

ABSTRACT

This study analyzes the satisfaction of visitors on the services of Yangon Zoological Garden. The objectives of the study are to identify the employee conditions and working activities of Yangon Zoological Garden, to determine the satisfaction of visitors on service quality of employee working in Yangon Zoological Garden and to analyze the opinion of the visitors about their satisfaction on recreation. The study is conducted on 300 visitors of Yangon Zoological Garden with structured questionnaire. It is found that most of the respondents were satisfied with the knowledge and experience of animal life and conservation at Yangon Zoological Garden. And also, most visitors satisfied with the polite treatment of the employees of the sales and marketing department. Most visitors expressed satisfaction with the provision of wheelchair services and emergency health care services for the disabled and elderly. It is suggested that the foreign animal species should be displayed as much as possible, and local animal species should be created in Yangon Zoological Garden. As the animal welfare and visibility become important for the public, the management of Yangon Zoological Garden should be balanced conservation and education of zoos with recreational needs of visitors to generate the needed revenues and improve visitors' satisfaction.

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LIST OF ABBREVIATIONS

AZA	Association of Zoos and Aquariums
WAZA	World Association of Zoos and Aquariums
WZCS	World Zoo Conservation Strategy

CHAPTER I

INTRODUCTION

1.1 Rationale of the Study

The zoological gardens founded from the 19th century onwards, claimed not only to educate and entertain their audiences, but also to serve science by providing direct access to exotic animals (Hochadel, 2005). And also, the zoological garden brings people closer to nature through education and by creating environments that immerse visitors into the natural environment.

Today, a modern zoo is known as a site of animal conservation, environmental education, research, and especially entertainment (Carr and Cohen, 2011). Another point of interest is that many people seek out nature at times of stress. Around 10% of the world's population visits a zoo every year (Queiroz and Young, 2018), and according to the World Association of Zoos and Aquariums, more than 600 million people make visits to about 1,200 zoos annually (Holtorf, 2008).

Myanmar has three zoological gardens, namely Nay Pyi Taw Zoological Garden, Yangon Zoological Garden and Yadanabon Zoological Garden. Within three zoological gardens, Yangon Zoological Garden is founded in 1901 and oldest zoological garden in Myanmar. It is located at north of downtown and near Kandawgyi Lake in Yangon Region.

Yangon Zoological Garden was initially called the Victoria Memorial Park in 1906 to honor Queen Victoria but it was officially renamed into the Zoological Gardens of Yangon in 1951 and consequently becomes one of the most visited attractions for tourists and city residents nowadays. Total area is about 57.75 acres recreational park also includes a museum of natural history, an aquarium and an amusement park.

Yangon Zoological Garden was operated by the Forest Department under the Ministry of Natural Resource and Environmental Conservation until April 2011. Currently, it is operated by Htoo Zoo and Gardens Business Unit under the Htoo Group of Companies.

The purpose of the study is general opinion of the visitor's demands and levels of satisfaction about recreation, infrastructure and environmental education. Additionally, a comparison of the views and attitudes of the visitors to public and private zoological gardens may guide zoo management committee to understand the level of service and the adequacy of the facilities for visitors and increase zoo attractiveness.

1.2 Objectives of the Study

The objectives of the study are (i) to identify the employee conditions and working activities of Yangon Zoological Garden, (ii) to identify the employee conditions and working activities of Yangon Zoological Garden (iii) to determine the satisfaction of visitors on service quality of employee working in Yangon Zoological Garden and (iii) to analyze the opinion of the visitors about their satisfaction on recreation.

1.3 Method of Study

The study is used the descriptive method based on primary data and secondary data. Primary data is collected from randomly selected 300 visitors of Yangon Zoological Garden with a structured questionnaire. Secondary is collected relevant information from Htoo Zoo and Gardens Business Unit document records, research papers, libraries and internet website.

1.4 Scope and Limitations of the Study

The study is mainly focused on 300 visitors of Yangon Zoological Garden. The survey was conducted a week at a rate of 50 respondents per day. This study did not cover the visitor's satisfaction on service quality of other zoological gardens in Myanmar.

1.5 Organization of the Study

The study is composed of five chapters. Chapter one is introduction and it includes rationale of the study, objectives of the study, method of study, scope and limitations of the study, and organization of the study. Chapter two provides a literature review which consists history of zoological garden, role of zoological garden and zoo visitors' satisfaction. Chapter three presents the overview of zoological garden in Myanmar. Chapter four is analyzed on the satisfaction of visitors in Yangon Zoological Garden. Finally, chapter five is conclusion with findings and suggestions.

CHAPTER II

LITERATURE REVIEW

2.1 History of Zoological Garden

The world's earliest zoo may have been located in Hierakonpolis, Egypt more than 500 years ago. Archaeologist uncovered a collection of 112 animals, which included, hippos, baboons, wild cats, cattle, elephants to name a few. The stomach contents of the elephant were found preserved and it was evident that the animal was fed a diet of varying plants from different environments. Another bit of evidence is that some of the animals have fractures that have healed in ways that must have been in captivity or a protected environment (Michigan State University, 2017).

The world's first modern zoological institution was established in London in 1826, by Sir Stamford Raffles with the principal role being to undertake scientific studies of exotic species that were brought back from Malaysia, Southeast Asia to the United Kingdom (Turley, 1999). Due to the need to fund these studies, the concept of charging visitors entrance fees originated. The money was used to support the zoo's collection and scientific studies. As interest in exotic animals thrived, so too did the number of zoological institutions globally.

Zoos became popular amongst the global population as attractive sites for entertainment and recreation (Turley, 1999). Since the 1960's the focus and role of zoos started to shift from one of entertainment to one of conservation, due to the increased awareness of the need to protect the growing list of threatened and endangered species. Behaviorists, geneticists and ecologists view zoos as valuable sites for preserving the diversity and long-term survival of threatened and endangered species (Turley, 1999).

Today, the concept of a zoological institution is perceived differently by the human population. Some people are opposed to the concept and perceive zoos as prisons, placing emphasis on the cruelty of imprisoning animals in cages, restricting their freedom and access to natural habitats for the mere amusement of curious humans,

whilst others view zoos as institutions for an entertaining recreational outing and an alternative to museums or theme parks.

A zoological institution relies on the visitor's willingness to both pay for their entry and devotes time and consideration to the conservation messages it portrays. Conservation messages aim to encourage visitors to care for natural resources, maintain local habitats for wildlife and participate in local community-based efforts to restore and protect the environment (Rabb, 2004).

Throughout history, human have given value to other species of animals as means of entertainment, education and spirituality in addition to being source of food and clothing (Front, 2011) collecting and exhibiting and exhibiting animals originated from Ancient Egypt where private collection were reserved for the higher class population as a symbol of wealth and power (Wearing and Jobberns, 2011).

In the 1900's, zoo is based themselves as conservation movement, with focus on scientific study of endangered species. In the beginning of the 20th century, zoo became an attraction of mass audiences (Beardworth and Bryan ,2001). By the late 1900's there was a shift in the natural of zoo with public attitude and interest changing nature and conservation, with concern for ecosystem and awareness as they protect endangered species (Wearing and Jobbern, 2011).

2.2 Role of Zoological Garden

The zoological gardens founded from the 19th century onwards, claimed not only to educate and entertain their audiences, but also to serve science by providing direct access to exotic animals (Hochadel, 2005). Confronted with increasing financial difficulties, zoos were forced to make recreation their top priority (Smith, Broad, and Weiler, 2008). With the term recreation is referred to the sense of relaxation and regenerative enjoyment that the very experience of nature promotes (Chiesura, 2004).

In the urban societies live in the contact of people with wild fauna is becoming increasingly rare, particularly for young children (Knight and Herzog, 2009). Zoos seem to be the only solution that can connect the modern world we live in to wildlife (Williams, Porter, Hart and Goodenough, 2012). Research has shown that, by enriching their knowledge of animals, zoo visitors develop more positive views about animals

kept at zoos and support the relevant efforts for their conservation (Patrick, Matthews, Ayers and Tunnicliffe, 2010).

In fact, the general public usually considers the protection of the species to be the primary role played by modern zoos (Olukole and Gbadebo, 2008). Equally important goals for modern zoos include research, education and recreation, the last two being more directly addressed at zoo visitors (Hosey, 2005). To attract visitors, modern zoo exhibits should be both entertaining and educational.

Mason (2011) reveal that the roles of zoo are: (a) Educating people about animals, (b) Conservation of endangered species, (c) Safeguarding the welfare visitors, (d) To generate revenue, (e) Providing visitors facilities such as catering and merchandising, (f) Reintroducing captive breeding into the wild and carrying out zoological and veterinary research to improve animal welfare in the wild and in captivity.

On the other hand, zoos served as scientific research, for example, zoologist learn more about animals' habit and diseases by studying them in zoos studies of animals living in zoo, together with examination of those that have died have provide zoologist with information about the structure and function of animal bodies (Usher, 2000).

Keeping wildlife animals in captivity bring visitors from different parts of the world for different purposes such as to provide sources of recreation in the city, to provide biological specimen to constitutes, a learning resource for secondary school, colleges, and universities.

It also provides employment and game reserve, provides sources of protein revenue, esthetics recreation, education and scientific values (Presley 2001). The captive animal propagation is one way of encouraging growth of depleted wildlife species population and so properly planned program of zoo establishment and development is considered as one of effective method for conservation of wildlife (Okpiri 2005).

Educational environment study and conservation of the environment have become a subject of major importance all over the world, not only from the point of view of preventing population, but also from the point of conserving water supplies by protecting water shed, conserving soil, vegetarian and Fauna. (Comphell, 2007).

Comphell (2007) also stated that conservation zoos can provide an important facility for research at both pure and applied levels in both the field and laboratory in colleges and universities. Bigot (2000) emphasized that the primary function of zoo curators is to make visit a leaving experience. The attention and effort given to wildlife conservation and tourism in both state and federal levels have been noted.

2.2.1 Education

Education is one of the principal objectives of zoological institutions. Education at a zoological institution is a holistic discipline that needs to cater to a wide audience and is closely related to the philosophy and practice of environmental education. It is important to know that education is not limited to focusing on children, but on everyone to experience learning, which can be formal and informal (Department of Environment, Food and Rural Affairs, 2012).

The learning environment, the design of enclosures, interpretation and even the commercial activities within the zoo all play a part in influencing the education. The education potential for zoos is more than information and feeding our curiosity in seeing, hearing and smelling wild animals, it is also of a considerable value to support conservation and enhance the experiences and heighten the awareness of visitors, creating an empathy and support for wildlife and the natural world (Department of Environment, Food and Rural Affairs, 2012).

As well, zoos have been used to preserve various endangered species. However, zoos have become powerful educational tool for many scholars, biologists and researchers (Falk and Dierking, 2000). Individual who visits a zoo get the rare opportunity to examine the relationship between man and animal (Wagoner and Jenson 2010). Students can learn a lot about certain animals that might not be locally available. Many specimens and animals (Wagner and Jensen, 2010) argue that zoo makes it possible for researchers to conduct their studies, for instance, researchers can use caged animals to make various observation about wildlife or animals. The acquired knowledge can be used to support the survival of the wild animals in their natural habitats. It is therefore agreeable that zoos have an important educational role in every society. This because, learning is ever – changing process (Falk and Dierking 2000). In the 1970's the primary educational target for most American zoo was elementary level children. The idea was that building understanding would lead to appreciation which

would eventually produce a generation that was concerned about wildlife and the environment (Wheatly 2000). Wheatly emphasized that although children are still a primary audience, zoos are extending themselves to reach many others audience that can make difference in action today.

2.2.2 Recreation

Traditionally, the main role of zoos was perceived as being recreation. Within the context of the study recreation is referred to as a sense of relaxation and regenerative enjoyment that the very experience of nature promotes (Mony & Heimlich, 2008). Modern day technology in the entertainment industry is constantly changing and growing to enable a person to choose from an endless variety of attractions, making it impossible for the zoos to provide competing and satisfactory experiences in terms of recreation for all its visitors (Lee, 2015).

People enjoy and appreciate nature in their daily lives, and zoological institutions offer the opportunity to visitors to experience nature and wildlife in an urban setting. Zoos provide people with an opportunity to appreciate and admire the aesthetic qualities of plants, animals, surroundings and the pleasure of being outdoors (Ballantyne, Packer & Hughes, 2008). Spending time surrounded by nature provides a peaceful environment for relaxation, providing the visitor with a chance to escape stressors in everyday life, benefiting the visitor on an emotional, psychological, and even on a spiritual level, enabling recreation in an enjoyable environment (Connell, 2004).

2.2.3 Conservation

Conservation activities that can be undertaken in a zoological institution include research, training in relevant conservation skills, the exchange of information, captive breeding, repopulation and reintroduction of species. Zoos tend to make their major contribution to conservation through Species Management Programmes.

These usually involves captive breeding with the intention of future re-introduction back into wild areas (WAZA, 2015). The World Zoo Conservation Strategy (WAZA, 2015) and the European Community Zoo Directive of 1999 oblige

zoos to play a role in achieving the following goals (Patrick, Matthews, Ayers and Tunnicliffe, 2007):

- Actively support conservation of endangered species through synchronized programs. Offering support and facilities to increase scientific knowledge that benefits conservation.
- Promoting an increase in public and political awareness of the need for conservation.
- Make contributions to conservation and education.

In order to gain an understanding of conservation, it is important that people know the basic or fundamental concepts about the features that define certain organisms, their behaviors, their habitats, and their interactions with other organisms and the environment. Only then can visitors appreciate the dilemma facing zoos.

Conservation practice entails captive breeding, species rein-introduction programs, species survival plans and the use of zoo revenue for conservation programs in wild. Conservation advocacy include: public engagement, promoting awareness, advocacy, stewarding and fund-raising events and schemes, a good example of which is like “Adopt animal scheme at most modern zoos”. Moreover, conservation research is conducted on wildlife biology, population dynamics, animal behavior, health and welfare and there are also publications generated by zoos animals care captivity. The preservation of animals in zoos makes it easier for more people to see them.

2.2.4 Wild Animals Living in Captivity

Animals housed in artificial habitats are confronted by a wide range of environmental challenges (Hosey, Melfi and Pankhurst, 2010). These include abiotic environmental sources of stress, such as artificial lighting, exposure to loud or aversive sounds, unpleasant odors, and uncomfortable temperatures or substrates, such as concrete (Hosey, 2005). In addition, confinement-specific stressors may also be present, such as restricted movement, reduced retreat space, forced proximity to humans, reduced feeding opportunities, maintenance in non-normal social groups, and other behavioral restrictions (Morgan and Tromborg, 2007).

In general, wild animals go through three stages when they are in captivity. During the first stage, the zoos struggle to keep the animals alive. In the second stage,

zoos manage to conserve individual animals, which rarely breed; when they do, this is a sporadic occurrence. In the third and final stage, the animals breed routinely and eventually establish self-sustaining captive populations, which enable zoos to conserve whole generations of the aforementioned species (Kawata, 2009).

In the past, it was easier and less expensive to supply zoos with recently trapped wild animals. This has changed however, since wild populations have radically decreased; furthermore, the latest legislation in the countries of export and import has made it more difficult for zoos to obtain animals. Thus, in some cases, breeding is the only solution.

Therefore, although financial reasons and conditions may initially have been the incentive behind related actions, nevertheless, the need to concentrate on certain species that are indeed at risk of extinction has now made the role of zoos clearly more ecological and pro-environmental. The breeding of various species in zoos can help to achieve their reintroduction into nature, which will help to boost their population numbers. Thus, zoos can make a vital contribution by maintaining self-sustaining stocks of species that are threatened with extinction in the wild (Ralls and Meadows, 2001).

2.3 Zoo Visitors Satisfaction

Literature on zoo visitors can be found in a variety of subjects including visitor studies, animal studies, tourism, and museum studies. The literature presented here includes the following topics: satisfaction, animal visibility, reasons for visiting, importance of children, and visitor preferences. The literature review will then shift to wildlife tourism which is organized into the following topics: satisfaction, animal visibility, expectations of visibility, distance to the animals, uncontrollable factors and welfare. Over time, zoos have evolved from menageries to living museums to conservation centers (Hutchins and Smith, 2003).

The wide use of the word conservation in current zoo mission statements is evidence of this evolution (Muraoka, 2008). In addition to conservation of endangered species, modern zoos also have economic, educational and entertainment benefits (Beri, Tranent and Abelson, 2010). Decreasing government funds are forcing zoos to rely more on admission revenues and other services such as gift shops and concessions (Cain

and Meritt, 1998). Depending on the size of the zoo, concessions can now make up 22-32% of zoo revenues (Cain and Meritt, 1998).

Zoos are expensive to maintain and the Association of Zoos and Aquariums (AZA) believes that no zoo earns more revenue than their operating expenses (Turley, 1999). However, zoos may not be charging high enough prices as willingness to pay studies indicate people would pay more for their family outing to the zoo, particularly for additional experiences such as touching or feeding animals or offering special behind the scenes tours (Berl, Tranent and Abelson, 2010).

According to annual attendance records, more people visit American zoos than National Football League, National Basketball Association, and Major League Baseball games combined (Muraoka, 2008). It is a surprise then, that with these massive attendance records, there are still many areas concerning zoo visitors that need additional research and solid evidence. Finally, there is very little information on visitor satisfaction with the actual animals at the zoo and little to no knowledge about visitor concern for the welfare of these animals.

The few studies that have focused on satisfaction with zoo experiences focus on service aspects such as maps of the zoo and restroom facilities. One study found that the most important factors to visitors were clean restrooms, appropriately sized exhibits with enrichment social activities for the group of visitors, and good views of the animals (Ryan and Seward, 2004).

Thus, the animals were only mentioned in two out of the four top importance factors to zoo visitors in this study. Another survey found that visitors, who were surveyed before entering the zoo, had highest expectations for the animals, information on the animals, cleanliness, and general information (Tomas, Crompton and Scott, 2003). Again, animals appeared in half of the items on the importance list.

While services consistently rank high in importance, a correlation of between visitor satisfaction and services provided (Tomas, Crompton and Scott, 2003) showed that there are many independent factors that influence visitor satisfaction (Baker and Crompton, 2000). However, behavioral intentions were also correlated with satisfaction and services provided (Tomas, Crompton and Scott, 2003) and the quality of these services and satisfaction (Baker and Crompton, 2000).

High importance low performance charts were typically used in these studies to determine those aspects a zoo can improve on to increase visitor satisfaction with their zoo experience (Wagner, 1989). Visitors, when asked to explain their experiences with animals in captivity, noted positive zoo experiences consisting of interacting with animals, learning, seeing a variety of animals, good conditions and services, and memorable emotional experience (Woods, 2002).

While these studies contribute to our knowledge of zoo visitors, overall, satisfaction with zoo experiences remains an area full of opportunities for future research. There are very few reports on how to increase visitor satisfaction with zoo experiences. Researchers have found that increased interactions, such as keeper talks and public animal feedings, may increase visitor satisfaction (Ryan and Saward, 2010).

Zoo visits have many benefits on visitor's well-being because they may have a more accessible approach to wild animals and nature (Fernandez, Tamborski, Pickens and Timberlake, 2009). The reasons behind people's desire to visit zoos may also be explained by the biophilia hypothesis, which focuses on humans' innate tendency to seek connections with nature and other living organisms (Sakagami and Ohta, 2010). Unfortunately, in modern urban societies, human contact with nature, and especially with the wild fauna, is becoming increasingly rare, particularly for young children (Knight and Herzog, 2009).

Not having children can deter people from visiting the zoo. For families with children, adult females typically initiate zoo visits (Turley, 2001). Their children can influence recreational decisions merely by their presence or by actively taking part in decision- making discussions.

Although the impact of children on tourism decision making is not entirely clear, they may have a great influence on small scale family vacation decisions. While at the zoo or vacation location, the satisfaction of children may be more important to the parents than their own satisfaction (Turley, 2001).

One study noted that adults were observed asking their children's opinions as they filled out a survey on their zoo visit (Ryan and Saward, 2010). In addition to impacting the decision to visit zoos, children also impact the actual zoo visit. Children can lead the pace of the group and patterns throughout the zoo (Tomas, Crompton and Scott, 2003) which may lead to the reason why groups with children tend to spend

less time at exhibits (Marcellini and Jenssen, 1988), interacting with signage (Ross and Gillespie, 2009) and less time at each exhibit than solo and older visitors.

2.4 Measurement of Visitor Satisfaction in Zoological

The measurement of visitor satisfaction of a zoological park, where wildlife is free and not in captivity, is an issue that receives growing interest in recent decades. Andereck and Caldwell (1994), in an evaluation of the satisfaction of the North Carolina Zoological Park, identified the following as a predictors of visitor satisfaction: staff, amenities of the zoo, accessibility of exhibits, ability to view the animals, educational aspects of the visit, recreational features of the visit, environment of the zoo and the animals.

Milman (2009) focuses on the importance given to different aspects of the theme parks of Central Florida by visitors. It identifies seven constructs that theme parks visitors use to evaluate-their experience: (i) quality and variety of entertainment; (ii) courtesy, cleanliness, safety and security; (iii) food variety and value for money; (iv) quality of theming and design; (v) availability and variety of family-oriented activities; (vi) quality and variety of rides and attractions; and (vii) pricing and value for money.

According to Dengate (1993), zoos where animals are free in their natural environment are an ideal. Indeed, combining in the same space recreational, educational and conservation goal visitors a memorable experience. Tribe (2001) goes in the same direction, and believes that the possibility of coming into contact with animals, and also with the staff, offers the opportunity for visitors to use the park in a different manner, and therefore enjoy the experience differently.

Luebke and Matiasek (2013) confirm this fact, finding in their study that there is a strong correlation between seeing the animals and the level of satisfaction. The zoological parks with wildlife freedom appears to be in need of assessment, including issues concerning the experience of contact with animals with special emotional charge (Anderek and Caldwell, 1994). As such, it is important to distinguish between zoos where animals are in captivity and those where wildlife is free in its natural environment.

Zoo visits have many benefits on visitor's well-being because they may have a more accessible approach to wild animals and nature (Fernandez, Tamborski, Pickens and Timberlake, 2009). They find psychological comfort and improve their mental and physical health by enjoying the natural world and interacting with animals (Mitchell and Pophan, 2008). The reasons behind people's desire to visit zoos may also be explained by the biophilia hypothesis, which focuses on humans' innate tendency to seek connections with nature and other living organisms (Sakagami and Ohta, 2010).

Unfortunately, in modern urban societies, human contact with nature, and especially with the wild fauna, is becoming increasingly rare, particularly for young children (Karanikola, Manolas, Tampakis & Panagopoulos, 2012).

Zoos seem to be an excellent solution to connect wildlife into the modern world (Martens and Hansart, and Su, 2019). Additionally, the ongoing biodiversity crisis decreases opportunities to experience nature. However, much research effort has explored the importance of reconnecting people – especially urban dwellers – with nature and conservation issues through experiences of nature (Miller, Conway, Reading, Wemmer, Wild & Kileman, 2004).

Today, despite a shift in emphasis from entertainment towards conservation and education, zoos still need to attract visitors in order to keep operating and ensure economic viability through profitable growth in a competitive market (Linke and Winter, 2010).

Since the primary motivation for zoo visits are recreation and contact with nature (Sickler and Fraser, 2009), high quality of service is necessary to satisfy the demands and expectations of today's visitors. Zoos are facing challenges because of changes in visitors' expectations for high standards of service. Due to insufficient budgets for improvement, public zoos maintain the traditional management style for exhibits (Lee, 2015).

Zoological parks cannot survive over the long term unless they satisfy the needs of their visitors (Ogunjinmi, Oniya & Oboh, 2017). In recent years, public zoos suffered from low finances due to a lack of funding from the local government and the State (Lee, 2015). On the other hand, since the most common source of income for private zoos has traditionally been paying visitors. For this reason, zoos must measure visitors' satisfaction and identify their preferences in order to provide better quality zoo services.

2.5 Review on Previous Studies

Aye Aye Than (2019), studied on morphological description of some mammals in Nay Pyi Taw Zoological Garden. The study found that Naypyitaw Zoological Garden exhibits the various species of animals that distributed all over the country in captivity. Some animals were included from other parts of the world with similar climatic condition in order to draw public awareness on the nature of the animal world.

Than Naing Oo (2019), showed that visitors' satisfaction is provided the success of amusement parks. Thus, amusement parks should always emphasis on their visitors' satisfaction. Most of visitors are highly satisfied with the entertainment experience, escapist experience, esthetic experience in amusement park. It is found out that some visitors are thinking they need a more reasonable price and feel relaxed. Therefore, some amusement parks should consider using news technology and creative innovative design.

Agyeman (2021), found that most of the visitors to the zoo were family and friends oriented, they view safety and comfort with the footpaths as a key determinant of their satisfaction. They value guidance, knowledge, comfort and conservation as important as well. However, the delivery of many of these and other services and opportunities at the zoo still require management intervention to sustain and improve those critical social, educational, conservation, physical, recreational, capacity and knowledge aspects of the zoo that contribute to visitor satisfaction. These interventions by management require knowledge of the target market that was found to be family and friends oriented.

CHAPTER III

AN OVERVIEW OF ZOOLOGICAL GARDENS IN MYANMAR

3.1 Historical Background of Zoological Garden in Myanmar

The zoo's story begins in 1901 when it was funded purely by public donations. A total land area entailing 61 acres was cleared to make way for the new establishment, and the first group of animals were transferred from Phayre's Museum. The most notable attraction of the zoo upon opening was the albino elephant that belonged to King Thibaw, who was the last king of Burma.

The zoo was called the Victoria Memoria Park in 1901 in honor of Queen Victoria. The zoo is well-known for its wildlife, giving you an open view of the animal kingdom. On an area of 69.25 hectares, the zoo is noted for one of the largest collections of wildlife and flora and fauna since it was opened in 1906. It was officially renamed Yangon Zoological Garden in 1951.

Renamed Yangon Zoological Gardens and Parks in 1951, the spacious 70-acre establishment now boasts over 1,100 animals, representing 200 species that include rare and endangered breeds such as Bengal tigers, Asian elephants, clouded leopards, hornbills and marsh crocodiles, among others.

The rich varieties of animals include 60 species of mammals, 70 species of birds and 20 species of reptiles. Apart from the fauna, Yangon Zoological Garden also houses a rich variety of Southeast Asian flora including trees, shrubs, bamboo, palms and seasonal flowers. The zoo has a rich fauna and flora, with many rare species. Especially, in addition to watching the cute animals, take pictures with them and relax with amusement park, including many games for different ages.

Animal performance shows are staged on public holidays in the zoo. Visitors can take an around-the-zoo trip riding an elephant or a horse. Restaurants are open in the zoo for the convenience of the visitors. The Natural History Museum is also located in the same compound.

3.2 Yangon Zoological Garden

Located near Kandawgyi Garden, the zoo is known for its variety of wild animals that have been nurtured since 1882, allowing visitors to blend in with the animal kingdom. This is a recreational destination in the heart of Yangon, suitable for any animal lover or families with young children.

With an impressive area of nearly 70 hectares, the zoo is recognized as one of the largest conservation centers for an impressive collection of flora and fauna since it was opened in the early 1900. One fun fact about Yangon Zoological Garden is that it was founded in 1901 by the contribution of Myanmar people with the amount of 240,000 Kyats. Construction started at the current location after being approved with a land plot of 61 ha.

The zoo was initially called the Victoria Memoria Park in 1901 to honor Queen Victoria but it was officially renamed into the Zoological Gardens of Yangon in 1951 and consequently becomes one of the most visited attractions for tourists and city residents nowadays.

The zoo is home to nearly 132 species of animals and large shade trees, over 42 species of mammals, 70 species of birds and 20 species of reptiles. Many endangered species include the Bengal tigers, Asian elephants, leopards, hornbills and swamp crocodiles are also conserved here. The garden area consists of an impressive collection of Southeast Asia's prolific flora such as shrubs, bamboo, and seasonal flowers.

Coming to the zoo, visitors especially children will have a chance to witness those playful elephants eating sugarcanes, naughty monkeys climbing and swinging and be impressed by the marvelous nature of Myanmar. There are also many food stalls where visitors can buy food and feed animals like elephants, giraffes or monkeys. In addition to playing around with cute animals, taking photos with them, tourists can also visit the natural history museum located right in the zoo, where one can gain some knowledge about Myanmar history and culture as well as the establishment of the zoo. The museum is also the exhibition site of the Burmese flora species.

The aquarium is a very interesting area that tourists should not miss. This is considered as the first large scale aquarium in the country with colorful and diverse species of fish. Moreover, visitors can be entertained when coming to the amusement park area, with many games and rides suitable for all ages.

On weekends, tourists will be satisfied with the circus performances and dances from the very smart snakes and elephants at the zoo. These animals are being very well taken care of even daily or after the show.

Every month, the zoo will also organize a festival to celebrate its foundation anniversary, where tourists can blend in with the vibrant atmosphere here. Yangon Zoo is surrounded by the Shwedagon Pagoda, Kandawgyi, Garden and Karaweik Hall. Thus, after a long day at the zoo, tourists can also stop by those sites to fully explore Yangon's famous destinations during the trip.

The opening time of the zoo is from 8 AM to 6 PM daily. It is suggested to hire an electric tram at the park to fully explore the whole garden. Elephant or horse service is also available yet trams are still preferred in order to protect and be friendly to these animals.

Yangon Zoological Garden was operated by the Forest Department under the Ministry of Natural Resource and Environmental Conservation until April 2011. Currently, it is operated by Htoo Zoo and Gardens Business Unit under the Htoo Group of Companies.

The objectives of Yangon Zoological Garden are:

- (a) to relax, enjoy and gain knowledge for visitors,
- (b) to support students and researchers learning zoology and botany subjects,
- (c) to support biodiversity and environmental protection activities and promote public participation
- (d) to protect Myanmar native and rare wild animals from extinction and to carry out research activities
- (e) to promote nature-based tourism

There are nine departments in the Yangon Zoological Garden with total 199 employees as shown in Table (3.1).

Table (3.1) Departments and Employees of Yangon Zoological Garden

Name of Department	Number of Employees
Administration Department	13
Account Department	3
Human Resource Department	1
Sales and Customer Service Department	24
Animal Monitoring and Veterinary Care Department	53
Security Department	32
Landscaping Department	33
Maintenance and Engineering Department	25
Education Department	15

Source: Yangon Zoological Garden, 2022

(A) Administration Department

Administration department is managed by Administrator. Administration department is responsible to information technology section and store. The main responsibilities are recruitment and selection of staff, training and development, appraising performance and conducting interviews, to set company's rules and regulations, to motivate employees, to train employees and to consider salary payment.

(B) Accounting Department

Accounting Department has parts cash, account and finance that control account receivable. The department's accountants review the records of each department to determine the company's financial position and any changes required to run the organization cost-effectively.

(C) Sales and Customer Service Department

Sales and Customer Service Department is managed by Senior Ticket Sales Incharge. Assisting with sales, taking cash and balancing a cash register at the end of a shift are typical duties of an entrance gate attendant working a shift at the front desk. Completing refund transactions, issuing gift cards and answering questions about zoo are other core responsibilities. Ticket sales performs basic customer service duties: taking tickets, dealing with questions about pricing and promotions, and performing usher duties.

(D) Engineering and Maintenance Department

Engineering and Maintenance Department are managed by Senior Incharge. Engineering and maintenance department responsibility is the use of scientific principles to design, maintain and build machines, structures, and other things, including bridges, roads, vehicles, and exhibit building in zoological garden. Also checks car cleaning process, period maintenance, and car update list.

(E) Landscaping Department

Landscaping department is generally responsible for the systematic investigation of existing social, ecological, and soil conditions and processes in the landscape, and the design of interventions that will produce the desired outcome in zoological garden. This department provides all manner of care and maintenance of all landscape areas including all hardscapes, perimeter, playgrounds and architectural features within an assigned section. It is expected that the all-landscaping labor will work within and across their section and with other staff in Landscape Management to perform their primary task.

(F) Education Department

This department provide educational and entertaining programs, promote awareness and conservation of plants, animals and natural resources, employee a professional and knowledgeable staff. The education department develops implements and evaluates programs suitable for a variety of audiences. Every program features up-

close and hands-on encounters with a collection of small animals in both formal and informal settings.

3.2.1 Animal Collection of Yangon Zoological Garden

Wildlife conservation includes all human efforts to prevent wild animals from becoming extinct. This includes the protection and wise management of wild species and their environment. While some species become extinct due to natural causes, the greatest danger to wildlife is caused by human activities. The following Table (3.2) shows the animal collection of Yangon Zoological Garden.

Table (3.2) Animal Collection of Yangon Zoological Garden

Particular	Male (No.)	Female (No.)	Total (No.)
Mammals	289	299	588
Birds	247	276	523
Reptiles	12	90	102

Source: Yangon Zoological Garden, 2022

3.2.2 The Condition of Visitors in Yangon Zoological Garden

Animal shows at Yangon Zoological Garden are held at the zoo on public holidays. Visitors can take an elephant or horse ride to the zoo. For the convenience of the visitors, restaurants are open in the zoo. The Natural History Museum is also located in the same compound. Table (3.3) shows the conditions of visitors in Yangon Zoological Garden.

Table (3.3) Number of Visitors in Yangon Zoological Garden

Year	Number
2011-2012	1135699
2012-2013	868704
2013-2014	821192
2014-2015	858226
2015-2016	1018536
2016-2017	1163468
2017-2018	1292349
2018-2019	1529675
2019-2020	1455172
2020-2021	2980

Source: Yangon Zoological Garden, 2022

3.3 Yadanabon Zoological Garden

Yadanarbon Zoological Garden is located at the foot of Mandalay Hill with 53.21-acre recreational park also includes a waterfall, land, pond, mini playground and mini forest. This zoo was built at a cost of 3 million granted by the government of Myanmar and opened on August, 1989 in Mandalay. It is operated by Ministry of Forestry.

Yadanarbon Zoological Gardens operated by the Environmental Conservation and Forest Ministry until April 2011. The Environmental Conservation and Forest Ministry has been leasing out the property to Htoo Group since April 1, 2011.

The purpose of promoting the zoo and providing full service to public. The lease is a 10-year contract with a state fee of Ks 30 million per year. Currently, it has been operated by Htoo Zoos and Gardens Business Unit.

The objectives of Yadanarbon Zoological Garden are:

- (a) to relax, enjoy and gain knowledge for visitors,
- (b) to support students and researchers learning zoology and botany subjects,

- (c) To organize and educate the public to better understand and appreciate the importance of wildlife conservation and protection
- (d) to carry out research activities
- (e) to conserve and breed rare wildlife and birds

There are eight departments in the Yadanarbon Zoological Garden with total 115 employees as shown in Table (3.4).

Table (3.4) Departments and Employees of Yadanarbon Zoological Garden

Name of Department	Number of Employees
Administration Department	5
Account Department	3
Human Resource Department	1
Ticket Sales Department	7
Veterinary Care Department	35
Security Department	24
Horticulture Department	29
Maintenance and Engineering Department	12

Source: Yadanarbon Zoological Garden, 2022

(A) Administration Department

Administration department is managed by Administrator. Administration department is responsible to human resource section and store. Each and every head of department has to submit performance appraisal forms once a year and with the cooperation of human resource department, rewards and punishment are enforced. Store is responsible for stocking all the necessary tools, spare parts, animals ration and equipment. Store section is responsible for storage and managing to distribute the products to require destination smoother and faster without any damage.

(B) Accounting Department

Accounting Department has parts cash, account and finance that control account receivable. Accounting department is managed by Account Manager. It is to get for revenue at main departments which are ticket sale in organization, and to make invoice for ticket sale department for revenue in organization. This department also makes for each month and one year budget and last date is April 28 usually.

(C) Ticket Sales Department

Ticket Sales Department is managed by Senior Ticket Sales Incharge. Assisting with sales, taking cash and balancing a cash register at the end of a shift are typical duties of an entrance gate attendant working a shift at the front desk. Completing refund transactions, issuing gift cards and answering questions about zoo are other core responsibilities. Ticket sales performs basic customer service duties: taking tickets, dealing with questions about pricing and promotions, and performing usher duties.

(D) Veterinary Care Department

Veterinary Care Department is managed by Veterinarian. These departments are generally responsible for the exhibition, day-to-day care, reviewing exhibit, management, health of the animal collection: proper nutrition, preventive medicine, and health care and research programs to ensure that animals in the collection and research programs receive humane care and treatment. The Veterinary Care Department consists of the veterinary staff at the animal hospital, as well as the nutrition and keepers.

(E) Engineering and Maintenance Department

Engineering and Maintenance Department are managed by Engineer. Engineering and maintenance department responsibility is the use of scientific principles to design, maintain and build machines, structures, and other things, including bridges, roads, vehicles, and exhibit building in zoological garden.

3.3.1 Animal Collection of Yadanarbon Zoological Garden

There are about (88) species of animals, Mammals (38) species, Birds (44) species, Reptiles (13) species in the Zoo. It currently plays host to more than (1,000) animals, with approximately (56) exhibits, in a vast natural (53.21) acre setting. Table (3.5) shows the animal collection of Yadanarbon Zoological Garden.

Table (3.5) Animal Collection of Yadanarbon Zoological Garden

Particular	Male (No.)	Female (No.)	Total (No.)
Mammals	162	184	346
Birds	96	104	200
Reptiles	86	85	171

Source: Yadanarbon Zoological Garden, 2022

3.3.2 The Condition of Visitors in Yadanarbon Zoological Garden

Table (3.6) shows the conditions of visitors in Yadanarbon Zoological Garden.

Table (3.6) Number of Visitors in Yadanarbon Zoological Garden

Year	Number
2011-2012	574855
2012-2013	481343
2013-2014	519786
2014-2015	524423
2015-2016	639606
2016-2017	697382
2017-2018	697461
2018-2019	745553
2019-2020	652947
2020-2021	821

Source: Yadanarbon Zoological Garden, 2022

3.4 Nay Pyi Taw Zoological Garden

The Naypyidaw Zoological Gardens located in Naypyidaw is the largest zoo in South East Asia. Located on the Yangon-Mandalay highway about 250 miles north of Yangon, the 612-acre zoo opened its doors on March 26, 2008 with about 420 animals trucked in from the Yangon Zoological Gardens.

There are about (121) species of animals, (46) mammal species, (60) bird species, (15) reptile species in the Zoo. It currently plays host to more than (1,000) animals, with approximately (56) exhibits, in a vast natural (53.21) acre setting. The zoo was operated by Htoo Zoos and Gardens Business Unit since March 1, 2011.

The objectives of establishing the Nay Pyi Taw Zoological Garden are:

- (a) to enjoy and gain knowledge for people who come to relax,
- (b) to help students learn zoology and botany subjects,
- (c) to support environmental protection activities,
- (d) to carry out research activities,
- (e) to promote nature-based tourism,
- (f) to relax and gain knowledge about the natural habitats of wild animals not only in Myanmar but also in some countries around the World,
- (g) to preserve and breed some animals that are rare and endangered in the World and Myanmar in order to propagate the generation, and
- (h) to raise public awareness of environmental and ecological concepts.

There are eleven departments in the Nay Pyi Taw Zoological Garden with total 205 employees as shown in Table (3.7).

Table (3.7) Departments and Employees of Nay Pyi Taw Zoological Garden

Name of Department	Number of Employees
Administration Department	8
Account Department	3
Human Resource Department	2
Information Technology Department	1
Food Store Department	6
Security Department	29
Ticket Sales Department	17
Monitor and Evaluation Department	20
Landscaping Department	29
Veterinary Care Department	81
Planetarium Department	3
Landmark Department	5
Education Department	1

Source: Nay Pyi Taw Zoological Garden, 2022

(A) Administration Department

Administration department is managed by Administrator. Administration department is responsible to human resource department and food store department. Human Resource is important to hire the right people to the right. Currently, human resource department is total of two people, one of department head and one of assistant.

The main responsibilities of Human Resource Department are recruitment and selection of staff, training and development, appraising performance and conducting interviews, to set company's rules and regulations, to motivate employees, to train employees and to consider salary payment.

Food store department is responsible for stocking all the necessary tools, spare parts, animals ration and equipment. Store section is responsible for storage and managing to distribute the products to require destination smother and faster without any damage.

(B) Accounting Department

Accounting department has parts cash, account and finance that control account receivable. Accounting department is managed by Account Manager. It is to get for revenue at main departments which are ticket sale in organization, and to make invoice for ticket sale department for revenue in organization. This department also makes for each month and one year budget and last date is April 28 usually.

Accounting department controls revenue, expense and income for financial report, profit and loss on time report of all departments in organization. An accounting department provides accounting services and financial support to the organization it belongs to. The department records account payable and receivable, inventory, payroll, fixed assets and all other financial elements. The department's accountants review the records of each department to determine the company's financial position and any changes required to run the organization cost-effectively.

(C) Ticket Sales Department

Ticket sales department is managed by Senior Ticket Sales Incharge. Assisting with sales, taking cash and balancing a cash register at the end of a shift are typical duties of an entrance gate attendant working a shift at the front desk. Completing refund transactions, issuing gift cards and answering questions about zoo are other core responsibilities. Ticket sales performs basic customer service duties: taking tickets, dealing with questions about pricing and promotions, and performing usher duties.

(D) Veterinary Care Department

Veterinary care department is managed by Veterinarian. These departments are generally responsible for the exhibition, day-to-day care, reviewing exhibit, management, health of the animal collection: proper nutrition, preventive medicine, and health care and research programs to ensure that animals in the collection and research programs receive humane care and treatment. The Veterinary Care Department consists of the veterinary staff at the animal hospital, as well as the nutrition and keepers.

(E) Landscaping Department

Landscaping department is managed by Supervisor. These departments are generally responsible for the systematic investigation of existing social, ecological, and soil conditions and processes in the landscape, and the design of interventions that will produce the desired outcome in zoological garden. The Landscaping Department provides all manner of care and maintenance of all landscape areas including all hardscapes, perimeter, playgrounds and architectural features within an assigned section. It is expected that the all-landscaping labor will work within and across their section and with other staff in Landscape Management to perform their primary task.

(F) Education Department

Education Department is managed by Senior Staff. The Education Department vision is to inspire everyone within our reach to take positive action to protect wildlife and wild places. Zoo Education Mission is to provide educational and entertaining programs, promote awareness and conservation of plants, animals and natural resources, employ a professional and knowledgeable staff. In support of zoo mission, the Education Department develops implements and evaluates programs suitable for a variety of audiences. Every program features up-close and hands-on encounters with a collection of small animals in both formal and informal settings.

3.4.1 Animal Collection Nay Pyi Taw Zoological Garden

Today, there is a growing public concern about the use and management of domestic and wild animals, largely supported by animal rights and welfare organizations. At the same time, there is strong support for the conservation of endangered species. Both the concepts of animal rights and conservation are ethical aspects, and it is important to consider that concepts of animal rights differ from the concept of animal welfare.

Since the goal of conservation is to preserve wild animals that can freely range and survive, conservation efforts must focus on preserving the natural environment while meeting human needs. Similarly, the goal of animal welfare is to sustain the quality of life of all species.

The following Table (3.8) shows the animal collection of Nay Pyi Taw Zoological Garden.

Table (3.8) Animal Collection of Nay Pyi Taw Zoological Garden

Particular	Male (No.)	Female (No.)	Total (No.)
Mammals	167	176	343
Birds	168	155	323
Reptiles	17	24	41

Source: Nay Pyi Taw Zoological Garden, 2022

3.4.2 The Condition of Visitors in Nay Pyi Taw Zoological Garden

Nay Pyi Taw Zoological Garden bring people closer to nature by creating environments that immerse people in nature through education. Today, this zoological garden is an animal conservation, environmental education; It is known as a place of research and especially entertainment. Table (3.9) shows the condition of visitors in Nay Pyi Taw Zoological Garden.

Table (3.9) Number of Visitors in Nay Pyi Taw Zoological Garden

Year	Number
2011-2012	362518
2012-2013	301661
2013-2014	367163
2014-2015	353056
2015-2016	341414
2016-2017	329067
2017-2018	332646
2018-2019	299135
2019-2020	268641
2020-2021	1616

Source: Nay Pyi Taw Zoological Garden, 2022

CHAPTER IV

SVRVEY ANANLYSIS

4.1 Survey Area Profile

The survey area is Yangon Zoological Garden. It is operated by Htoo Zoo and Gardens Business Unit under the Htoo Group of Companies. There are nine departments in the Yangon Zoological Garden with total 199 employees.

Total area is about 57.75 acres recreational park also includes a museum of natural history, an aquarium and an amusement park. Every month, the zoo will also organize a festival to celebrate its foundation anniversary, where tourists can blend in with the vibrant atmosphere here. The opening time of the zoo is from 8 AM to 6 PM daily.

4.2 Survey Design

To answer the question of the study, the research conducted a survey to access the visitors' responses in the form of a structured questionnaire. The study was conducted using a simple random sampling method and 300 visitors to the Yangon Zoological Garden. The survey is based on voluntary participation interviewed during November 2022 for this study. The questionnaire was divided into four parts: (A) characteristics of the respondent, (B) visit pattern of the respondent, (C) respondent perception on Yangon Zoological Garden, (D) respondent satisfaction on the staffs Yangon Zoological Garden and (E) respondent assessment on Yangon Zoological Garden.

The survey questionnaire had multiple choice questions and used five points 'Likert Scale' (Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, and Strongly agree = 5). The collected data were tabulated according to the direction of the study by applying descriptive statistics. The survey questionnaire was first written in Myanmar and then the attached questionnaire was translated into English.

4.3 Survey Results

The survey result presents the opinion of 300 visitors on Yangon Zoological Garden.

4.3.1 Characteristics of the Respondents

Table (4.1) shows the gender, age, marital status, level of education, occupation status and monthly income of 300 respondents.

Table (4.1) Characteristics of Respondents

Particular	No. of Respondents	Percentage
Gender		
(a) Male	175	58.3
(b) Female	125	41.7
Total	300	100
Age Group (Years)		
(a) Less than 20	140	46.7
(b) 20 – 30	97	32.6
(c) 31 – 40	45	15.0
(d) 41 – 50	10	3.0
(e) More than 51	8	2.7
Total	300	100
Marital Status		
(a) Single	233	77.6
(b) Married	67	22.4
Total	300	100
Level of Education		
(a) Primary School	85	28.3
(b) Middle School	65	21.7
(c) High School	75	25.0
(d) University	40	13.3
(e) Graduate	25	8.4
(f) Post Graduate	10	3.3
Total	300	100

Occupation Status		
(a) Student	220	73.3
(b) Private Employee	45	15.0
(c) Government Employee	15	8.7
(d) Business Owner	20	3.0
Total	300	100
Monthly Income (Kyat)		
(a) Less than 100,000	47	15.6
(b) 100,000 – 200,000	36	12.0
(c) 200,000 – 300,000	75	25.0
(d) 300,000 – 400,000	85	28.3
(e) 400,000 – 500,000	38	12.7
(f) Above 500,000	19	6.4
Total	300	100

Source: Survey data, 2022

From Table (4.1), most of respondents are male and less than 20 years old. The majority of respondents are male and undergraduate level. Within 300 respondents, 220 respondents (73.3%) are student, 45 respondents (15%) are private employee, 15 respondents (8.7%) are government employee and 20 respondents (3.0%) are business owner. Most of the respondents earn between 300,000 kyat and 400,000 kyat per month.

4.3.2 Visit Pattern of Respondents

This section presents the visit pattern of respondents such as travel companion, main transportation, number of visited, last visited period, frequency of visit, preferred time to visit, time spends of visit, expenses of visit, influence of visit and source of information.

Table (4.2) Visit Pattern of Respondents

Particular	No. of Respondents	Percentage
Travel Companion		
(a) Alone	15	5.0
(b) Couple	45	15.0
(c) Family	135	45.0
(d) Friends	105	35.0
Total	300	100
Main Transportation		
(a) Private Car	85	28.3
(b) Public Bus	105	35.0
(c) Taxi	110	36.7
Total	300	100
Visited		
(a) One	75	25.0
(b) Two	70	23.3
(c) Three or more	155	51.7
Total	300	100
Last Visit		
(a) Last Six Month	65	21.7
(b) Last One Year	70	23.3
(c) Last Five Years	60	20.0
(d) I Can't Remember	105	35.0
Total	300	100
Frequency of Visit		
(a) Once a Week	20	6.7
(b) Once a Month	20	6.7
(c) Every Three Months	30	10.0
(d) Every Six Months	30	10.0
(e) Every One Year	70	23.3
(f) Every Two Years	30	10.0
(g) Every Three Years	100	33.3
Total	300	100

Preferred Time to Visit		
(a) Weekends	90	30.0
(b) Public Holidays/Festival	50	16.7
(c) Weekday (Monday – Friday)	5	1.7
(d) During Vacation Time	155	51.6
Total	300	100
Time Spends of Visit		
(a) Less than One Hour	15	5.0
(b) Between One Hour to Three Hours	150	50.0
(c) More than Three Hours	135	45.0
Total	300	100
Expenses of Visit (Kyat)		
(a) Less than 5,000	45	15.0
(b) Between 5,000 – 10,000	30	10.0
(c) Between 10,000 – 20,000	65	21.7
(d) More than 20,000	160	53.3
Total	300	100
Influence of Visit		
(a) Myself	55	18.3
(b) Family	135	45.0
(c) Friends	70	23.3
(d) Partner	40	13.4
Total	300	100
Source of Information		
(a) Previous Experience	160	53.3
(b) Billboard	90	30.0
(c) Brochure	10	3.3
(d) Websites	40	13.4
Total	300	100

Source: Survey data, 2022

Regarding from 300 respondents (Table 4.2), mostly respondents said that they have visited Yangon Zoological with their family or friends. Most of the respondents come by bus or taxi. Many respondents have visited Yangon Zoological Garden more

than three times and only arrived during vacation time. Mostly respondents took about three hours to visit in the Yangon Zoological Garden and they spend more than 20,000 Kyat. The majority respondents answered that their family want to visit and their past experience of visiting to Yangon Zoological Garden.

4.3.3 Respondents Perception on Yangon Zoological Garden Activities

This section presents the respondents perception on Yangon Zoological Garden are described in four roles. These are education, recreation, conservation and wild animal living in captivity.

Table (4.3) Education

Particular	Mean	S.D
There is a full range of educational exhibits that provide knowledge about wildlife.	3.5	0.3
The Natural History Museum and the Elephant Museum offer a wealth of knowledge and experience to visitors.	3.3	0.5
By studying the elephant museum, the visitors learn about the reasons why the illegal trade in animal products is not allowed.	3.2	0.2
Learn more about different feeding and keeping practices for different types of animals.	3.7	0.4
Overall mean value	3.4	0.4

Source: Survey Data, 2022

According to result Table (4.3), the mean value is greater than 3 showed that mostly respondents satisfied on full range of educational exhibits that provide knowledge about wildlife. The mean value is greater than 3 showed that mostly respondents satisfied on Natural History Museum and the Elephant Museum offer a wealth of knowledge and experience to visitors. The mean value is greater than 3 showed that mostly respondents satisfied on studying the elephant museum, the visitors learn about the reasons why the illegal trade in animal products is not allowed. The mean value is greater than 3 showed that most of the respondents satisfied to learn more about different feeding and keeping practices for different types of animals.

Most of the respondents have satisfied on education activities of Yangon Zoological Garden.

Table (4.4) Recreation

Particular	Mean	S.D
The trees and animals in Yangon Zoological Garden bring visitors a sense of well-being and stress reduction.	3.7	0.2
Feeding the animals is arranged, which is a blessing for those who want to donate food.	3.8	0.1
Playgrounds are safe for children and reassuring for parents.	3.2	0.3
Exhibits of clever animals bring joy to the visitor mind.	3.3	0.1
Overall mean value	3.5	0.2

Source: Survey data, 2022

From Table (4.4), the mean value is greater than 3 mentioned that mostly respondents satisfied on well-being and stress reduction from trees and animals. The mean value is greater than 3 showed that most respondents satisfied to feeding the animals is arranged which is a blessing for those who want to donate food. The mean value is greater than 3 showed that mostly respondents satisfied on the playgrounds are safe for children and reassuring for parents. The mean value is greater than 3 showed that most respondents satisfied to exhibition of clever animals will delight the hearts of visitors.

Most respondents have satisfied on recreation activities of Yangon Zoological Garden.

Table (4.5) Conservation

Particular	Mean	S.D
Yangon Zoological Garden helps the environment by conserving endangered animals.	3.6	0.5
Animal conservation activities are helpful for zoological studies.	3.8	0.2
The animals are well-kept in Yangon Zoological Garden.	3.2	0.6
Yangon Zoological Garden is a place where wild animals are well preserved.	3.3	0.1
Overall mean value	3.5	0.4

Source: Survey data, 2022

Regarding from Table (4.5), the mean value is greater than 3 showed that mostly respondents satisfied to Yangon Zoological Garden helps the environment by conserving endangered animals. The mean value is greater than 3 showed that mostly respondents satisfied to animal conservation activities are helpful for zoological studies. The mean value is greater than 3 showed that mostly respondents satisfied to the animals are well-kept. The mean value is greater than 3 showed that mostly respondents satisfied on place where wild animals are well preserved.

Most of the respondents have satisfied on conservation activities in Yangon Zoological Garden.

Table (4.6) Wild Animal Living in Captivity

Particular	Mean	S.D
The animals kept in the Yangon Zoological Garden are stressed because they are different from the natural way of life.	4.0	0.2
Yangon Zoological Garden supports the ecosystem by conserving rare wild animals.	4.2	0.5
Yangon Zoological Garden is a place to preserve endangered animals.	4.0	0.3
Overall mean value	4.1	0.3

Source: Survey data, 2022

According to result of 300 respondents (Table 4.6), the mean value is greater than 3 showed that mostly respondents satisfied to the animals kept in the Yangon Zoological Garden are stressed because they are different from the natural way of life. The mean value is greater than 3 showed that mostly respondents satisfied on the ecosystem by conserving rare wild animals. The mean value is greater than 3 showed that most of the respondents satisfied on a place to preserve endangered animals.

Most of the respondents have satisfied on wild animal living in captivity activities in Yangon Zoological Garden.

4.3.4 Respondents' Satisfaction on Yangon Zoological Garden Staffs

This section presents the services of Yangon Zoological staffs to the visitors mentioned in relation to the satisfaction of the respondents.

Table (4.7) Respondents' Satisfaction on Yangon Zoological Garden Staffs

Particular	Mean	S.D
Ability to provide public awareness about the mammals.	4.0	0.2
Ability to provide public awareness about the birds.	3.9	0.8
Ability to provide public awareness about the reptiles.	3.3	0.5
Ability to provide public awareness about natural history museum.	4.1	0.1
Ability to provide public awareness about the elephant museum.	3.4	0.3
Public satisfices on care of the elephant Mo Mo.	3.5	0.5
Public satisfies on service of animal food shop.	3.9	0.2
Public satisfies on service of buggy.	3.4	0.1
Public satisfies on free animals show.	3.8	0.2
Public satisfies on taking photo in Yangon Zoological Garden	3.3	0.1
Public satisfies on service of Yangon Zoological Garden security team.	4.0	0.5
Yangon Zoological Garden sales and marketing department polite treatment to customers.	3.8	0.7
Wheel chair service to disabled persons and old age people.	3.8	0.2
Emergency health care service is provided.	3.4	0.5
Overall mean value	3.7	0.4

Source: Survey data, 2022

Above from Table (4.7), the mean value is greater than 3 showed that the majority of respondents satisfied on Yangon Zoological Garden staffs' ability to provide public awareness about the mammals. The mean value is greater than 3 showed that mostly respondents satisfied to provide public awareness about the birds. The mean

value is greater than 3 showed that that mostly respondents are neutral position to provide public awareness about the reptiles.

The mean value is greater than 3 showed that most of the respondents are satisfied with the explanations given by the Yangon Zoological Garden staffs on the natural history museum and the mean value is greater than 3 showed that mostly respondents are neutral position to provide public awareness about the elephant museum.

The mean value is greater than 3 showed that most respondents are satisfied on care of the elephant Mo Mo. the mean value is greater than 3 showed that most of the respondents are satisfied on service of animal food shop. The mean value is greater than 3 showed that most respondents are satisfied on service of buggy.

The mean value is greater than 3 showed that at mostly respondents are satisfied on free animals show and satisfied on taking photo in Yangon Zoological Garden. The mean value greater than 3 showed that mostly respondents are satisfied on service of Yangon Zoological Garden security team.

Mostly respondents said that Yangon Zoological Garden sales and marketing department polite treatment to customers. And also, most of respondents said that Yangon Zoological Garden staffs are provided wheel chair service to disabled persons and old age people and emergency health care service.

4.3.5 Respondents Evaluation on Yangon Zoological Garden

This section presents the respondents' evaluation of Yangon Zoological Garden includes knowledge and experience, social, escape and seeking, achievement, attraction, infrastructure, activities, staff and services, animals and recommendations.

Table (4.8) Knowledge and Experience

Particular	Mean	S.D
Receive new knowledge and experience.	3.8	0.2
Learn about animals' life.	4.0	0.5
Learn about animals' conservation.	3.7	0.1
Overall mean value	3.8	0.3

Source: Survey data, 2022

In the study of knowledge and experience (Table 4.8), the overall mean value is greater than 3 showed that most of respondents said that they have got new knowledge and experience. And also, they were learning about animals' life and conservation from Yangon Zoological Garden.

Table (4.9) Socialize

Particular	Mean	S.D
Spend time with family.	3.9	0.4
Meet new friends.	3.4	0.1
Interact with other people.	3.3	0.5
Overall mean value	3.5	0.3

Source: Survey data, 2022

Regarding from Table (4.9), the overall mean value is greater than 3 showed that most respondents spent time with family. And also, they have not to meet new friends and interacted with others at Yangon Zoological Garden.

Table (4.10) Escape

Particular	Mean	S.D
Take a rest.	3.9	0.5
Escape from daily routine.	4.0	0.2
Enjoy a good weather.	4.0	0.1
Relieve stress and tension.	4.1	0.7
Have fun.	4.2	0.3
Overall mean value	4.0	0.4

Source: Survey data, 2022

From Table (4.10), the overall mean value is greater than 3 showed that most of the respondents said that they have taken a rest, escaped from daily routine, enjoyed a good weather, relieved stress and tension and got to have fun from Yangon Zoological Garden.

Table (4.11) Obtainability

Particular	Mean	S.D
Visit new place.	3.6	0.4
Get close to nature.	3.7	0.7
Experience something different	3.9	0.1
Overall mean value	3.7	0.4

Source: Survey data, 2022

Regarding from Table (4.11), the overall mean value is greater than 3 showed that mostly respondents said that they have visited new place and they were close to nature and could experience different things from Yangon Zoological Garden.

Table (4.12) Attraction

Particular	Mean	S.D
Good location and easy to access.	3.8	0.2
Information about services and activities were easily accessible.	3.4	0.5
Have fully satisfaction for using money.	3.5	0.1
Safe destination	3.8	0.6
Overall mean value	3.6	0.4

Source: Survey data, 2022

Regarding the result of Table (4.12), the overall mean value is greater than 3 showed that mostly respondents agreed that Yangon Zoological Garden is good location and easy to access, information about services and activities were easily accessible. Most respondents have fully satisfaction for using money in Yangon Zoological Garden and safe destination.

Table (4.13) Infrastructure

Particular	Mean	S.D
Provides clear sign posts.	3.5	0.3
Well-equipped visitor center.	3.7	0.2
Offers a secure environment.	3.6	0.8
Convenient infrastructure.	3.8	0.4
Overall mean value	3.7	0.4

Source: Survey data, 2022

In the study on infrastructure of Yangon Zoological Garden (Table 4.13), the overall mean value is greater than 3 showed that most of respondents agreed to provides clear sign posts, well-equipped visitor center, offers a secure environment and convenient infrastructure.

Table (4.14) Activities

Particular	Mean	S.D
Variety activities.	3.5	0.3
Can takes photo with animals.	3.6	0.1
Variety of animals' show.	3.2	0.5
Overall mean value	3.4	0.3

Source: Survey data, 2022

According to result of Table (4.14), the overall mean value is greater than 3 showed that most of respondents agreed to variety activities in Yangon Zoological Garden and they took photo with animals. Moreover, some respondents are satisfied on variety of animals' show in Yangon Zoological Garden.

Table (4.15) Staff and Services

Particular	Mean	S.D
Friendly and helpful staff.	3.7	0.5
Readiness of staff for answer question.	3.8	0.1
Good quality of service.	3.7	0.3
Overall mean value	3.7	0.3

Source: Survey data, 2022

Above from Table (4.15), the overall mean value is greater than 3 showed that many respondents said that Yangon Zoological staffs are friendly and helpful. In addition, the staffs are well-prepared to answer all visitors' question and they are providing good service.

Table (4.16) Animals

Particular	Mean	S.D
Variety of animals.	3.3	0.5
Good animals' health care.	3.4	0.7
Overall mean value	3.35	0.6

Source: Survey data, 2022

Regarding from Table (4.16), the overall mean value is greater than 3 showed that most of the respondents agreed that there are many animals to see in Yangon Zoological Garden and the animals are kept in good health.

Table (4.17) Recommendations

Particular	Mean	S.D
Overall satisfaction for this visit.	4.1	0.5
Recommend Yangon Zoological Garden to your friends or relatives.	4.0	0.2
Overall mean value	4.05	0.35

Source: Survey data, 2022

Regarding from Table (4.17), the overall mean value is greater than 3 showed that mostly respondents have overall satisfaction for this visit and most of the respondents recommended visiting friends or relatives to Yangon Zoological because they have satisfied on services of Yangon Zoological Garden.

CHAPTER V

CONCLUSION

5.1 Findings

Myanmar has three zoological gardens, namely Nay Pyi Taw Zoological Garden, Yangon Zoological Garden and Yadanabon Zoological Garden. Within three zoological gardens, Yangon Zoological Garden is founded in 1901 and oldest zoological garden in Myanmar.

The study was conducted on 300 visitors to the Yangon Zoological Garden. Most of respondents are male and less than 20 years old. The majority of respondents are male and undergraduate level.

Mostly respondents said that they have visited Yangon Zoological with their family or friends. Most of the respondents come by bus or taxi. Many respondents have visited Yangon Zoological Garden more than three times and only arrived during vacation time. Mostly respondents took about three hours to visit in the Yangon Zoological Garden and they spend more than 20,000 Kyat.

Mostly respondents strongly agree and agree to Yangon Zoological is a full range of educational exhibits that provide knowledge about wildlife. Above 120 respondents strongly agree and agree by studying the elephant museum, the visitors learn about the reasons why the illegal trade in animal products is not allowed. More than 200 respondents strongly agree and agree to learn more about different feeding and keeping practices for different types of animals.

Most of respondents strongly agree and agree to feeding the animals is arranged which is a blessing for those who want to donate food. Mostly respondents strongly agree and agree that Yangon Zoological Garden's exhibition of clever animals will delight the hearts of visitors.

About 240 respondents strongly agree and agree to Yangon Zoological Garden supports the ecosystem by conserving rare wild animals. Most of respondents strongly agree and agree to Yangon Zoological Garden is a place to preserve endangered animals.

The majority of respondents said that they have satisfied on Yangon Zoological Garden staffs' ability to provide public awareness about the mammals, the birds and the reptiles. Most of respondents are satisfied with the explanations given by the Yangon Zoological Garden staffs on the natural history museum and the elephant museum.

Mostly respondents said that Yangon Zoological Garden sales and marketing department polite treatment to customers. And also, most of respondents said that Yangon Zoological Garden staffs are provided wheel chair service to disabled persons and old age people and emergency health care service.

Most of respondents said that they have got new knowledge and experience. And also, they were learning about animals' life and conservation from Yangon Zoological Garden. Mostly respondents strongly agree and agree to Yangon Zoological Garden is good location and easy to access, information about services and activities were easily accessible and safe destination.

Most of the respondents said that there are many animals to see in Yangon Zoological Garden and the animals are kept in good health. Therefore, most of the respondents recommended visiting friends or relatives to Yangon Zoological Garden because they have satisfied on services of Yangon Zoological Garden.

5.2 Suggestions

Visitors' satisfaction is what drives the success of Yangon Zoological Garden. Therefore, Yangon Zoological Garden should always focus on the satisfaction of visitors. According to the results of the survey, most of the respondents were satisfied with the knowledge and experience of animal life and conservation at Yangon Zoological Garden.

Moreover, the employees of the sales and marketing department are satisfied with the polite treatment of the customers. In addition, visitors expressed satisfaction

with the provision of wheelchair services and emergency health care services for the disabled and elderly.

The study suggests that the foreign animal species should be displayed as much as possible, and local animal species should be created in Yangon Zoological Garden. The animal farms and landscapes should be kept in a grand style while keeping them in harmony with the environment. Animal and Human Interaction educational story models should be created and displayed. The Yangon Zoological Garden management team should continue the trainings for the high capacity of employees.

The animal welfare and visibility to become important for the public. Accordingly, the management of Yangon Zoological Garden should be balance conservation and education of zoos with recreational needs of visitors to generate the needed revenues and improve visitor satisfaction.

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Websites

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www.zoocrew.eu/docs

SURVEY QUESTIONNAIRE

I am studying Master of Public Administration at Yangon University of Economics. I have designed the following questionnaire for the study on “**An Analysis on the Satisfaction of Visitors in Yangon Zoological Garden**” - which requires for my thesis work as an integral part of the study to complete the Master Program. Please be answered that your responses will be strictly confidential.

I would highly appreciate if you answer the following questionnaire. It will take approximately 15 – 20 minutes. I expect your kind cooperation and thanks for your time. Please make (X) a box for each question.

Part A - Characteristics of respondent

- 1) Gender (a) Male (b) Female
- 2) Age () Years
- 3) Marital Status
(a) Single (b) Married (c) Widow/Widower (d) Divorce
- 4) Level of Education
(a) Primary school (b) Middle school (c) High school
(d) University level (e) Graduate level (f) Post Graduate level
- 5) Occupation Status
(a) Student (b) Private employee (c) Government employee
(d) Business owner (e) Others (Specify) _____
- 6) Monthly Income (Pocket money if respondents are student)
(a) Less than 100,000 Kyat (b) 100,000 – 200,000 Kyat
(c) 200,000 – 300,000 Kyat (d) 300,000 – 400,000 Kyat
(e) 400,000 – 500,000 Kyat (f) Above 500,000 Kyat

Part B –Visit pattern of respondent

- 1) Travel companion
 - (a) Alone (b) Couple (c) Family (d) Friends
- 2) Main transportation
 - (a) Private car (b) Public bus (c) Taxi
- 3) Have you ever visited Yangon Zoological Garden?
 - (a) One (b) Two (c) Three or more
- 4) When was your last visit to Yangon Zoological Garden?
 - (a) Last six months (b) Last one year (c) Last five years
 - (d) I can't remember
- 5) How often do you visit Yangon Zoological Garden?
 - (a) Once a week (b) Once a month (c) Every three months
 - (d) Every six months (e) Every one year (f) Every two years
 - (g) Every three years
- 6) Preferred time to visit Yangon Zoological Garden.
 - (a) Weekends (b) Public holidays/Festival
 - (c) Weekday (Monday – Friday) (d) During vacation time
- 7) Time spent in Yangon Zoological Garden
 - (a) Less than one hour (b) Between one hour to three hours
 - (c) More than three hours
- 8) Expense used for each visit
 - (a) Less than 5,000 kyat (b) Between 5,000 kyat and 10,000 kyat
 - (c) Between 10,000 kyat and 20,000 kyat (d) More than 20,000 kyat
- 9) Influence for your visit
 - (a) Myself (b) Family (c) Friends (d) Partner
- 10) Source of information for visit to Yangon Zoological Garden.
 - (a) Previous experience (b) Billboard (c) Brochure (d) Websites
 - (e) Other (Specify) _____

Part C – Respondent Perception on Yangon Zoological Garden

Please indicate your level on the following statement by (X) for each number.

(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

Education	1	2	3	4	5
There is a full range of educational exhibits that provide knowledge about wildlife.					
The Natural History Museum and the Elephant Museum offer a wealth of knowledge and experience to visitors.					
By studying the elephant museum, the visitors learn about the reasons why the illegal trade in animal products is not allowed.					
Learn more about different feeding and keeping practices for different types of animals.					
Recreation	1	2	3	4	5
The trees and animals in Yangon Zoological Garden bring visitors a sense of well-being and stress reduction.					
Feeding the animals is arranged, which is a blessing for those who want to donate food.					
Playgrounds are safe for children and reassuring for parents.					
Exhibits of clever animals bring joy to the visitor mind.					
Conservation	1	2	3	4	5
Yangon Zoological Garden helps the environment by conserving endangered animals.					
Animal conservation activities are helpful for zoological studies.					
The animals are well-kept in Yangon Zoological Garden?					
Yangon Zoological Garden is a place where wild animals are well preserved?					
Wild Animal Living in Captivity	1	2	3	4	5
The animals kept in the Yangon Zoological Garden are stressed because they are different from the natural way of life.					
Yangon Zoological Garden supports the ecosystem by conserving rare wild animals.					
Yangon Zoological Garden is a place to preserve endangered animals?					

Part D – Respondent Satisfaction on the Staffs of Yangon Zoological Garden

Please indicate your level on the following statement by (X) for each number.

(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

Respondent Satisfaction on Yangon Zoological Garden Staffs	1	2	3	4	5
Ability to provide public awareness about the mammals.					
Ability to provide public awareness about the birds.					
Ability to provide public awareness about the reptiles.					
Ability to provide public awareness about natural history museum.					
Ability to provide public awareness about the elephant museum.					
Public satisfices on care of the elephant Mo Mo.					
Public satisfies on service of animal food shop.					
Public satisfies on service of buggy.					
Public satisfies on free animals show.					
Public satisfies on taking photo in Yangon Zoological Garden					
Public satisfies on service of Yangon Zoological security team.					
Yangon Zoological Garden sales and marketing department Polite treatment to customers					
Wheel chair service to disabled persons and old age people					
Emergency health care service is provided					

Part E – Respondent Evaluation on Yangon Zoological Garden

Please indicate your level on the following statement by (X) for each number.

(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

Knowledge and experience	1	2	3	4	5
1. I receive new knowledge and experience by visiting Yangon Zoological Garden.					
2. I learn about animals' life.					
3. I learn about animals' conservation.					
Socialize	1	2	3	4	5
1. I spend time with family					
2. I meet new friends					
3. I interact with other people.					

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Escape	1	2	3	4	5
1. I take a rest.					
2. I escape from daily routine.					
3. I enjoy a good weather.					
4. I relieve stress and tension.					
5. I have fun.					
Obtainability	1	2	3	4	5
1. I visit new place					
2. I get close to nature.					
3. I experience something different					
Attraction	1	2	3	4	5
1. Good location and easy to access.					
2. Information about services and activities were easily accessible.					
3. I have fully satisfaction for using money in Yangon Zoological Garden.					
4. Safe destination.					
Infrastructure	1	2	3	4	5
1. Provides clear sign posts.					
2. Well-equipped visitor center.					
3. Offers a secure environment.					
4. Convenient infrastructure.					
Activities	1	2	3	4	5
1. Variety activities.					
2. Can takes photo with animals.					
3. Variety of animals' show.					
Staff and services	1	2	3	4	5
1. Friendly and helpful staff.					
2. Readiness of staff for answer question.					
3. Good quality of service.					
Animals	1	2	3	4	5
1. Variety of animals					

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2. Good animals' health care					
Recommendations	1	2	3	4	5
1. Overall satisfaction for this visit					
2. Recommend Yangon Zoological Garden to your friends or relatives					

Thanks for your participation.

Mammals of Nay Pyi Taw Zoological Garden

No.	Common Name	Male	Female	Total
1	Asiatic Elephant	0	4	4
2	White Rhinoceros	1	1	2
3	Malayan Tapir	1	1	2
4	Tiger	5	4	9
5	White Tiger	0	2	2
6	Leopard	1	1	2
7	Jaguar	1	0	1
8	Mythun	1	0	1
9	Dromedary Camel	0	1	1
10	Hippopotamus	1	5	6
11	Pygmy Hippopotamus	0	1	1
12	Zebra	1	2	3
13	Blue gnu (Willdebest) (Blue wild beest)	1	1	2
14	Nyala	1	2	3
15	Serow	3	1	4
16	Fishing Cat	5	6	11
17	Indian Ferret Barger	0	1	1
18	Binturong	0	1	1
19	Leopard Cat	2	0	2
20	Common Palm Civet	5	3	8
21	Masked Palm Civet	1	1	2
22	Sun Bear	3	0	3
23	Asian Black Bear	11	7	18
24	Muntjæ Deer	8	7	15
25	Mouse Deer	1	3	4
26	Sambar Deer	36	43	79
27	Hog Deer	29	30	59
28	Eld's Deer	35	33	68
29	Dusky leaf Monkey	1	0	1
30	Gibbon	0	4	4

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31	Rhesus Macaque	27	26	53
32	Crab-eating Macaque	3	1	4
33	Pig-tailed Macaque	11	12	23
34	Stump tailed Macaque	2	1	3
35	Slow loris	0	1	1
36	Smooth-Cooted otter	2	7	9
37	Rabbit	11	14	25
38	Guinea Pig	72	64	136
39	Crested porcupine	4	3	7
40	Lion	0	1	1
41	Lavardore	0	1	1
42	Wild boar	3	3	6

Source: Yangon Zoological Garden, 2022

Birds of Yangon Zoological Garden

No.	Common Name	Male	Female	Total
1	Cassowary	3	6	9
2	Sarus Crane	1	1	3
3	Red & Green Macaw	2	2	4
4	Pink Cockatoo	0	1	1
5	Sulphur-crested cockatoo	1	1	3
6	Alexandrine Para keet	7	9	16
7	Hanging parrot	5	3	8
8	Blosson headed parakeet	0	1	1
9	Love Bird	1	1	2
10	Budgerigar	5	5	13
11	Gray Headed Parakeet	0	3	3
12	Red Breasted Parakeet	5	6	12
13	Cockatiel	3	3	7
14	Vernal Hanying Pattot	3	4	7
15	Kalij Pheasant	4	4	8
16	Imperial Peasant	1	0	1

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17	Guinea fowl	1	0	1
18	Silver Pheasant	3	3	6
19	Cochin chicken	2	5	7
20	Tungle Fowl	2	5	7
21	Green Peafowl	10	15	25
22	Great Argus Pheasant	3	2	5
23	Pied Hornbill	3	5	8
24	Rufous-necked Hornbill	1	0	1
25	Great Hornbill	3	3	6
26	Fantail Pigeon	20	15	35
27	Pied pigeon	9	9	18
28	Rock pigeon Pheasant	9	9	18
29	White Dove	7	11	18
30	Little cuckoo Dove	0	1	1
31	Green Pigeon	4	3	7
32	Green Imperial Pigeon	2	0	2
33	Hill myan	1	2	3
34	Whistling Duck	0	1	1
35	Fulvous tree duck	2	5	7
36	Shoveler	2	0	2
37	Bul bul	14	11	25
38	Ruddy shel duck	13	13	26
39	Purple Swamphen	5	9	14
40	Mute Swan	1	2	3
41	Black Swam	2	0	2
42	Goose	4	4	8
43	Himalayan Vulture	4	7	11
44	Pelican	3	4	7
45	White billed Sea Eagle	1	1	2
46	Paua's fish eagle	0	1	1
48	Lesser Adjutant Stork	1	4	5
49	Black Kite	7	8	15

APPENDIX

50	Brahminry Kite	5	7	12
51	Little Cormorant	0	2	2
52	Cattle Egret	5	2	7
53	Little Egret	2	4	6
54	Great Egret	4	3	7
55	Fish Owl	2	0	2
56	Pin Tail	4	4	8
57	Woolly nedked Stork	1	1	2
58	Black Head libs	3	4	7
59	Gray Heron	5	3	8
60	Night Heron	20	20	40
61	Painted Stork	1	2	3
64	Common Pintail	8	10	18
65	Grey Peacock	1	1	2
66	Java Sparrow	5	5	10
67	Sun Conure	0	0	27
68	Green-cheeked Conure	0	0	24
69	Blue Eye Cockatoo	0	0	5
70	Orstriches	1	0	1

Source: Yangon Zoological Garden, 2022

Reptiles of Yangon Zoological Garden

No.	Common Name	Male	Female	Total
1	Peacocik Soft Shell Turtle	1	0	1
2	Red-eared Slider Turtle	5	3	8
3	Yellow Tortoise	2	8	10
4	Myanmar Eyed Turtle	12	13	25
5	Myanmar Flapshell Turtle	7	7	14
6	Myanmar Star Tortoise	2	9	23
7	Asian Brown Turtoise	4	5	9
8	Roofed Turtle	24	23	47
9	Common Monitor	1	0	2

APPENDIX

10	Rock Python	4	2	6
11	Green Tree viper	4	2	6
12	Long-nosed Tree Snake		3	3
13	Cobra	4	6	10
14	Rat-Snake	3	2	5
15	Banded Krait	2	3	5
16	Reticulated python	0	1	1
17	Russells Viper	1	0	1
18	Copper Head Racer	0	1	1
19	Crocodile	2	2	7

Source: Yangon Zoological Garden, 2022

Mammals of Yadanarbon Zoological Garden

No.	Common Name	Male	Female	Total
1	Asian Elephant	0	3	3
2	Tiger	3	5	8
3	Hippopotamus	1	2	3
4	Wild Pig	1	0	1
5	Donkey	2	2	4
6	Leopard Cat	0	1	1
7	Palm Civet	3	2	5
8	Masked Palm Civet	0	1	1
9	Sun Bear	1	1	2
10	Asiatic Bear	16	12	28
11	Barking Deer	6	6	12
12	Mouse Deer	12	19	31
13	Sambar Deer	18	15	33
14	Hog Deer	18	11	29
15	Deer	9	6	15
16	Leaf Monkey	1	2	3
17	Hoolock Gibbon	4	2	6
18	Rhesus Macaque	10	14	24

APPENDIX

19	Crab-eating Macaque	0	3	3
20	Pig-tailed Macaque	0	5	5
21	Assamese Macaque	2	2	4
22	Common Otter	2	2	4
23	Rabbit	27	31	58
24	Guinea Pig	7	15	22
25	Porcupine	8	12	20
26	Serow	2	1	3
27	Slow Loris	2	2	4
28	Asiatic Jackal	1	0	1
29	Jungle Cat	1	0	1
30	Clouded Leopard	0	1	1
31	Zebra	2	0	2
32	Dromedary Camel	1	2	3
33	Lion	0	1	1
34	Biturong	1	0	1
35	Brazza Monkey	1	1	2
36	Marmoset	0	2	2
37	Fennec Fox	0	0	2
38	Nutria	0	0	2

Source: Yadanarbon Zoological Garden

Birds of Yadanarbon Zoological Garden

No.	Common Name	Male	Female	Total
1	Cassowary	0	0	3
2	Sarus Crane	1	1	2
3	Alexandrine Parakeet	5	7	12
4	Blossom-headed Parakeet	1	1	2
5	Rose-ringed Parakeet	2	1	3
6	Grey-headed Parakeet	1	3	4
7	Red-breasted Parakeet	4	3	7
8	Kalij Pheasant	3	6	9

APPENDIX

9	Silver Pheasant	1	1	2
10	Green Peafowl	2	4	6
11	Blue Peafowl	3	4	7
12	Peacock Pheasant	0	1	1
13	Pied Horn Bill	6	0	6
14	Great Horn Bill	3	7	10
15	White Pigeon	3	4	7
16	Fantail Pigeon	1	2	3
17	White Dove	8	4	12
18	Black Swan	2	2	4
19	Pink footed goose	3	3	6
20	Ruddy Shel duck	3	5	8
21	Himalayan Vulture	2	1	3
22	Pelican	0	1	1
23	Greater Adjutant Stork	1	0	1
24	Lesser Adjutant Stork	0	1	1
25	Black Kite	4	3	7
26	Brahminy Kite	1	1	2
27	Brown Fish Owl	1	2	3
28	White-necked Stork	1	0	2
29	Lbis	2	0	2
30	Purple Heron	3	6	9
31	Crested Serpent Eagle	2	1	3
32	Painted Stork	3	4	7
33	Black-necked Stork	0	1	1
34	Little Gerbe	1	1	2
35	Whistling Duck	1	0	1
36	Purple Heron	2	1	3
37	Pink footed goose	2	3	5
38	Fulvous tree duck	5	5	10
39	Pin Tail	5	9	14
40	Little Gerbe	2	2	4

APPENDIX

41	Purple Swamphen	3	1	4
42	Blue Eye	2	2	4
43	Goffin's Cockatoo	1	0	1
44	Pesquet's Parrot	0	0	2

Source: Yadanarbon Zoological Garden

Reptiles of Yadanarbon Zoological Garden

No.	Common Name	Male	Female	Total
1	Crocodile	3	2	5
2	Rock Python	1	6	7
3	Albino Rock Python	1	0	1
4	Cobra	2	3	5
5	Rat Snake	1	2	3
6	Banded Krait	2	2	4
7	Copper Head Racer	2	2	4
8	Yellow Tortoise	46	14	60
9	Star Tortoise	5	2	7
10	Asian Brown Turtoise	2	2	4
11	Roofed Turtle	17	46	63
12	Arakan Turtle	0	3	3
13	Turtoiseshell	3	1	4
14	Common Monitor	1	0	1

Source: Yadanarbon Zoological Garden

) Mammals of Nay Pyi Taw Zoological Garden

No.	Common Name	Male	Female	Total
1	Aisan Elephant	4	6	10
2	Hippopotamus	2	4	6
3	Burchell's Zebra	1	7	8
4	Himalayan Black Bear	9	8	17

APPENDIX

5	Rabbit	20	30	50
6	Red necked Wallaby	7	1	8
7	Guinea Pig	10	10	20
8	Sambar	21	22	43
9	Eld's Deer	20	18	38
10	Hog Deer	31	33	64
11	Red Muntjac (Barking Deer)	0	1	1
12	Giraffe	1	0	1
13	Mythun/ Mithun	2	5	7
14	Long-tailed Macaque	3	2	5
15	Pig-tailed Macaque	1	0	1
16	White handed Gibbon	2	1	3
17	Hoolock Gibbon	2	2	4
18	Hamadryas Babbon	0	2	2
19	Rhesus Macaque	5	4	9
20	Slow loris	1	2	3
21	Oriental Small-clawed otter	3	2	5
22	Tiger	1	1	2
23	White Tiger	1	1	2
24	Lion	0	2	2
25	White Lion	1	1	2
26	Leopard	1	0	1
27	Common Palm Civet	3	2	5
28	Jungle Cat	1	0	1
29	Labrador (Dog)	1	0	1
30	Jackal	4	0	4
31	Red Panda	3	2	5
32	Donkey	1	1	2
33	Rabbit Deer	2	0	2
34	Crested porcupine	1	2	3
35	Leopard Cat	1	0	1
36	Pangolin	0	1	1

APPENDIX

37	Sea Otter	0	1	1
38	Monkey Beads	1	0	1
39	Sun Bear	0	2	2

Source: Nay Pyi Taw Zoological Garden, 2022

Birds of Nay Pyi Taw Zoological Garden

No.	Common Name	Male	Female	Total
1	Green Peafowl	10	8	18
2	Blue Peafowl	4	0	4
3	Grey Peacock	0	1	1
4	Great Hornbill	1	3	4
5	Oriental Pied Hornbill	2	1	3
6	Rafous-necked Hornbill	1	1	2
7	Green Imperial pigeon	1	0	1
8	Silver Pheasant	1	1	2
9	Guinea fowl	1	0	1
10	Ruddy Shelduck	62	56	118
11	Himalayan Vulture	6	4	10
12	Lesser whit ling duskq	0	15	15
13	Little Gerbe	5	5	10
14	Lesser Adjutant duskq	1	0	1
15	Black Swan	6	4	10
16	Paua's fish eagle	0	1	1
17	Spot-billed Pelican	1	3	4
18	Woolly nedked stork	2	2	4
19	Cattle egret	0	2	2
20	Goose	42	28	70
21	Sarus crane	1	1	2
22	Lesser flamingo	8	9	17
23	Barn Owl	0	1	1
24	Brown Fish Owl	2	2	4
25	White Peafowl	1	0	1

APPENDIX

26	Kalij Pheasant	1	0	1
27	Penguin	4	2	6
28	Eagle	2	1	3
29	Gold Pheasant	1	0	1
30	Kite	0	1	1
31	Dean	1	0	1
32	Night Heron	1	2	3
33	Mute Swan	0	1	1

Source: Nay Pyi Taw Zoological Garden, 2022

Reptiles of Nay Pyi Taw Zoological Garden

No.	Common Name	Male	Female	Total
1	Salt Water Crocodile	4	8	12
2	Reticulated Python	0	1	1
3	Burmese Python	2	2	4
4	Bengal monitor	0	1	1
5	Myanmar Star Tortoise	2	2	4
6	Myanmar Eyed Turtle	2	2	4
7	Red-eared Silder Turtle	0	3	3
8	Myanmar Flapshell Turtle	2	0	2
9	Yellow Tortoise	5	5	10

Source: Nay Pyi Taw Zoological Garden, 2022