص ١٣٨). This was not limited to men, so the princesses and women of the caliph were trained to ride horses and participated in the race. One of the famous princesses was Aisha bint Hisham bin Abd al-Malik and she had horses (الويس، ٢٠١٥، ص ٢٨ : ٢٤). The Abbasids (132-656 AH) (750-1258 A.D) were also interested in holding horse races. And they prepared a platform for the caliph to sit to watch those races. Al-Rashid (170-193A.H) (787-809A.D) took horses to run them in the arena especially in Al-Rusafa and Al-Raqqa, where he was spending the summer. When Al-Mu'tasim (232-247A.H) (847-862A.D) built the city of Samarra, he

took great care in setting up and establishing arenas for races and polo (المسعودي، ج٤، ٢٠٠٥، ص٢١٠) (المسعودي، ج٢، ١٩٩٩، ص٣١٨). Ahmad ibn Tulun (254-271 AH) (868-884 A.D) built al-Qata'i and annexed it as a field for playing polo and a special building for raising horses. The racetrack in the days of Khumarawayh used to take place among the people as festivals (المقريزي، ج٢، ١٩٩٩، ص٣١٨). He also made lineages for her proven in the bureaus, like the lineages of people. As for the era of the Ikhshidid state (324-358 A.H) (935-969 A.D) a field was built next to the camphor grove, in which were the royal horses, and it had iron gates. As for the Fatimid state (358-567 A.H) (969-1171 A.D). When Jawhar al-Saqili entered Egypt in Shaaban in the year (358 A.H - June 969 AD), he began building Cairo and the eastern palace. He built next to it a stable for the caliph horses and it was containing nearly a thousand horses and the caring about horses continued in the Ayyubid state (567 - 648 A.H) (1171-1250 A.D) (المقريزي، ج٢، ١٩٩٩، ص٤٦٤، مرعي، ٢٠١٦، ص١٣٨). It is known that Ayyubid state fought fierce and decisive battles with the Crusaders using horses, especially during the era of Salah al-Din، (الهروي، د.ت، ص١٧، عبد اللطيف، ٢٠٢٠، ص٣٥٤). When the Mamluk state was established in Egypt and the Levant, the apparent king Baybars (658-676 AH) (1260-1279 AD) was fond of horse racing. It was mentioned that he was on his way from Alexandria to Cairo in the year (661 AH - 1263 AD) and he stopped at a place called Troja and ordered its Arabs to race in front of him (المقريزي، ج٢، ١٩٣٦، ص٥٠٠). Sultan Al-Nasir Muhammad bin Qalawun (693-741 AH) (1293-1341 AD), was the most passionate sultan about horses, especially Arab authentic horses exaggerating their prices. (المقريزي، ج٢، ١٩٤٢، ص٥٢٥ - ٥٢٦). Sultan Al-Mansur Saif Al-Din Qalawun (678-689 AH) (1278-1290 AD) leaned towards lightning horses more than Arab horses, because he believed that the horses of Cyrenaica are useful and the horses of the Arabs are adornment (المقريزي، ج٢، ١٩٤٢، ص٥٢٦). Sultan al-Malik al-Zahir Abi Said Barquq (784-791 AH) (1382-1388 AD) left behind at his death reached about seven thousand horses (مرعي، ٢٠١٦، ص١٤٢). The was also for transport of mail, and that was during the reign of the king of al-Zahir Baybars al-Bunduqdari, so the news of the kingdoms came to him twice every Friday. No one rode postal horses except by a royal decree, and those assigned by the Sultan for his tasks. (العمري، ١٩٦٤، ص٢٢٤). When Timur Lank took Damascus the mail centers were destroyed (القلقشندي، ج١، ١٩٢٢، ص٣٧١). Postal horses used to carry a special sign that distinguished him, which was a rounded plaque with religious phrases engraved on one of its sides, and on the other side the name of the sultan or the deputy of the kingdom. (العمري، ١٩٦٤، ص٢٢٤).

In addition, The caliphs and kings loved raising elephants establish prestige in the hearts of peoples, and the first to care about this were the Abbasids, so AbuJaafar al-Mansur(136-158A.H)(754-755A.D) took great care in collecting elephants to glorify his kingship and himself. He also collected them for wars and ornamented them for feasts (المسعودي، ج٢، ٢٠٠٥، ص١١). They were used for transporting stones and bricks to build the silo in the Delhi mosque, built by Sultan Qutbuddin Aybak and completed by Sultan al-Tamash in the year (626 A.H - 1229 A.D) (بن بطوطة، ٢٠٠٢، ص٤٣٩ - ٤٤٠). Tusks of elephants were used in trade such as teeth and handles of swords (الأدريسي، ج٢، ١٩٩٤). In Qadisiyah, on the third day, persians attacked the Muslims, but the Arabs defeated them on the fourth day (الطبري، د.ت، ج٣، ص٥١٦: ٥٢٩).



a role in royal parades of the sultans in the Mamluk era, and they had special adornments (ماجد، ج ٢، ص ١٠٥) (١٩٦٧، ص ١٠٥)

Dogs are one of the strongest animals. It is the finest in loyalty, smelling, running and eyesight. It is of two types: domestic dogs, which are specialized in guarding, and hunting dogs. The Arabs knew a good type of hunting dog known as the Greyhound "Seloqeya" relative to Saluq, a city in Yemen to which greyhounds are attributed, and they are better in smelling than others due to the length of their nostrils. It is also the most delicate sense and the strongest patience in running. (الدميري، ج ٢، ص ١٩٩٥، ص ١٠٣). It was one of the most valuable gifts for kings and princes. The Seloqi dog received great care from the Arabs, so they treated it kindly and put it in the rank of a horse. Hunting deer is so exciting for greyhounds (كشاجم، ١٩٥٤، ص ١٣١-١٣٦، سلامة، د.ت، ص ١٠٩: ١١٢). In the year (293 AH-906A.M) The Mamluks used in the battle of Ain Jalut (658A.H-1260A.D) against the Mongols to burn the land in front of the enemy to impede his progress, so they used dogs and foxes after they hung fire in their tails (ماجد، ج ١، ص ١٩٧٩، ص ١٨٦). the Queen of the Rome gave the caliph al-Muktafi ten large dogs that the lions could not tolerate, and one of the poets of Seville gave a dog to al-Mu'tamid ibn Ubadah, describing the dog as light in its movements. (توانية، ٢٠١٦، ص ٨٨). Genghis Khan had many trained hunting dogs (الليودي، ٢٠١١، ص ١٦). as well as the Mamluks. Baraqesh was the dog of a group of Arabs, one day they were attacked and they fled taking Baraqesh with them. The invaders followed their tracks and because of the barking of Baraqesh they were caught and killed. (الميداني، ج ٢، ص ١٩٥٥، ص ١٤).

Pigeons are distinguished from other birds in that they are of two types: a type that has a sense of direction in a long distance, and it is the highest in price, and a type that does not have that. The Abbasid caliphs, such as Al-Mahdi, Al-Wathiq, and Al-Nasser, competed in acquiring it at the most expensive prices, and they also kept genealogical books of pigeons like the genealogies of Arabs (القلقشندي، ج ٢، ص ١٩٢٢، ص ٨٦). The carrier pigeon was also used in military communications since ancient times, and it is characterized by its speed and ability to fly directly without stopping for long distances. It has the instinct to recognize its home and return to it. Individuals in Egypt took care of breeding this pigeon at the beginning of the ninth century. The Mamluks organized the mail of the pigeons, so they established important centers in the Citadel of Cairo, Gaza, Damascus, Aleppo and (فبييت، ٢٠١٦، ص ٥٤) they were known as airports. The royal pigeons carried distinctive marks on their necks and feet, such as the imprint of their beaks or clipping a feather in a specific way (عبد (القلقشندي، ج ١٤، ص ١٩٢٢، ص ٨٥). As for the messages, they were written on paper of a special type, very thin, and then placed under the armpit or tail of the pigeon to protect it from rain (القلقشندي، ج ١٤، ص ١٩٢٢، ص ٨٥). The letters were known as Cards or Bird paper, and they made a separate diwan for it. Pigeons were dyed blue, close to the color of the sky, or painted black if released at night, so that it would not be an easy prey for the enemy (ماجد، ج ١، ص ١٩٧٩، ص ٦٤-٦٥).

There are also some characteristic birds such as the owl; it is a nocturnal bird, and its nickname is Mother of Destruction "Umm al-Kharab" and Mother of boys "Umm al-Subyan". It enters dens at night. If it was seen during the day, it was killed and its feathers plucked. Then the hunters carry it in nets so that the birds fall on it and they seize it. It does not appear during the day. It has fear of being caught because of her beaut. The crow; It is called one-eyed because it closes one of its eyes due to the strength of its sight. It is described by treason and theft, and the Arabs feels pessimistic of the previous two birds and hate the sound of the crow (النويري، ج ١٠، د.ت، ص ١٢٧-١٢٨، القلقشندي، ج ٢، ص ١٢٧-١٢٨).

(ص ٨١ ، ١٩٢٢. The dove also has a story, When Amr Ibn Al-Aas conquered Egypt and set up his tent "fustat" in the location of the city of Al-Fustat, and after he intended to remove it, dove had spawned at the top of the tent and he built his city, Fustat (ص ٢٩٦ ، ١٩٩٩ ، ج ٢ ، المقريزي).

### Animals and birds as gifts

Gifts between states were important for signs of subordination or loyalty or to request support or truce, to congratulate, to win a battle, or to sit on the throne. Al-Ma'mun was blessed with many gifts. The King of India gave him three chapels with pillows made of bird feathers. If they were thrown into the fire, they would not be burned. Al-Ma'mun gave him a horseman with a horse and all his tools were made of agate (ص ٢٤-٢٧ ، ١٩٥٩ ، ابن الزبير). In the year (279 A.H. - 892 A.D.) khamuriya sent to Caliph al-Mu'tadid twenty camels laden with money, twenty donkeys, five mares with golden saddles, twelve mares with silver saddles, thirty-seven donkeys, five Egyptian mules with their saddles and bridles, and a giraffe (ص ٢٠ ، عبد المجيد، د.ت). Caliph Al-Muktafi Ballah (289-295 A.H) (901-907 A.D), has received gifts from Ziyad Allah bin Abdullah bin Al-Aghlab; a giraffe, wild cows, and a hundred thousand dinars (ص ٤١ ، ١٩٥٩ ، ابن الزبير). In Andalusia during the reign of Prince Muhammad bin Abdul Rahman (238-273 A.H) (852-886 A.D), the Emir of Sijilmasa gave him a snake and a giraffe. (ص ٨٦ ، ٢٠١٦ ، توائية). The governor of Alexandria gave Zahir Baybars a rare white crow (ص ١٢٧ ، د.ت، ج ١٠ ، النويري). In Mamluk during the reign of Sultan Al-Zahir Baybars (659-676 A.H) (1223-1277 A.D), In the year (662 A.H - 1264 A.D), King of Sicila, sent a letter with a gift and it included a number of gyrfalcon (ص ٧٤ ، ٢٠٢١ ، عبد النبي). in the year (684 A.H - 1285 A.D) there was gift contained eight parrots, An elephant and eight ewes. (ص ٧٢٩ ، ١٩٣٦ ، ج ٣ ، المقريزي). One of the biggest gifts was in (738 A.H - 1337 A.D) from the Sultan of Morocco to Al-Nasir Muhammad, Sultan Abi Al-Hassan Ali bin Yaqoub Al-Marini (731-749 A.H) (1331-1348 A.D), ruler of Fez, and he sent them with his daughter, who was going for Hajj, so she carried gifts to the Mamluk sultan, and the gift included types of animals, textiles, precious stones and thirty-two falcons, and a bright yellow bull, mules, cows and a mare (ص ٤٤٧ ، ١٩٣٦ ، ج ٢ ، المقريزي). As for the owner of the Romans, he sent a great gift to Al-Nasser Muhammad in the year (740 A.H - 1339 A.D), and it included four sanakers, ten ewes and ten falcons (ص ٤٩٠ ، ١٩٣٦ ، ج ٢ ، المقريزي). In the Circassian Mamluk era, diplomatic gifts were abounded. In the year (785 A.H-1383 A.D) Ahmed bin Owais, the ruler of Baghdad, sent a gift to Al-Zahir Barquq (784-801 A.H) (1382-1399 A.D), and it included a strange-looking leopard and a falcon (ص ٤٨٧ ، ١٩٤٢ ، ج ٢ ، المقريزي). In addition, In the year (806 A.H - 1403 A.D) Faraj bin Barquq (801-813 A.H) (1398-1411 A.D) received a gift from Timorlank (1370-1405 A.D), which included two leopards, two falcons, and two gyrfalcons (ص ٦٧٨ ، ج ٢ ، د.ت). In the year 901 AH – 1496 A.D, (Sultan Qaiytbay (872-901 A.H) (1968-1496 A.D) sent a gift to the Ottoman Sultan, containing seven giraffes and a red parrot (ص ٣١٦ ، ج ٢ ، د.ت، ابن اياس). The gifts were not limited to the caliphs, but also included the men of the state, so we find when AlSahib Alam al-Din bin Zanbor<sup>4</sup> was arrested, some deer, cranes, ostriches, zebras, Chinese

<sup>4</sup> **AlSahib Alam al-Din bin Zanbor (754 A.H-1353 A.D):** He was the minister of Sultan As-Salih Salah al-Din, and he had a strong word. He was arrested in 753 A.H-1352 A.D because of his many faults, people complained about him, and the increase in his wealth. He was exiled to Qus, so he lived there for a while and died (ص ٥٤٧ ، ١٩٩٨ ، ج ٢ ، ابن اياس).

ducks, sheep and countless other things were found in his house, and this indicates the possession of animals in the house (ابن ابياس، ج ١، د.ت، ص ٥٤٥).

### **Rights of Animals and birds in Islam**

All living creatures including, animals, birds and insects are in the consideration and respect of Islam. So that and they have certain rights (Awan & Rahim, 2018) be offered by Islam as follows

**Right to life** No one can deprive her of this legitimate right except in accordance with specific controls and rules. Islam forbade the killing of animals and birds and preserving its spirit (مسلم، ج ٣، ص ١٥٥٠، ١٩٩٥). one of the stories indicated that a bird that swallowed pearls and the scholars did not hesitate to prohibit its slaughter in order to preserve its life. (الموردى، ج ٦، ١٩٩٩، ص ٤٠٧).

**The right to care, maintenance and shelter** the right of animals is one of the rights granted to animals by Islam. Islam obligated the nation to provide food and drink for owned animals, so it obliged the owner to spend and if they are not owned, then he must protect them from death and destruction (وزارة الأوقاف والشئون الإسلامية، ج ٥، ١٤٢٧هـ، ص ١١٩: ١٢٠). In Hadith: "A woman was tortured because of a cat she imprisoned, and she did not feed it and water it when she imprisoned it, nor did she let it eat from the earth" (البخارى، ج ٣، ١٤٢٢هـ، ص ١١٢) The Prophet peace be upon him said that a man went down to a well and watered a dog that was panting from the intensity of thirst, so Allah forgave him (مسلم، ج ٣، ١٩٨٥، ص ١٥٥٠), and when the Companions asked The Prophet about the reward for watering the animals, he said "There is a reward for every person with a moist liver." Narrated by Al-Bukhari and Muslim, "There is no Muslim who plants a tree or sows crops, then a bird, person, or animal eats from it, but it will be alms for him (مسلم، ج ٣، ١٩٨٥، ١١٨٨). The prophet peace be upon him, was tilting a bowl for the cat it until it drinks, then performing ablution with what is left over from it (العيني، ج ١، د.ت، ص ١٤٩-١٥٠). The matter was not limited to eating and drinking only, but rather purifying the appropriate food for it, as The Prophet Peace and blessings of Allah be upon him "There is no Muslim who feeds his horse with barley and then feeds it but that Allah writes for him a good deed for every grain" (الهلالى، مج ٤، العدد ١٢، ١٩٨٣، ص ٢٣). Evidence for this is that the ruler of Egypt, al-Muqawqis, gave the Prophet Muhammad a gray mule, which the Messenger named Daldel (ابن كثير، ج ٤، ١٩٩٠، ص ٢٧٣-٢٧٤)، when it grew up and its teeth fell out, barley mashed for it (الأحمدى، د.ت، ص ١٠١). regarding to the right to shelter, those natural reserves known as the fever that the Islamic state established throughout the ages to care for animals and shelter them, such as the reserves in Medina, the most prominent of which is the fever of Al-Naqee' and Rabza and other fevers that pervaded the Islamic state (البكرى، ج ٤، ١٤٠٣هـ، ص ١٣٢٤).

**Medication right:** Islam was keen to take care of her, treat her, and protect her from illnesses and infections or anything that harm her. The Prophet himself nursed a sick rooster for him and used to wipe his horse with the sleeve of his shirt (الهلالى، مج ٤، العدد ١٢، ١٩٨٣، ص ٢٣). The Messenger said: A nurse does not come to a sanatorium (مسلم، ج ٣، ١٩٨٥، ص ٣، ١٧٤٣). Regarding mixing, Islam urges to preserve her health and not to charge her with what is difficult for her and to load her with burdens that are beyond her ability. The UK established a Farm Animal Welfare Advisory Committee (FAWAC) 1979.. This group issued Five Freedoms were modified to account for more concern and attention to behavior and were eventually modified to represent the following Five Freedoms; Freedom from thirst, hunger and malnutrition, Freedom from discomfort Freedom from pain, injury, Freedom to express normal behavior, Freedom from fear and distress (Waza, 2020). This means that Islam preceded the largest global institutions in animal welfare.

### **Animals and birds in Quran and Heritage books**

There are many stories of animals and birds in the Qur'an and Hadith, especially those that carry a lesson for man to learn from. For example, the story of the crow; when the son of Adam Cain killed his

brother Abel, Allah sent two crows, and one of them killed the other and carried it on his back for a year, so Cain watched how the crow buried his brother the crow, so he learned that, so he did to his brother as the crow did (ابن كثير، ج ١، ١٩٨٨، ص ٥١).

There is also the story of the donkey of AL- Uzair; when Al-Uzair passed with his donkey and food for him on a ruined village, so he wondered how Allah revived it after its death, so Allah wanted to show him his great power, so he made him die for a hundred years, then revived him after his death. Allah asked him about the duration of death, so he thought when he looked at the sun that he stayed for a day or part of a day, but when he looked at his donkey, he found him dead, his flesh had decomposed, his bones had decayed, and this needed many years. Allah told him that he had stayed for a hundred years, and Allah Almighty showed him his ability in that his food remained the same and did not change. Then, Allah Almighty revived the donkey in front of him. So he came back to life, so Al-Uzair knew that Allah - the Almighty - has power over everything (ابن كثير، ج ١، ١٩٨٨، ص ٥١).

ص ٥١، الشعراوي، ٢٠٠٦، ص ٣٩١-٣٩٥)

In addition, there is the story of Saleh's she -Camel; Allah sent Salih as a prophet to the tribe of Thamud and Thamud people promised him to believe in what he brought if he did what they asked him to do. So Salih - upon him be peace - called on his Lord with that. So the rock moved and a close-knit camel came out of it, as they had requested, and she lived among them for a period of time with her young son after she had given him birth. She drank from the water of the well one day and they drank from it another day, as Allah Almighty had commanded them. And Allah Almighty warned them against harming it, but they wanted to drink from the water of the well alone. So they decided to kill it and Allah punished them because of their stubbornness. (سورة هود الآية رقم ٦٤، ابن كثير، ج ١، ص ١١٩-١٢٧)

ص ١١٩-١٢٧، ١٩٨٨)

Joseph's Wolf is also a great history; After Jacob - peace be upon him - authorized his sons to take their brother Joseph with them, they went out with him, and because of their jealousy of him, they threw him into the well. Their lie was that the wolf ate him and Joseph shirt was contaminated with blood, but Jacob - peace be upon him - verified their lies, as the blood is not the blood of his son, just as the shirt is not torn (ابن كثير، ٢٠٠٠، ص ٩٧٤-١٠٠٠، الشعراوي، ٢٠٠٦، ص ١٥٩: ٢٣٥)

Yunus - peace be upon him - went out to the sea to board a ship that would take him away from his people after he became angry and weary of them because they did not respond to his call to them to believe in Allah. He boarded one of the ships that was filled with passengers, and the ship began to sail due to the waves and was heavy with passengers. It stopped at the sea, and the passengers agreed to draw lots between them, and whoever was struck by the lot threw them into the sea. The lot fell on Yunus - peace be upon him - and they did not implement it because he was righteous and of moral character, except that the lot struck him every time. They did not find to escape from that, they threw it into the sea, and Allah Almighty commanded a great whale to swallow it without eating its flesh or breaking its bones, and he - peace be upon him - stayed alive in his stomach, praising and remembering Allah for saving him from the darkness, so the Almighty answered his prayer (سورة )

الأنبياء الآية ٨٧، ابن كثير، ٢٠٠٠، ص ٢٩٣: ٢٩٩)

The cow of the Israelites It was reported that there was an old man among the Children of Israel who had a lot of money, and he had nephews who wished for his death to inherit him. So one of them killed him at night and left him on the road. People disputed about his matter, and the people agreed to present the case to Moses and to ask Allah about it. When they presented it to him, Allah Almighty commanded them to slaughter a cow. So they asked about its age, color, and characteristics, and if

they had slaughtered any cow, the purpose of it would have been fulfilled. They did not find a cow with these characteristics except with a man, so they paid ten times its weight in gold and he sold it to them. They slaughtered it, and Allah commanded them to beat the dead man with some of the cow, and when they did that, Allah Almighty revived the dead man. Prophet of Allah Moses asked him about his killer, so he told about him, then he returned dead (ابن كثير، ٢٠٠٠، ص ٣٩٣ : ٣٩٤).

Elephant were used by the King of Yemen, "Abraha Al-Ashram" in the year 571 A.D (the Year of the Elephant) to invade Makkah Al-Mukarramah and destroy the Kaaba but Allah sent birds to destroy the army of Abraha (المشهداني، ٢٠٠٧، ص ٥).

The snake overturned from the stick of Moses. The stick was one of the great miracles with which Allah - the Almighty - supported His Prophet Moses - peace be upon him - to be evidence of the truth of his prophecy, and with the power of God and His greatness, the stick becomes a great serpent or a snake, and this snake was able to swallow all the magic that came Pharaoh's magicians (سورة طة الآية). (الشعراوي، ٢٠٠٦، ص ٢٦٩ : ٢٧١).

Suleiman was fluent in speaking the language of birds and animals, and they understood what he said and carried out his orders. One day, the hoopoe was on a reconnaissance mission to explore the number of enemy armies and the strength of their armament. On that day, the hoopoe flew far and arrived from Palestine. The hoopoe knew that Bilqis was found as a queen and people prostrate to the sun instead of prostrating to Allah. Solomon was reviewing the soldiers of the army, birds and animals, and when he found him absent, he became very angry and swore that he would slaughter him if he did not come to him with an acceptable excuse. The hoopoe told him what he saw, which angered Solomon, so he wrote a letter to the Bilqis , Queen of Sheba He called her to believe in Allah . The hoopoe carried the letter and entered the palace of Bilqis and placed the speech on her chair and stood at the window of the palace. Shortly after, Bilqis returned and read the letter. She gathered her ministers and read the letter to them and asked them to advise her with presenting precious gift for Solomon. So that he would not come with his army and destroy their country, and Bilqis sent the most luxurious gifts to Solomon, so he got angry and returned the gifts after the bearers understood that he did not want gifts because Allah had given him a lot of good and all he wanted was for Bilqis to come as a Muslim to Allah and her people. So, when they returned, Bilqis decided to go to him Submissive to declare Islam and her people (ابن كثير، ٢٠٠٠، ص ١٣٩٠ - ١٤٠٠، الشعراوي، ٢٠٠٦، ص ٣٦٩ : ٣٧١).

There were many mentions of animals as sermons and lessons for kings, so he obtained the book "Kalila wa Dimna", which was translated by Ibn Al-Muqaffa in (2 A.H-8 A.D) (ابن المقفع، ٢٠١٢، ص ٤،). In addition, animals were mentioned in the book of the "Ikhwan al-Safa", and this book was written by a group of scholars from the city of Basra who were his contemporaries. The writer put the king's dialogue with the animals, and they complain about the injustice of man towards them (مجموعة من العلماء، ج ٢، ١٤٠٥هـ، ص ٢١٤ : ٢١٦). The animals were mentioned also in the book "Fakehat AlKholafa' wa Mofakahat Alzorafa' by Ibn Arabshah. This book dealt with stories of animals in a wonderful dialogue, and it is reflected in writing the types of human morals and the colors of worldly politics (ابن عربشاه، ٢٠٠١، ص ٤٤٥ : ٣٩٥، ٢٢٨). Animal stories did not end with the tales of kings only, but dealt with their use in presenting philosophical opinions and theories, as did Ibn Tufail such as the story of Hayy ibn Yaqzan, a story that includes Ibn Tufail's philosophy, his opinions and theories, and the story revolves around Hayy ibn Yaqzan who grew up on the island isolated from people, in the bosom of a doe that raised him, the boy grew up with great skills. So he learned the

natural sciences, then the philosophical sciences and the sciences of religion, and he reached the knowledge of God and started to invite people to that (ابن طفيل ، ١٩٣٥ ، ص ٢٣ : ١٢٥).

## **H2: Islamic heritage program moderates the relation between zoo educational goal and sustainable development.**

### **Giza Zoo**

The area where the zoo and the Orman Garden are currently located was a part of the the Giza Saray which was a small palace. Khedive Ismail was passionate about constructing various types of establishments. Saeed Pasha designed the construction of the Saray, and after his death, Khedive Ismail bought it and the land that follows it (على ، ٢٠١٠ ، ص ٢٦٠). The design of the gardens was by Barilly Deschamps, who was called Baril Bey, an architect specializing in rural landscapes. Its design contained three parts, representing three gardens connected by gates between them, surrounded by a land which is surrounded by a single built wall, namely The Orman Garden, The Selamlik Garden and The Haramlek Garden. There are also paths spread with colored gravel brought from the island of Rhodes with different drawings and shapes, mountains, wide ponds, and rivers with arches, seating booths, and wide cages for birds. This palace became one of the most luxurious palaces established by Khedive Ismail , as it included the area from Abbas Bridge to the University Bridge with all the existing facilities. The palace began to disappear and be divided after Princess Fatima, daughter of Khedive Ismail, who used to live in the Saraya, decided to give up part of the annexes of the Saraya to establish the Egyptian University. The Saraya shrunk until it was over, nothing remains of it but its memory and it has been noticed that one of these appendices exists so far, and this appendix is the current headquarters of an investment company that works in the food industry. it is proven that Khedive Ismail was the first to think of establishing a zoo, and he hoped to open it on the occasion of the celebrations of the opening of the Suez Canal in 1869, but there was not enough time to accomplish this , so he had to collect numbers of animals and birds in the Gezira Palace (عبد الرحمن ) (١٣٠ - ١٢٩ ص ، ٢٠٠٥ ، which is now the Marriott Hotel in Zamalek (App.fig.1) . In 1890, Khedive Tawfiq issued a decree deducting an area from the gardens of his mother (Al-Walda Pasha) on the Orman side, and converted it into a store for animals, which is the name that was given to the zoos when they were established. On March 1, 1891, these gardens were opened to the public under the name of the Crown Jewel of African Zoos, or the Zoo of Animals. In 1938, it was decided to add thirty-eight acres to the garden, which were cut from the Orman Garden. The garden displays mammals, birds, and reptiles of various kinds in fourteen regions representing 360 different species, numbering more than one hundred species of pedigrees, snakes (poisonous, semi-venomous, and non-poisonous), snakes, turtles, species of lizards, Egyptian and American crocodiles, as well as jerboas, hedgehogs, scorpions, and chameleons. It also functions as a scientific institute where scientists study the behavior of animals and birds. The Giza Zoo is not only considered one of the most beautiful zoos in the world, as well as one of the most dense zoos in terms of number and diversity of species and types of animals in it. But it is also considered a large exhibition of many historical monuments, such as the five mountainous mountains that adorn the garden and a number of other monuments such as Al Qala'a Grotto" ; it is also known as Castle Grotto and the Royal Grotto; which has five areas in a form of hills(App.fig.5). The hill was built in 1867 AD and was then called "Al Qala'a Grotto.It is decorated with some statues of extinct dinosaurs, various species of crocodiles and birds. The citadel contains passages that are covered with many plants and waterfalls. There are also cement and gravel shapes of birds and reptiles as a resting place in the middle. There are also some caves with white coral rocks in a hanging status with the waterfalls. There is a wooden bridge that connects the small lake with two islands. There is no need for loudspeakers or air condition in the grotto because of the unique method of building. Al Shame'dan Grotto is called also "The Candelabrum Grotto" because

of the hanging limestone sediments which have the candelabra shape from the ceiling of the caves (App.fig.6). The Swinging or The Suspended Bridge was built by the famous French architect "Gustave Eiffel" and is considered as the world's first high stage in the zoological gardens. It was implemented by "Eiffel Et Cie" between the years 1875 and 1879 AD, about ten years before the construction of the Eiffel Tower (App.fig.10). It was built in order to link the Khedive's Palace with the Harem's Palace in the royal palaces of Giza before the inauguration of the zoo. It has a wooden floor and is loaded from all sides with steel wires and the bridge swings upon walking onto it. IP letters refers to the initials of "Ismaiel Pasha" and it serves as a logo. The Japanese Kiosk is considered as a small museum inside the zoo and was established in 1924 AD, on the ceremony of the visit of the Crown Prince of Japan to Egypt during the reign of King Fouad (App.fig.12). It has old and recent holdings and photographs of the zoo. The Animal Museum was built in 1906 AD and it has three large halls displaying large groups of birds, reptiles, fish and more than five thousand mummified animals. One of them is a whale once thrown by the waves towards the city of Alexandria. There is also a group of skeletons and there is an embalming laboratory behind the museum (App.fig.13). In addition, There are some old constructions; for instance, The Tea Island Grotto" (App.fig.19) which has a set of caves, The Antique Gates which are in front of the house of old and were the entrance to the Khedive and walda pashas' Palaces. There are also many old houses of animals and birds such as the house of bears, the house of the elephants, the house of hyenas, the main house of lions and the old reptiles' house which were established between 1891-1902 (App. Figs.14:17). There are also the antelopes' barns, the hippo hose, Chimpanzee house, Mountain monkeys and Bird house (App.figs.18:21). The zoo contains also royalist kiosk Minister's rest, garden Music kiosk and government house that was established in 1898 A.D (App.figs.11-22-24.-25). Giza Zoo is considered one of the oldest Middle East zoological gardens but unfortunately, in the past decades, the zoo has been deteriorated (Gewaily, 2010; Cultnat,2019). Visitors can get information about Giza zoo via cultnat.org, as it is already registered on Google Maps (App.fig.2).

## Methodology

### Sample and design

In order to find out how Giza zoo could be a sustainable educational tourist attraction; the researchers adopted a descriptive analytical methodology. This exploratory study tests the hypotheses proposed and a quantitative research approach was to fulfill the study objectives based on questionnaire. In order to propose the content of the Islamic heritage program; the study also adopted the historical approach. The questionnaire was chosen in order to gain reliable and beneficial data. All questions are closed for not leading to bias. The questionnaire included four parts; first, the warm-up part that explained the study objectives whereas the second was for the demographics. The third part was about Giza zoo education. The fourth included questions about the suggested Islamic Heritage program (IHP) and the last part was for the sustainable development dimensions of Giza zoo. The researchers affirmed the confidentiality of the responses and the fidelity of using them for scientific purposes. Questionnaire was answered between the January and May 2023, by actual and potential visitors of Giza zoo. The total population of this research included domestic visitors from Egyptian governorates. The researchers distributed 50 questionnaires, 400 were returned giving a response rate of 80 percent. Valid questionnaires for data analysis were 396 which can generalize the results. Pilot study was implemented in January and about 20 of Giza zoo visitors were pre- tested. The questions were developed from tourism literature (Sinha,2008; WAZA,2020; Collins et.al.2020; Karanikola et.al 2020; Rose & Riley2022;Greenwell,et,al,2023). All questionnaires were conducted in Arabic. Some of the questionnaires were Face-to-Face during the second visit of the researchers to the zoo in March. The others were via Google Form allowing respondents to choose the convenient time/place for response.

### Reliability and validity

The reliability was tested for the scale using Cronbach's Alpha. It is one of the most widely used measures of reliability in the social sciences (Bonett&wright,2014) and it was significant .831 (greater than0.70). It was also tested for each variable; the independent (zoo educational goal), the moderator (Islamic heritage program) and the dependent (sustainable development) and they were also significant at .702, .824, .868 respectively(see table.1).

**Table (1) Reliability statistics**

Variable	Cornbrash's Alpha	N of Items
Zoo educational goal	.702	5
Islamic heritage program	.824	6
Sustainable development	.868	6
Scale	.831	17

Source: the researchers

For the Validity, The researchers consulted some specialists about the understanding and clearness of the questions. For the internal consistency, Pearson Correlation was calculated for the independent variable (zoo educational goal), the moderator (Islamic heritage program) and the dependent (sustainable development) and P value was significant for each of them (less than 0.05). In other words total mean for each variable were 0.657, 0.770, 0.761 respectively. Pearson Correlation was also calculated for each sentence in each variable and the mean of that variable (see table 2), and p value for all of them were significant (0.000).



**Table (2) Validity statistics**

		Correlations						
		Mean of Zoo educational goal	1	2	3	4	5	
Zoo educational goal	Pearson Correlation	1	.612**	.501**	.775**	.781**	.680**	
	Sig. (2-tailed)		.000	.000	.000	.000	.000	
	N	396	396	396	396	396	396	
1- Educational goal is one of the visit purposes	Pearson Correlation	.612**	1	.455**	.235**	.286**	.197**	
	Sig. (2-tailed)	.000		.000	.000	.000	.000	
	N	396	396	396	396	396	396	
2- Educational goal is important as recreational .	Pearson Correlation	.501**	.455**	1	.185**	.146**	.082	
	Sig. (2-tailed)	.000	.000		.000	.004	.104	
	N	396	396	396	396	396	396	
3-interpretive activities are sufficient	Pearson Correlation	.775**	.235**	.185**	1	.653**	.434**	
	Sig. (2-tailed)	.000	.000	.000		.000	.000	
	N	396	396	396	396	396	396	
4- There are varied educational messages	Pearson Correlation	.781**	.286**	.146**	.653**	1	.465**	
	Sig. (2-tailed)	.000	.000	.004	.000		.000	
	N	396	396	396	396	396	396	
5- The content of web sites and pages is sufficient	Pearson Correlation	.680**	.197**	.082	.434**	.465**	1	
	Sig. (2-tailed)	.000	.000	.104	.000	.000		
	N	396	396	396	396	396	396	
		Islamic Heritage Program	1	2	3	4	5	6
Islamic Heritage Program	Pearson Correlation	1	.693**	.812**	.723**	.812**	.694**	.639**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	396	396	396	396	396	396	396
1- Quran educational tours are required	Pearson Correlation	.693**	1	.651**	.262**	.493**	.308**	.233**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	396	396	396	396	396	396	396
2- Educational Workshops are required	Pearson Correlation	.812**	.651**	1	.444**	.646**	.400**	.342**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	396	396	396	396	396	396	396
3- Animals interactive shows are required	Pearson Correlation	.723**	.262**	.444**	1	.542**	.456**	.444**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	396	396	396	396	396	396	396
4- Animal Educational virtual tours are required"	Pearson Correlation	.812**	.493**	.646**	.542**	1	.439**	.384**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	396	396	396	396	396	396	396
5- Documented info. On web sites is required	Pearson Correlation	.694**	.308**	.400**	.456**	.439**	1	.543**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	396	396	396	396	396	396	396
6- Interpretation center is required	Pearson Correlation	.639**	.233**	.342**	.444**	.384**	.543**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	396	396	396	396	396	396	396

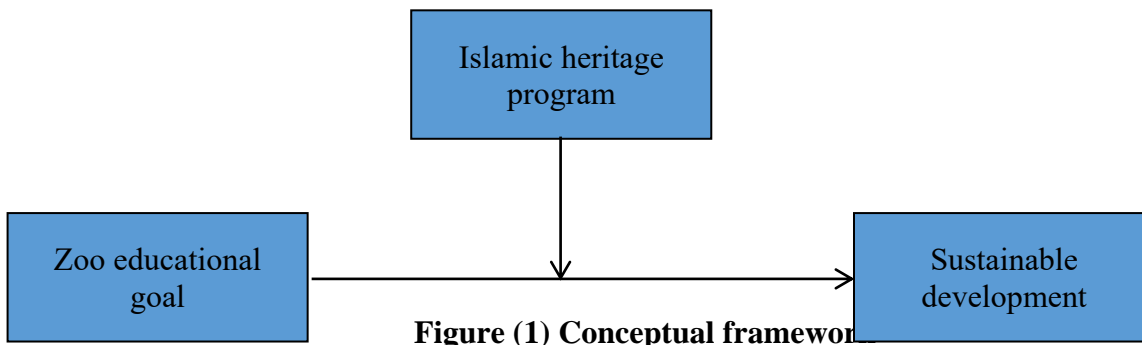
		Sustainable development	1.	2.	3.	4	5	6.
Sustainable development	Pearson Correlation	1	.727**	.820**	.804**	.768**	.785**	.761**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	396	396	396	396	396	396	396
1- Zoo helps in biodiversity	Pearson Correlation	.727**	1	.579**	.452**	.358**	.516**	.449**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	396	396	396	396	396	396	396
2- Zoo enriches conservation initiatives	Pearson Correlation	.820**	.579**	1	.651**	.566**	.519**	.510**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	396	396	396	396	396	396	396
3- Zoo Encourages sympathetic behavior with animals	Pearson Correlation	.804**	.452**	.651**	1	.658**	.483**	.520**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	396	396	396	396	396	396	396
4- Minimize hurting behavior with animals	Pearson Correlation	.768**	.358**	.566**	.658**	1	.535**	.499**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	396	396	396	396	396	396	396
5- Zoo can attract varied visitor segments	Pearson Correlation	.785**	.516**	.519**	.483**	.535**	1	.584**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	396	396	396	396	396	396	396
6- Zoo can enrich visitor experiences.	Pearson Correlation	.761**	.449**	.510**	.520**	.499**	.584**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	396	396	396	396	396	396	396

		Total Mean	x	M	y
Total Mean	Pearson Correlation	1	.657**	.770**	.761**
	Sig. (2-tailed)		.000	.000	.000
	N	396	396	396	396
Zoo Educational goal	Pearson Correlation	.657**	1	.138**	.145**
	Sig. (2-tailed)	.000		.006	.004
	N	396	396	396	396
Islamic Heritage program	Pearson Correlation	.770**	.138**	1	.632**
	Sig. (2-tailed)	.000	.006		.000
	N	396	396	396	396
Sustainable tourism development	Pearson Correlation	.761**	.145**	.632**	1
	Sig. (2-tailed)	.000	.004	.000	
	N	396	396	396	396

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: the researchers

**Analysis, Results and Discussion**



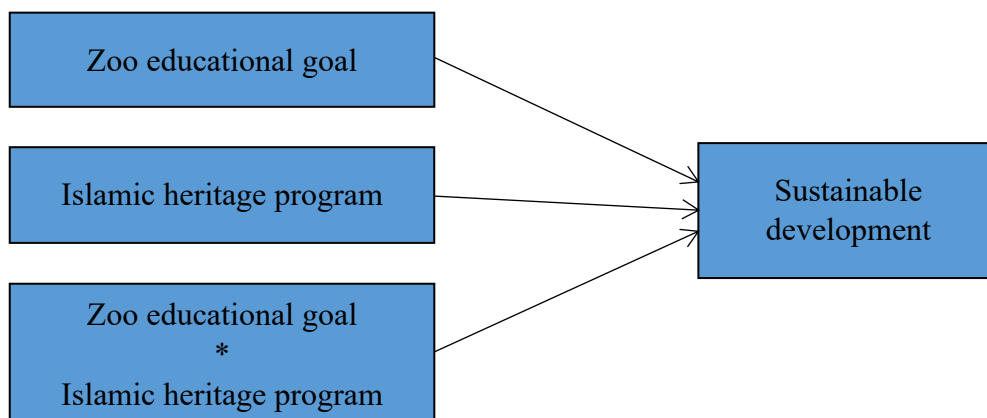
**Figure (1) Conceptual framework**

The study has been analyzed the theoretical framework that has been mentioned above in figure.1. The hypotheses of the study were tested in order to examine the relationships among variables. Firstly, Simple regression analysis was used for predicting the effect of zoo educational goal on sustainable development. The analysis indicated that ANOVA used F-tests and it was 8.495. In other words the regression was statistically significant at .004b and R2 was .021. For coefficients B were 3.965, .109 T-test were also calculated and the values were 28.674, 2.915, and it was significant at .0000, .004 respectively (Tables 3). These findings indicated that the effect of zoo educational goal is positive on sustainable development, Consequently, H1 was supported.

**Table (3) 1<sup>st</sup> Hypothesis test**

Model	R sq	F	Sig.	B	t	Sig.
constant	.021	8.495	.004 <sup>b</sup>	3.965	28.674	.000
zoo educational goal			.038	2.915	.004	
			.109			

Source: the researchers



**Figure (2) Statistical framework**

Secondly, in order to confirm that the intervening variable (Islamic heritage program) is moderating the effect on the relationship between zoo educational goal and sustainable development, the study

used model (1) in PROCESS (Hayes, 2022). The R2 value is the percentage of variance that has occurred in the dependent variable that has been explained by the independent variable.

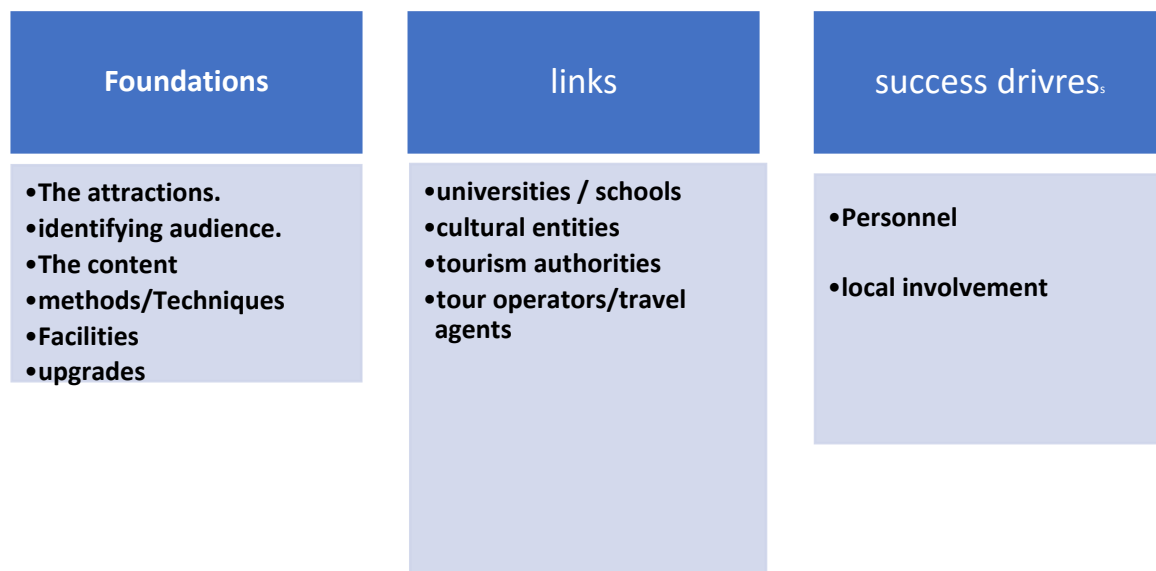
In this structural model, the R2 of sustainable development is .4031 at a significance of .0000 indicating that the model has substantial predictive accuracy. In other words, the moderating role of Islamic heritage program can change the effect of zoo educational goal on sustainable development in about 40 % and 60% is determined by other factors out of the consideration of the study. Consequently, H2 is supported (see table 4).

**Table (4) 2<sup>nd</sup> Hypothesis test**

model	R--sq.	F	p	coeff	t	p
Constant	.4031	88.2497	.0000	2.1579	2.4768	.0137
Zoo educational goal				-.0790	-.3274	.7435
Islamic heritage program				.4754	2.4324	.0154
Sustainable development				.0277	.5152	.6067

Source: the researchers

### Implications



**Figure (3) Islamic heritage program (IHP)**

The proposed Islamic heritage program is clarified in the figure (3) and it is detailed as follows

#### (a) Foundations

- 1- **The attractions** ( fauna – Giza zoo history – built heritage in the zoo)
- 2- **Identifying audience** ( market researches)
- 3- **The content ( educational messages)**

**Formal (a) Information for children** a real/myth persuasive message about an animal (such as Quran stories / stories of heritage books).

- **(b) Modeling for school/ university students** linking animals with beloved persons (such as narrating history from the emergence of Islam, Hijra, passing by caliphate eras and animal different roles)

**Informal** Direct contact/ exposure for adventurers/entertainment

(a) First - hand experience while narrating (such as riding horses/camels, taking photos with reptiles and birds)

(b) Interactive shows.

**4- The methods/ techniques** interpretive activities on/off site such as guided tours –booklets and brochures- Diorama – tablets- - media – interactive shows--cinema/ theatre- websites - Information boards- virtual tours fed with information- guided tours –workshops)

4- **Facilities** (infrastructure such as classes-library stuffed with heritage books – smart technologies infrastructure- first aid).

**6- The Upgrades** means the value adders of the program (flexible timing such as vacancies-feasts i.e Eid al-Adha /convenient cost, offers, packages).

(b) **Links** mediators (such as schools, universities, tourism authorities , cultural entities, tour operators /travel agents)

(c) **Success drivers- Personnel** (trained tour guides, trained keepers, marketers).

- **Local involvement** (initiatives, donations). The proposed Islamic Heritage Program (IHP) is expected to be a pathway for changing the attitudes of visitors towards animals. It is expected to raise awareness and historical consciousness (Doorsselaere, 2020). So that, it will contribute in achieving sustainability through addressing the SDGs as follows (table 5)

**Table (5) SDGs and IHP implementation mechanisms in Giza zoo.**

SDGs	IHP implementation mechanisms
(4) Quality education	- IHP Ensures inclusive and equitable learning opportunities visitors ( kids, students, post graduates).
(8) Decent Work and Economic Growth	- IHP Promotes sustained economic growth for zoo and creates new Jobs for community ( tour guides- interpreters- marketers).  - IHP can enrich visitor experiences.  - IHP attracts new visitors.
(9) Industry, Innovation and Infrastructure	IHP fosters innovation through new interpretive educational messages.
(11 ) Sustainable Cities and Communities	IHP makes zoo sustainable human construct through proper interaction with animals.
(15) Life On Land	- IHP contributes in protecting animals and biodiversity.  - IHP promotes it in an innovative. sustainable way through changing behavior.

**Source: The researchers**

## Conclusions and future studies

In order to have a successful positioning in the competitive zoo tourist market, zoos have to attract new customers. The welfare of the captive animals needs to be supported by the various roles of zoo especially the education. So, the study showed the cultural side of the zoo as a tourist destination and its educational role. It also shed light on the animals throughout the Islamic history in order to

investigate the importance of such creatures and the related uses and stories. In addition, the study clarified how to properly deal with them and what about their value to the Islamic caliphs and rulers. The Islamic heritage program (IHP) is an innovative educational program that will help administrators in Giza zoo for implementing sustainable management. That was assured by testing the moderating role of the program in order to change the effect of zoo educational goal on sustainable development. The application of the proposed Islamic heritage program is needed to be implemented in order to create systemic education. Consequently, Giza zoo will be considered a center for heritage education and activities about animals. Training is required for tour guides, marketers, educators and managers in the framework of formal and informal education. The results could be generalized due to the sample of 396 participants. The current research was implemented in a convenient time, because Giza zoo is prepared now for re-planning and development. Further researches should be re- implemented on international visitors, taking into account their satisfaction, factors Influence their perceptions, different nationalities, the historical period, the cultural distance and socio-cultural impacts. Marketing of zoos and potentials of international tourism should be studied. The nature – based program, motivations and its interpretive tools such as social media, documentaries and movies should be studied. Moreover, in-depth research should be also conducted to focus on the supply-side.

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### Appendix



Fig.1.Cairo Marriott Hotel

Source: cultnat.org

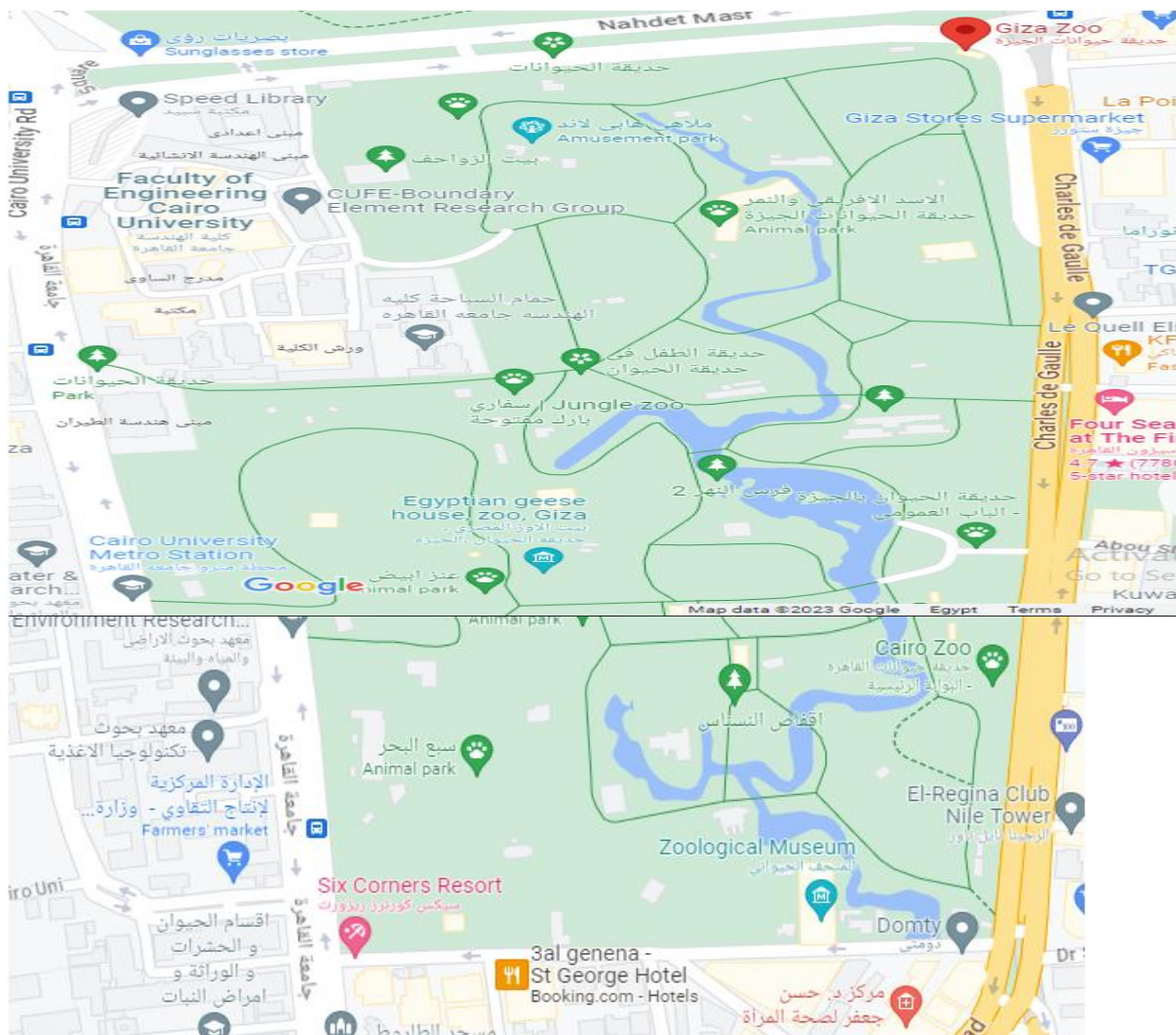


Fig.2.Map of the zoo

Source: Google Man



Fig.3 Zoo Entrance

Source: cultnat.org

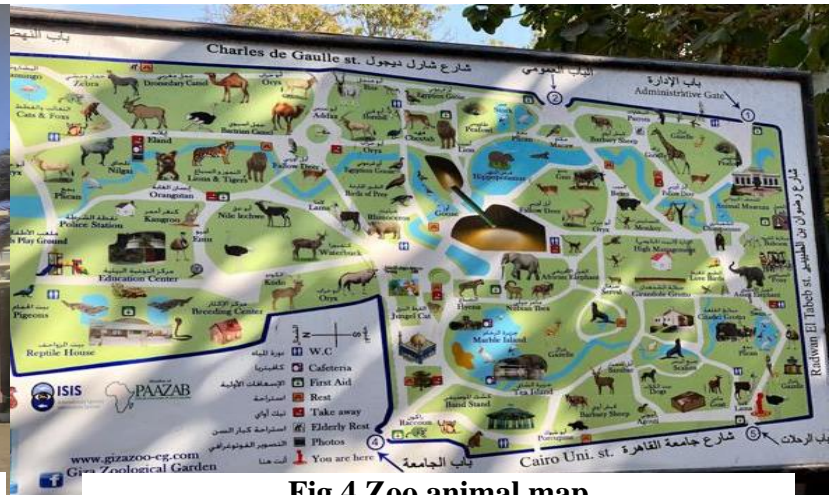


Fig.4 Zoo animal map

Source: the researchers



Fig.5a.Castle Grotto

Source: the researchers

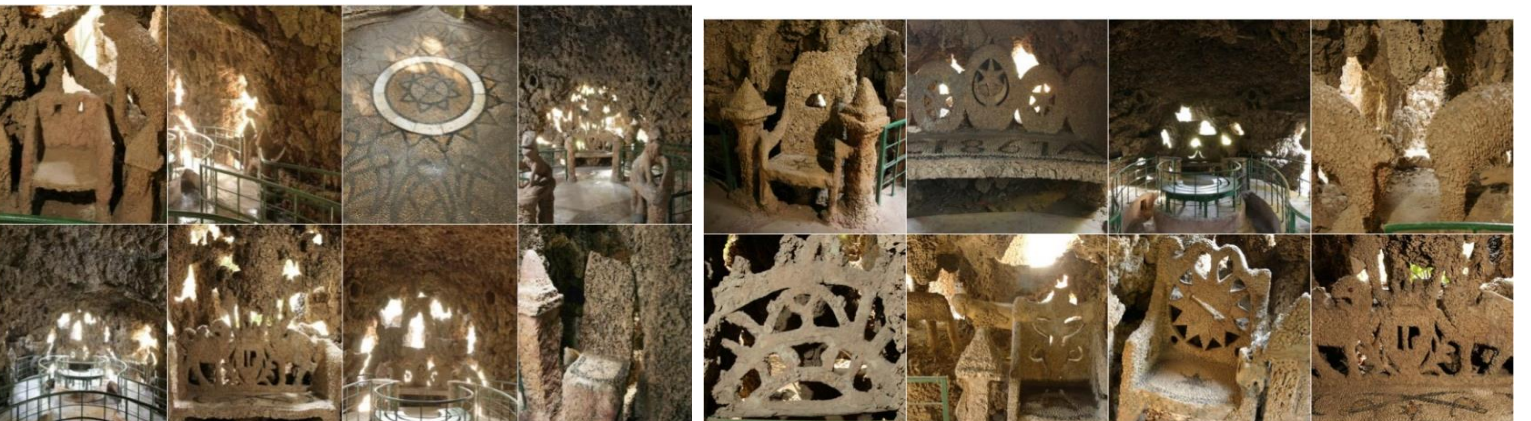


Fig.5b.Castle Grotto

Source: cultnat.org



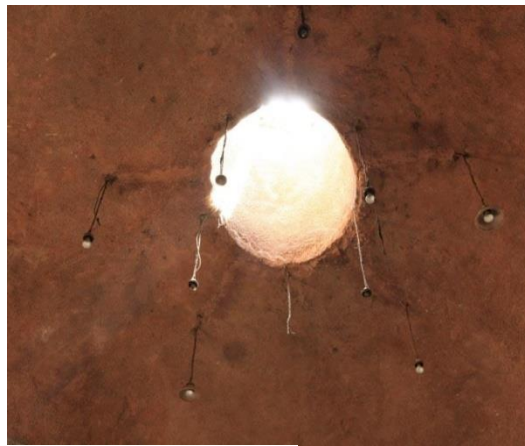
**Fig.6. Candelabrum Grotto**

Source: [cultnat.org](http://cultnat.org)



**Fig.7. Marble Grotto**

Source: [cultnat.org](http://cultnat.org)



**Fig.8. Marble Cafeteria**

Source: [cultnat.org](http://cultnat.org)



**Fig.9. Tea Island Grotto**

Source: [cultnat.org](http://cultnat.org)



**Fig.10a.Eiffel bridge**

**Source: cultnat.org**



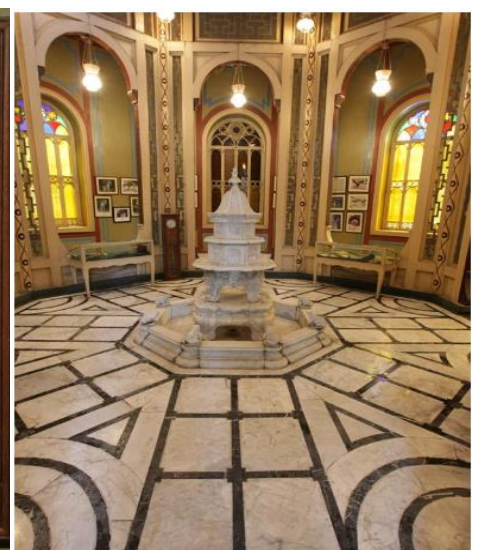
**Fig .10b.Eiffel bridge**

**Source cultnat.org**



**Fig.11. Music Kiosk**

**Source: cultnat.org**



**Fig.12. Japanese kiosk**

**Source: cultnat.org**





Fig .13a. Animal Museum

Source: the researchers



Fig .13b. Animal Museum

Source: the researchers



Fig .13c. Animal Museum

Source: the researchers



Fig .14.Bears House

Source: cultnat.org



Fig .15.Elephants House

Source: cultnat.org

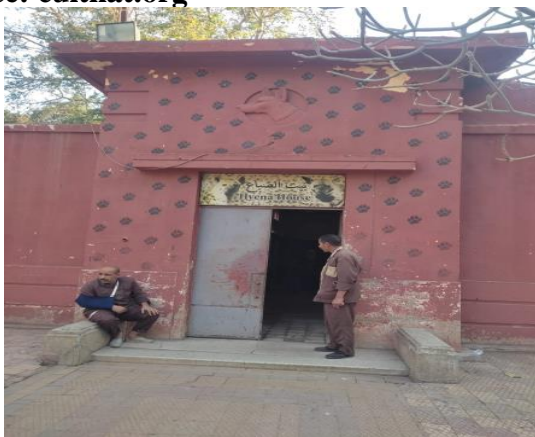


Fig. 16.Hyena's house

Source: the researchers



Fig.17.Reptile House

Source: cultnat.org



Fig.18. Hippo house

Source: the researchers



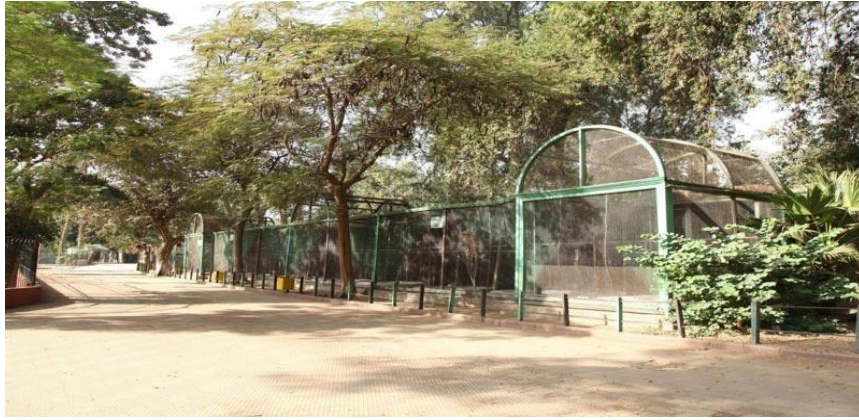
Fig 19.Chimpanzee house

Source: cultnat.org



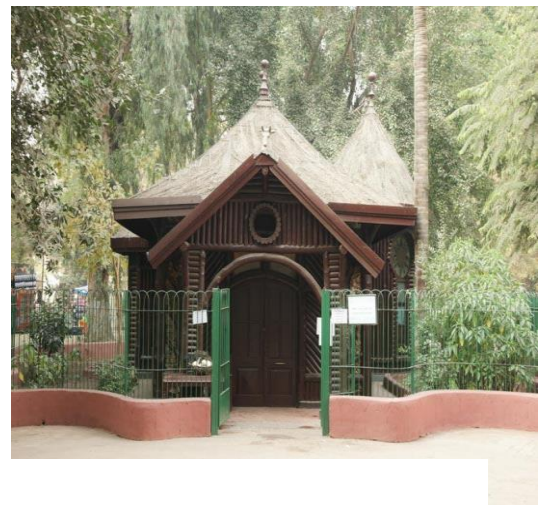
Fig.20.Grotto monkeys

Source: cultnat.org



**Fig.21.Old Bird Kiosks**

Source: cultnat.org



**Fig.22. The Royalist kiosk**

Source: cultnat.org



**Fig.23. bridge fronting Royalist kiosk**  
Source: cultnat.org



**Fig.24.Minister's rest**

Source: cultnat.org



**Fig.24a.Minister's garden**

Source: cultnat.org



**Fig.25. Government house**

Source [cultnat.org](http://cultnat.org)