

A Sustainable Chongqing Zoo Mission Performance Managerial Framework to Maintain a Durable Habitat for Animals

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Abstract

This paper examines the managerial sustaining methods of animals from a zoo based in Chongqing, China with the aim of providing a sustainable zoo mission performance managerial framework focused on maintaining a durable habitat for the animals. A total of 200 samples took part in the study on being inquired about the challenges in maintaining the animals' habitat. Data results were reviewed and coded, and analyzed to point out the key issues, and arranged for the "between method triangulation" process for the procedure of comparison and contrasting to support the research aim. The challenges are the following: Feeding: Efficiency 18%; Cost 28%; Ability 28%; Health and Safety 28%. Health: Treatment 19%; Diet 6%; Watching 37%; Habitat 38%. Grooming: Managing 20%; Adjusting 7%; Being Careful 27%; Health and Safety 46%. Wellbeing: Providing Care 46%; Maintaining Habitat 27%; Examination 13%; Watching 7%; Health and Safety 7%. Findings with the study, on December 2020, indicated that those who are in direct contact with the animals are exposed to a high risk of injuries, thus it's recommended for management to record the events to help ensure methods that will support their health and safety.

Keywords: Management, Performance, Safety, Sustaining, Wellbeing

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แนวทางการจัดการอย่างยั่งยืนเพื่อประสิทธิภาพของสวนสัตว์ฉิ่ง ในการเป็นที่ยู่ออาศัยถาวรสำหรับสัตว์

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บทคัดย่อ

บทความนี้ศึกษาเกี่ยวกับวิธีการจัดการอย่างยั่งยืนของสวนสัตว์ฉิ่ง ในสาธารณรัฐประชาชนจีน โดยมีวัตถุประสงค์ในการเผยแพร่แนวทางในการจัดการที่ยั่งยืนที่ทำให้สวนสัตว์เป็นแหล่งที่อยู่ถาวรสำหรับสัตว์ มีการเก็บข้อมูลจากกลุ่มตัวอย่างที่เป็นพนักงานจำนวน 200 ราย โดยวิเคราะห์ข้อมูลเพื่อชี้ให้เห็นประเด็นสำคัญ และจัดให้มีกระบวนการเก็บข้อมูลแบบสามเส้า เพื่อสนับสนุนเป้าหมายการวิจัย โดยมีผลดังต่อไปนี้คือ ด้านการให้อาหารสัตว์ ประสิทธิภาพของการให้อาหารสัตว์คือ 18%; ต้นทุนในการซื้ออาหาร 28%; ความสามารถในการให้อาหารสัตว์ 28%; สุขภาพและความปลอดภัยของพนักงาน 28% สวัสดิการด้านสุขภาพอนามัยของสัตว์ การดูแลรักษา 19%; ด้านโภชนาการ 6%; การดูแลสัตว์ 37%; ด้านที่อยู่อาศัย 38% ด้านการดูแลสัตว์ การจัดการ 20%; การปรับวิธีการดูแลสัตว์ 7%; การเอาใจใส่ 27%; สุขภาพและความปลอดภัย 46% การดูแลความเป็นอยู่ที่ดีของสัตว์ การให้ความเอาใจใส่สัตว์ 46%; การดูแลรักษาที่อยู่อาศัยของสัตว์ 27%; การตรวจสอบ 13%; การดูแล 7%; สุขภาพและความปลอดภัย 7% ผลการศึกษาเมื่อเดือนธันวาคม 2020 ระบุว่าผู้ที่สัมผัสโดยตรงกับสัตว์มีความเสี่ยงสูงที่จะได้รับบาดเจ็บ ดังนั้นจึงแนะนำให้ฝ่ายจัดการบันทึกเหตุการณ์เพื่อให้แน่ใจว่ามีวิธีการที่จะสนับสนุนด้านสุขภาพและความปลอดภัยของบุคลากร

คำสำคัญ: การจัดการ ความปลอดภัย ความเป็นอยู่ที่ดี ความยั่งยืน ประสิทธิภาพ

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Introduction

While zoos in China are part of the tourism industry that attracts foreign travelers and locals to visit there are some concerns that the managerial operation of recreational and leisure activities within the confined areas have had an impact on the animals' welfare (Von Essen et al., 2020). When zoo animals become part of an entertainment and education scheme to the public, they become entwined in a labor system (Barua, 2014) and easily become vulnerable to sickness (Danby et al., 2019). Zoos in China are a highlight for people to find recreation and leisure with their family and friends whenever they are visiting another province or just curious to learn more about the animals in their hometown province. For zoos to be managed in China as a sanctuary for rare animal species admired by visitors as well as for those interested in studying animals up close, the managerial staff within the organization has to be effective and efficient in its sustainable operations for maintaining a durable habitat for the animals in the best practical as possible, otherwise the animals' state of being will quickly deteriorate and leave a bad impression on the reputation of zoo management in China. As animals are the featured attraction for provincial locals in China to visit, they have to be provided with a habitat that keeps them in good care. However, such a zoo based in Chongqing is fully aware that it takes a lot of time, energy and resources to be efficient and effective of not only keeping the animals in a good state of health but also with the workers who are exposed to the risk of getting severely injured that comes along with their tasks and duties of maintaining the animals' habitat through the process of feeding, grooming, and upholding their health and wellbeing. Simply put, if the caretakers are put in harm's way, then the operation of maintaining the animals' habitat will not be able to achieve. Therefore, the study took place at the Chongqing Zoo in order to examine how the organization is managing their affairs to keep things operating on sustainable terms for the long run. Studies have stated that zoo animals need a living environment that pays special attention to their physical, psychological, and social needs (Mellor & Beausoleil, 2015); meeting these needs are challenging for management with the procedures and process of feeding, grooming, maintaining health, and looking after their wellbeing (Greggor et al., 2018). Sustainable management, particularly at a zoo, presents a challenge for the managerial staff as they have to ensure that the resources that they have are being used with good provisional guidance otherwise a mountain of waste will exceed thus contributing to expenses

(Jansson et al., 2017). Workers who carry out their duties and tasks of meeting objectives that aim towards sustainability are not to be considered as easily replaceable because what they require is an ongoing attitude and behavior to seek for continuous improvement (Örtenblad, 2018). Management must understand that in order for workers to perform and learn they should be able to work in an environment that does not make them vulnerable to hazardous condition or assisting them in mastering the situation that keeps them safe and sound (Song & Baicker, 2019).

Research Aim, Objective & Questions

This paper examines the managerial sustaining methods of animals from a zoo based in Chongqing, China. The research aims to provide a sustainable zoo mission performance managerial framework focused on maintaining a durable habitat for the animals for zoo organizations based in China. The authors attempt to achieve this aim by examining the zoo's operation with the managerial staff's responsibilities to determine the realistic situations they encounter when trying to develop a viable standard of living for captive animals. The following questions have been provided to obtain an in-depth analysis to reach the aim of this study:

1. What are the managerial staff's responsibilities in sustaining the animals' habitat?
2. What are the managerial challenges in feeding and grooming to maintain the animals' habitat?
3. What are the managerial challenges in upholding health and wellbeing to maintain the animals' habitat?

With the research aim of providing a sustainable mission performance framework for zoo organizations focused on maintaining a durable habitat for the animals, the study begins with a literature review on a sustainable performance for zoos, organization performance in sustaining animals' habitat, challenges in feeding, grooming, upholding health and wellbeing to maintain animals' habitat. From reviewing the literature, the work presents a 'between method triangulation' framework as a concept to provide an investigative insight for developing a sustainable mission performance framework. The paper attempts to offer its own ideas and practical methods for zoo organizations for staff to be highly orientated in sustaining the animals' habitat for the long term.

Literature Review on Managing a Sustainable Zoo Performance

1. Sustainable Performance of Managerial Staff and Sustaining Animals' Habitat

This work is in the agreement with Mennen et al. (2016) that sustainability is the ecological, social and economic imperative to live and to use resources within earth's carrying capacity, now and in the future; the meaning within the vision and mission of the organization within the zoo shapes the idea for a sustainable performance in this study. Habitats of captive animals have been addressed by the World Conservative Society to find any effective and efficient means in preventing disturbing shocks that would expose them at a high risk in health deterioration or death (Stephenson & Reidhead, 2018); these methods must be addressed within the organization to keep the animals in strong condition. With climate changes, some animals aren't physically nor conditionally rapid enough to equip themselves in getting adjusted to their surrounding environment, therefore, there is a strong dependence for roles and responsibilities of the workers to closely monitor their behaviors. Models of sustainability and the related standards are always put to the challenge for management (Russell et al., 2017) to balance their resources for managerial operation while trying to get a daily exceptional performance out of their staff and employees attain those aims that are relevant towards sustainability. The initiative actions and events have been present in zoo organizations committed to conserving wildlife species as they admit that the managerial resources deployed are highly depended on the intangible values of cooperation, coordination, and multidisciplinary expertise to keep the operation going (Jawabri & Al Baloushi, 2021). Therefore, to reach a sustainable performance the organizational management itself should promote a dynamic working environment that welcomes a partnership amongst internal and external members employing a sense of unison for developing the animals' health and wellbeing (Boiral et al., 2018).

A sustainable habitat encompasses the surrounding environment and anticipating for changes in the climate for the purpose of taking the right measurements that will allow decisions to easily maneuver around unexpected situations (Kundzewicz et al., 2018). The variables that come along with sustainable performance are highly complex and dynamic for the organization to learn (de Silva et al., 2019), whether it's through trial and error or a time frame the updated information gathered prompts the working behavior amongst

staff to never be complacent when seeking for improvement. With zoos being regarded as a site for conservation, research, education, and entertainment, the managerial staff should be at forefront of an ideal organization promoting sustainability which serves as the management model of philosophical practice for other industries to learn and innovate from (Carr & Cohen, 2015). Being sustainable is broad in its operation and requires a diverse set of minds to understand how things operate, thus managers need to have a framework in place that maximizes the capacity of key stakeholders involved (Muntean, 2018). Gathering information is urgently required within a working system that operates under a sustainable concept because the details become critical to cope with any unexpected changes in planning for management (Nigri & Del Baldo, 2018).

2. Managerial Challenges in Feeding and Grooming to Maintain Animals' Habitat

The distribution of food to the animals has to be complied with their original natural dietary habitat. Under organizational care, the food supplies for each species must not only be plentiful but procured for leisurely consumption and absence of stress (Schaltegger et al., 2016) for example, herbivorous species need a fresh surplus of fruits and vegetables that should be distributed evenly so that all animals have access to eating; carnivorous species are not to be given food at least for one day in a week to update and activate the digestive system; omnivorous species must have their food provided directly to them (Nagaraju, 2020). Through a crucial painstaking effort, those responsible for arranging the dietary surplus for daily feeding have to be proficient of the protein, amino/fatty acids, vitamins and minerals that are needed for the animals to eat well, otherwise it will lead to a digestive disorder (Mellor, 2017). Sometimes there is a large amount of uneaten food left over for many days exposed in the air which can lead to a growth of germs or creating a foul stench in the bathing pools of the animals, thus rationing of food distribution will need to be taken into perspective (Hempstead & Larson, 2019).

In the eyes of visitors, the way that an animal looks and behaves reflects on the way they have been managed by the people in charge. While interaction with animals bring a source of extra income for maintenance sometimes too much of a human presence can have an impact on the animals that often lead to deteriorating conditions due to stress and anxiety (Farrand et al., 2014). To keep the animals looking clean and not being

aggressive towards their care takers, the roles and responsibilities of group members administrated by management have to constantly carry out their duties in providing an enriching environment that develops into a trusting working relationship between themselves and the animals in their care (Zwikaël & Meredith, 2018). In contrast, overgrooming can overwhelm the animals' ability to adapt to its current habitat which can lead to an increase of stress that can either harm themselves or with their fellow species (Jacobson et al., 2016). To ensure an effective and efficient outcome in the grooming process, Positive Reinforcement Training (PRT) is one of the methods chosen to reinforce the desired behaviors as the means for conditioning the animals and any incorrect responses are ignored as opposed to being punished (Melfi, 2013).

There is pressure for management to take on challenges that could hinder the progress of sustainability. Management has to keep on planning ahead to make sure that a fresh supply of food is available at a price that meets the financial budget but can't always be guaranteed that prices will remain stable as certain factors disrupt the economic system that causes prices to rise (Yawar & Seuring, 2017). Inventories need to be managed for ensuring that the stock of food supply is not only available but are kept fresh and prevented from being eaten by other insects lurking about, which eventually leads to a decision on outsourcing for pest control that adds on to the operation expenses (Hahn et al., 2017). Safety and health are a concerned issue when workers are being exposed to unforeseen and unexpected dangers, such as grooming the animals. A proactive approach for management comes from measuring the dynamics that are interrelated with each other and then calculating on which factors either contribute to the protection of the workers or which one is high risk towards health (Govindan et al., 2021). Investigations and examinations made on any incidents or accidents made by management are done for the sake of improving working conditions and to give a sense of secured feelings for the workers (Kim et al., 2019).

3. Managerial Challenges with Upholding Health and Wellbeing to Maintain Animals' Habitat

The status of zoo animals' health is highly diverse and depended upon the managerial effectiveness of ensuring that the surrounding environment facilitates updated information about the behaviors and actions of the animals, whereas these animals have

some control of strengthening their health (Bauman et al., 2019). As these animals have been removed from their natural habitat and under human captive management, Bettinger et al., (2017) asserted that the discipline requires multidisciplinary solutions for enhancing each animals' quality of life and, as time goes by, experience starts to change and new knowledge will contribute in a stewardship of finding better management in optimal care. Ongoing assessments to determine what is best for the animal requires a practical method of asking questions that test on seeing where the balance lies when a variety of resources are provided to fit with their current state of needs (Rui, 2019). The health of all animals is vital as their lively and firm presence are the feature attraction that entertain and educate visitors to come often. There is a constant reminder that financial management has to be astute with the revenue stream in order to pay for the overhead costs and making reinvestment in maintaining care that is worthwhile for the animals to remain comfortable in their captive residency (Lynch, 2019).

With regards to the animals' wellbeing, Capucchio et al., (2019) asserted that “for animals to have ‘lives worth living’, it is necessary, overall, to minimize their negative experiences and at the same time to provide them with opportunities to have positive experiences.” For very large animals, such as predators, their physical wellbeing needs to be highly protected while offering them a way to express their natural behaviors and cognitive process which keeps them in balance with their environmental surroundings (Veasey, 2017), thus requiring a lot of attentive resources to be deployed to ensure that they are living in standard conditions. The management protocols for maintaining the wellbeing of animals can be quite compromising with regards to the safety issue of zookeepers. Nevertheless, the skills of easing the situation with care and compassion must prevail over any behaviors that could instill a sense of fear by the animals toward human beings (Mulyanto, 2018). To alleviate the psychological aspects that undermine the animals' emotions Sherwen and Hemsworth (2019) asserted from their study that “appropriate hiding places and increased enclosure complexity may allow ample space for appropriate escape responses or hiding when animals are confronted with a fear-eliciting stressor.” Caretakers will need to communicate with management on findings that could help provide valuable inputs on redesigning their habitat. The idea of a sustainable zoo as an institution, is managed under a collective interest of people who share the same philosophy and passion in working with the stakeholders' involved and making a

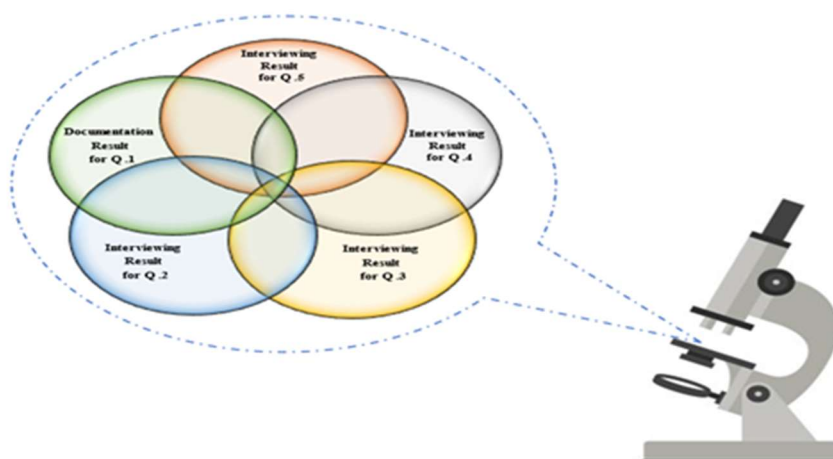
collaborative effort of developing projects and seeing growth in the future (Kumar et al., 2016). Many principles and practices of management may differ and offer helpful viewpoints that can help the organization become stronger but the key will always be on dealing with the facts that are happening in the working area and devise solutions around that by borrowing the ideas of others (Kobayashi et al., 2018). In the journey of sustainable management, there may be issues that seem to be a threat towards the operation but does require a thorough examination before leading to any final conclusion so that people do not quickly identify it as a major concern in the near future (Hosoda & Suzuki, 2015).

Between Method Triangulation as the Conceptual Framework for Analysis

The approach of using between method triangulation is taking two or more methods that are different for the purpose of measuring the same phenomenon from different angles (Fusch et al., 2018). The aim is to provide credibility on the overall findings with a sense of congruency and to have the data be complementary to each other based on the methods applied; the former is the similarity or convergence of results while the latter refers to one set of results that is enriching or expanding upon the other. For organizations with complex infrastructures to carry out many functions requiring multidisciplinary capabilities, and operating with policies that adhere to high level of capacity to perform (Flick, 2018), like a zoo, a data collection approach for analysis such as the between method triangulation approach can leverage the converged findings to be utilized in seeing things from different dimensions to explain the practice and discipline in an updated form, while using divergent information as an awareness of limitation but for seeking improvement (Farquhar et al., 2020).

Documentation for the first research question and interviewing for the second, third, fourth, and fifth question were implemented as data collection method. The results from the data collection were then triangulated to deliver the supporting information for the study aim of *“providing a sustainable mission performance managerial framework for zoo organizations focused on maintaining a durable habitat for the animals”*. Below is a conceptual framework for addressing the aim of this study.

Step 1.



Collected Data Coded

Step 2.

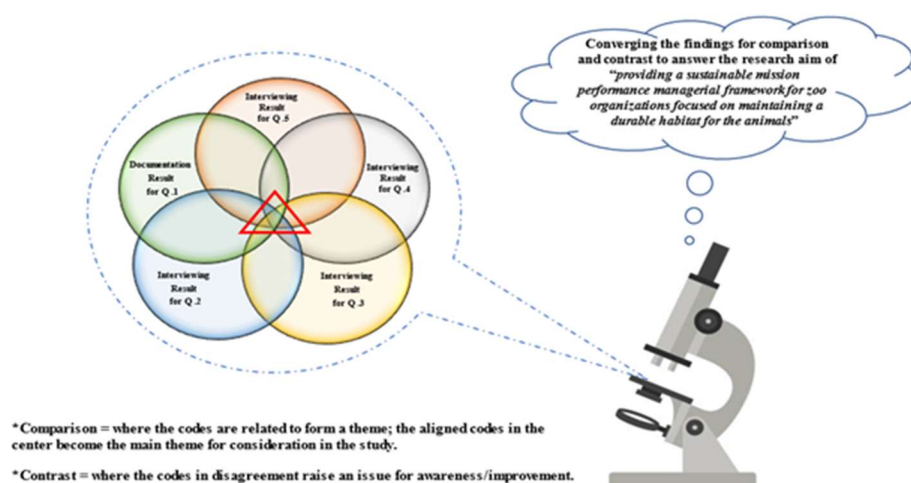


Figure 1. Between Method Triangulation Approach: Converging the Findings from Documentation and Interviews

The conceptual framework illustrates how the collected data underwent the process of ‘between method triangulation for the purpose of supporting the perspective aim of this research study. The first stage is collecting the data from the documentation and interviews and then having them arranged for coding. In the second stage, each of collected data were compared by having them crossover each other to investigate for codes that emerged into a theme which identified the main issue of this research study.

Data that was in disagreement or hardly being established as factors to consider were also given consideration as issues for management to be aware of or plan for improvement.

Research Methodology and Analysis

This study took place at the Chongqing Zoo on December 2020. A total of 200 samples, who made up the workforce, took part in answering the research questions. The sample groups were the following: A management staff consisting of 40 personnel carrying out the task of serving the development of the zoo and the life of its staff; ensuring the safety of tourists and the orderly operation of the zoo; coordinating personnel arrangement to ensure information can be conveyed correctly; overlooking the functions and premises of the zoo; reflecting on the economic results of the company's economic activities and operation, and to assume the function of providing support for the company's operation and management decisions. There is a support staff consisting of 110 personnel that undergoes the duties of creating a comfortable environment for tourists; providing customers with satisfactory service; maintaining the marketing tasks and development within the zoo; providing convenient transportation for employees and tourists; ensuring that the natural scenery image of the zoo is sustained. A caretaking staff of 100 workers carries out their daily task on building a clean atmosphere for the animals to live in comfort; finding ways to improve the animal's ability of action and expression; ensuring that the physiological and psychological health of animals are up to standard; creating a good living environment for animals; helping animals adapt to the environmental differences in different places; protecting the safety of animals; safeguarding the safety of animals and tourists.

The study looked through the documents that showcased the essence of how the Chongqing Zoo is operated and their performance direction: the vision is to lead in animal protection and the mission is driving the devotion of the whole society to protect wildlife and the natural environment. The institution considered the following four main functions: 1. An important base for wildlife conservation. 2. A living classroom for popular science publicity and education. 3. A beautiful garden for citizens to visit. 4. An important place for wildlife scientific research. As one of the largest urban zoos in China, it has 230 kinds of animal species displayed all year round, and getting nearly 2 million Chinese and 100,000 foreign tourists to visit every year. The organizational structure of Chongqing Zoo

is mainly divided into the following departments: animal management, science and engineering, business planning, finance department, amusement, security, greening, and science and technology education. After the documentation process, an interview with 250 people involved with the organization was done. The first research question asking about “the organizational staff’s responsibilities in sustaining the animals’ habitat” went through a digital documentation method pertaining on the zoo’s vision and mission statement, and on the workers’ roles and duties for examining the ideas and actions taken to operate the zoo. For the second and third question an open-ended interview was asked with the zoo keepers/ caretakers on their challenges of feeding and grooming, and upholding the health and wellbeing to maintain the animals’ habitat. In the first stage of the framework, the results of gathering the data from each research questions were reviewed and coded, and analyzed to point out the key issues to answer each of the five research questions; information were arranged for the “between method triangulation” process in the next stage. In the second stage, the procedure of comparison and contrasting was done with the previous information to support the research aim. To get a better a concentration on the idea of “a sustainable zoo managerial performance framework focused on maintaining a durable habitat for the animals”, a comparison of the results (at the center of the converging circles with a red triangle) was done to accumulate the themes in becoming the theoretical proponents of the study aim while contrast from the results were raised as issues to be aware of which needs some more studies for improvement in order to be highly effective for organizational application. The reliability and validity of the data was tested going through the process of triangulation by measuring on the responses in the interview with the workers and comparing their statements with others and on the documents about how the organization operated on its mission objectives. The results from analyzing the data for the three research questions have been addressed below.

1. Managerial Staff’s Responsibilities in Sustaining Animals’ Habitat

Findings from the documents with regards to the managerial staff’s responsibilities in sustaining the animals’ habitat are the following: 1) organizing major decision-making meetings, discussing and making decisions on the zoo's development strategy, business decisions, work plans and other important business activities, and responsible for the

implementation; 2) overseeing operation and management of the zoo, keeping track of the company's operating conditions, signing important agreements and contracts on behalf of the zoo, and approving the expenses and funds of major projects; 3) listening to the work reports of junior managers, propose solutions to important problems through consultation, supervise their work, and follow up with an implementation progress of decisions; 4) strictly controlling the situation of more financial and internal control, pay attention to the safety of capital flow, regularly examine and approve various financial statements; 5) appointing senior management personnel of the zoo, and determining their salary and treatment, as well as removing and dismissing from their position. The affairs from each department must handle their own responsibilities, roles and duties to the best of their knowledge.

Based on the literature review of this study, the key issue for the managerial staff's responsibilities in sustaining the animals' habitat comes from a structure with plans that not only sees the operation of business affairs but to also seek the ideas or feedback from the those who are deployed in the frontline (Font & Lynes, 2018). It's important to have a balance understanding of business, human resources of knowledge and capabilities, and natural science that gets integrated into a sound management decision without feeling dubious about the situation (Amrutha & Geetha, 2020). As each department are expected to handle their own responsibilities, roles and duties to the best of their knowledge it's important for management of that unit to be provided with a proper learning environmental space to function as an effective team that continuously approaches on reflecting, experimenting, assessing, and having a proper dialogue on sustainable matters that help team members find the best way of achieving their aims without feeling a sense of fear that punishment will occur if there are negative results (Armenia et al., 2019). Decisions made based on appointing for a new position or dismissing that person from his/her position will need to be provided with good reasons such as expectations being met or not; in the latter case, management needs to analyze on what went wrong and to make areas of improvement for not only helping the new person succeed in their role but to also demonstrate that those in power are taking accountability to make sure things go right for the future (Iqbal & Ahmad, 2021).

2. Challenges in Feeding and Grooming to Maintain the Animals' Habitat

On the feeding challenges, management stated that feeding costs can get very high at times due to some animals requiring to eat more in abundance than other species. Figure 2 below provide further details for analysis.

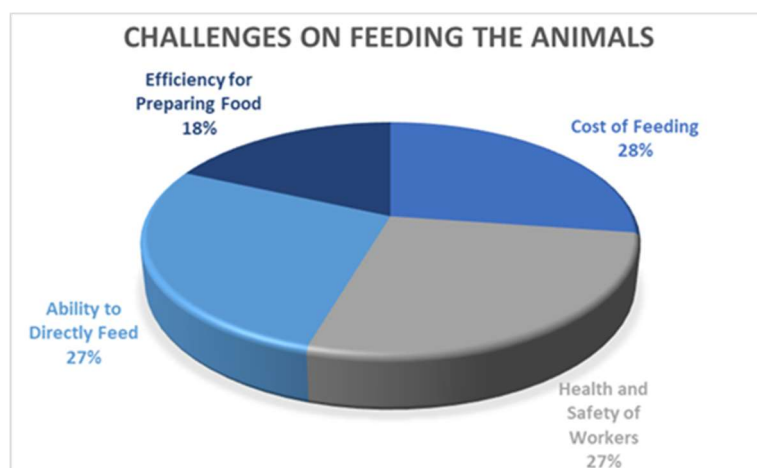


Figure 2. Challenges of Feeding to Maintain the Animals' Habitat

Figure 2 presents the percentage challenges for management in going through the process of feeding to maintain the animals' habitat. From the interview, the cost of feeding (28%) is at the top which seems understandable because these animals need to be constantly fed all year round as they are dependent on people to look after them. On equal terms, the ability to directly feed (27%) and workers' health and safety (27%) are on equal terms as the personnel responsible for handling the feeding process are directly exposed to getting severely injured, which has the concerns of management. Lastly, figure 2 tells us that when it comes the efficiency for preparing food (18%) there is a slight concern from management and the reason is that there is already a supply chain network that they can always get access to when ordering the provisions. From the interview, it was learned that the feeding process sometimes present some danger towards the health and safety of the caretakers assigned to provide the food for certain animals; workers have reported on the risk of being bitten and trampled, and sometimes there is an aggressive behavior that can lead to a volatile attack. Also, the workers assigned to the feeding activities have to be aware for any signals of animals wanting to fight them due to being territorial or defending themselves. Moreover, the procedure of feeding was a complex

variety of ingredients needed to for the animals' balanced diet, such as the panda bears requiring a fresh supply of bamboo that must be diversified. Another issue that must be taken into issue is to make sure that the animals have eaten adequately. With some animals presenting difficulties in making contact or showing signs of depression, the zookeepers have to painstakingly keep things in order to ensure that the uneaten food is quickly discarded to prevent any disease from spreading, and make sure that a fresh supply of food is available in case they get hungry.

With regards to grooming, the process itself presents a heavy danger for caretakers who are responsible for making sure that the animals have a continuous clean appearance. Figure 3 below provides the illustration.

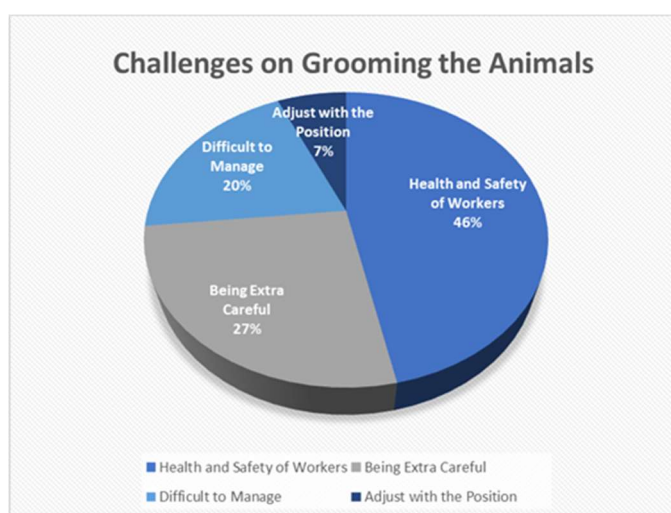


Figure 3. Challenges of Grooming to Maintain the Animals' Habitat

According to figure 3, the highest concern is the health and safety of workers (46%) when it comes to the challenge of grooming to maintain the animals' habitat. Second is the issue of being extra careful (27%) as there are some unexpected events that can likely occur. Response from the data revealed that grooming is difficult to manage (20%) as the third issue. The fourth issue is on adjusting with the position (7%) which is a minor concern when grooming the animals. Data revealed that danger looms from the fact that the claws and sharp teeth of the bears and tigers, as an example, are designed for lashing out instantly if there is a feeling of being bothered or threatened. Sometimes accidents occur when encountering animals that are either very playful, aggressive, or easily angered, thus

safety is never guaranteed for the workers on doing this assignment. Nevertheless, the workers have to be patient and wait for the right time to get the animals like the Asian elephant to calm down and cooperate on getting their trunks clean on the inside, or like getting the giraffe to stay in a comfortable position to have their necks clean. Birds are especially notorious in being difficult to get the grooming done with ease because they tend to panic easily in the presence of human which consumes a lot of time in chasing them around while being extra careful in preserving their beautiful feathers.

While it may be frustrating for workers being assigned the task on feeding and grooming, management needs to present a leadership foundation that showcases how others are managing to making animals eating healthy and looking tidy as a practical art and discipline to help individuals overcome any signs of fears by taking an initiative on learning how other zoo organizations are applying their own innovation and creativity. The art of feeding and grooming is a practice and a discipline thus making management take an initiative on getting the full use of innovation and creativity to help workers challenge themselves by learning and rediscovering the best practical techniques (Banihashemi et al., 2017) that would enable them to be more focused on getting the job done. If fear is often discussed about more often it could exaggerate the situation which eventually leads to a paralysis of one's confidence and motivation that prevent the individual from carrying out his/her duties (Jha & Varkkey, 2018), which would not be good as the animals are heavily relied on the managerial staff to administer the courses of keeping the animals well fed and having a neat appearance for the visitors to see. It's important for management to have the leadership set in place for leaders to demonstrate and encourage others to do their best and keep honing their techniques (Guo et al., 2018) to ensure that the animals are fed while at the same they are out of harm's way.

3. Upholding Health and Wellbeing to Maintain the Animals' Habitat

Feedback from the interview with the caretakers asserted that two important functions have to be highly focused on when upholding the animals' health: 1. Constantly watching over the behaviors. 2. Maintaining the environmental habitat. Figure 4 below presents the information on these challenges.

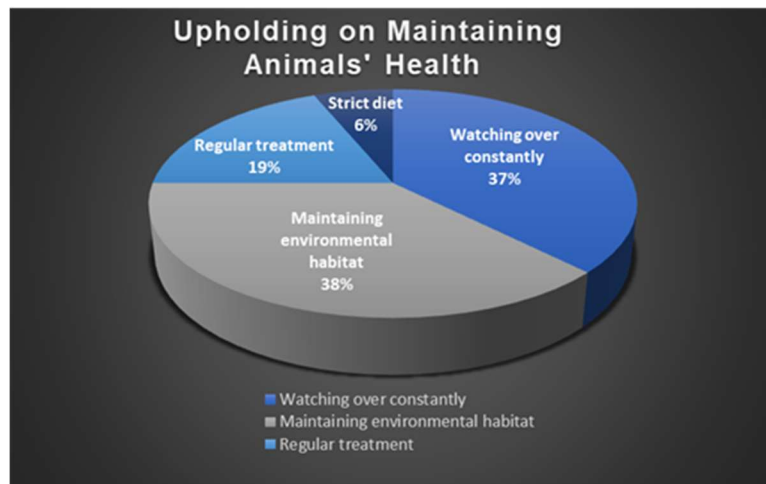


Figure 4. Challenges of Upholding Animals' Health

Figure 4 shows that when it comes to the challenges with upholding on the animals' health the issue of maintaining the environmental habitat (38%) and watching over constantly (37%) are a top priority with the former getting a bit more attention than the latter. Minor issues with regards to regular treatment (19%) and strict diet (6%) are also given attention for upholding the animals' health. Data from the interview mentions of animals, such as the Tibetan brown bear and wolf, having to be monitored on an hourly basis to anticipate for any signs of depression or stress which could lead to severe health problems that prevents them from being active and developing a good appetite for nourishment. Also, observation has to be done routinely, like with the monkeys, to readjust the tendency of eating some indigestible food offered by the visitors and separating them when they're physically fighting each other. As for maintaining the environmental habitat, the discipline of micromanaging the water temperature, sanitation of the living space, and procuring a suitable climate are a necessity to keep them living on comfortably and free from any conditional distress. Such tasks as preserving the quality of the water, clearing away debris or waste in a timely fashion, and moving them to a place that fits with their body temperature during the changes in the seasonal weather help prevent the aquatic and surface animals from being easily prone to disease or other psychological discomfort. Some animals also needed to be treated regularly such as the antelopes needing to get their horns trimmed so that they don't injure one another when there's a territory conflict, and the red and white giant flying squirrel which needs its teeth

to be filed down. For animals such as the koala bear, a specific diet has to be preserved throughout the period.

The information provided from the data indicated that a lot of energy and resources have been implemented to sustain the animals' wellbeing. The details in figure 5 below presents the data analysis.

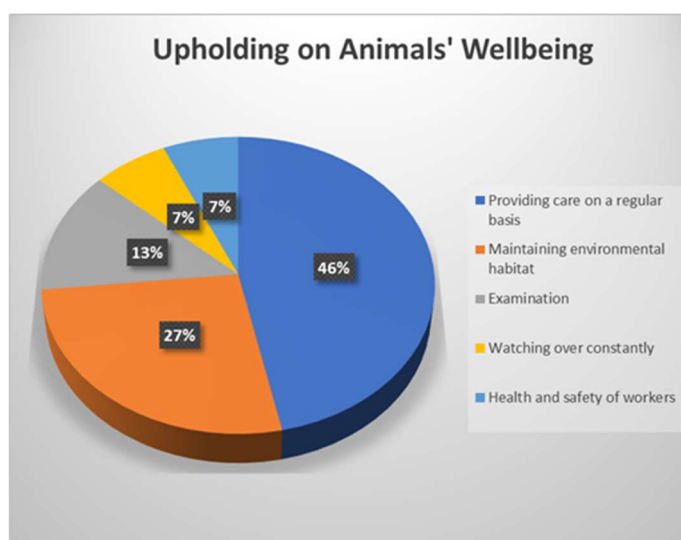


Figure 5. Challenges of Upholding Animals' Wellbeing

According to the data in figure 5, the issue of providing care on a regular basis (46%) is a major priority for ensuring that the animals' wellbeing is in great condition. This is followed by maintaining an environmental habitat (27%) which is the second managerial issue that needs to be taken into matter. Moreover, though the issue of examination (13%), watching over constantly (7%), and health and safety of workers (7%) are mentioned they are not given much attention to when it comes to upholding the animals' wellbeing. Information from the data asserts that although there is some innovation in scientific engineering to create a unique living natural habitat for the animals, data stills need be collected by staff members to determine whether the animals are intaking a proper amount of food and are in good spirit when receiving health treatment or being groomed. It was understood that the kangaroos often jump out of their fences because their residential area has gotten too crowded for them to move around. Animals from Africa, such as the eland, may take more time to get acclimated to their surrounding environment thus causing caretakers to be worried about not eating properly. The real challenge is

keeping the people responsible for watching over the animals to be free from harm when they are in close contact with them, for example, the size of the African elephant can be menacing towards staff trying to take their temperature and health measurement for study, and the mood swing of the rhinoceros can mistakenly gore a person to death because it felt threatened by the person trying to provide medication to prevent germs from festering on part of its skin.

Upholding the health and wellbeing of zoo animals on part of management is strategic in operation as it requires a flow of data to be analyzed for the purpose of ensuring that any methodological approaches will lead to an accurate outcome (Fernando et al., 2019) of the animal living properly for the long term. Asides from the data, the premises or living space of the animals will always need to be redesigned by management from time to time for getting the staff involved to utilize their knowledge and expertise (Raut et al., 2019) in making sure the animals are not showing any signs of stress or discomfort in their habitat, while also coming up with better practical care handling to keep the animals from feeling threatened. It was mentioned that animals, like the monkeys, do get in contact with the visitors who feed them certain food that is not digestible. Therefore, the challenge is to try to find a way on securing the animals' health and wellbeing while also trying to present the zoo as being visitor friendly. If the rules of prohibiting visitors from feeding the animals with undesirable foods are not producing the right results, then management will need to work with their experts on deciding which animals are more convenient in feeding with the food that the zoo provides for the visitors to feel appreciated in spending their time at the zoo; it's important that visitors are part of what the organization is striving towards to for developing the reputation (Cruz-Ruiz et al., 2022).

Sustainable Zoo Mission Performance Managerial Framework Focusing on Maintaining a Durable Habitat for Animals

From implementing the “between method triangulation” process, converging the information brought about three key themes to support the research aim: 1. welfare of zookeepers/caretakers, 2. Efficiency of dietary arrangements, and 3. application methods to ensure the animals' wellbeing. Upon contrasting the information, the issue of watching over the safety and convenience of zoo visitors was transpired for analysis. The breakdown

of all four is given after mentioning about the top ten zoo animals that have been proposing a challenge for the managerial staff in trying to sustain their living conditions. A figure is provided below with further details.

Challenging Zoo Animal	Feeding	Grooming	Maintaining Health	Looking After Wellbeing
 Panda	✓	✓	✓	✓
 African Elephant	✓	✓		✓
 Birds		✓	✓	✓
 Chinese Alligator	✓		✓	✓
 Flamingos	✓	✓		✓
 Giraffe	✓	✓	✓	
 Koala Bear	✓	✓	✓	
 Monkey	✓	✓	✓	
 Asian Elephant	✓	✓		
 Hippopotamus		✓	✓	

Figure 6. Top Ten Animals Presented as Challenges in Maintaining a Durable Habitat

Figure 6 shows the top ten animals that present a challenge for management in maintaining a durable habitat. The panda bear is at the top of the list as being the most challenging animal in all four categories. The African elephant and the flamingos display a challenge in feeding, grooming, and wellbeing. The birds provide a lesser challenge in feeding, meanwhile the Chinese alligator also doesn't pose much of a challenge in grooming only. As for the giraffe, koala bear, and monkey, they don't pose much of a threat with looking after their wellbeing. Asian elephant will need a lot of attention in feeding and grooming. The hippopotamus is also a challenge in grooming and especially in maintaining health.

Maintaining a long and firm habitat for captive animals requires a strong term commitment and rational expectations to fulfill the mission of a sustainable zoo. A routine acumen of researching and continuous learning is critical for laying the foundation to keep the managerial staff taking the initiative on developing a sound working and living

environment for all who come into contact. Coding the feedback from the caretakers revealed that panda bears are the top challenger in maintaining a durable habitat due to the high complexity of care and procedures in feeding, grooming, maintaining health, and looking after their wellbeing. It's interesting to see that the elephant species of Africa and Asia are similar when it comes to feeding and grooming, with exception that the former just needs more attention with their wellbeing. Birds that are rare and exotic have to be well groomed, monitored for any signs of sickness, and have to be in a lively state otherwise they will quickly deace. The Chinese alligators are voracious predators that need to have their diet arranged, as well as having their health and comfort thoroughly checked upon. The caring for flamingos is concentrated in the area of being fed on a daily basis with some skills for effective grooming and the ability to recognize that their wellbeing is in a good state of mind. The giraffes, koala bears, and monkeys all share the similarity for the procedure of feeding, grooming, and maintaining health which are quite taxing when it comes to having the mental resources and instruments to get the work done. For the hippopotamus, they require grooming and having their health constantly checked upon, nevertheless they present a danger for the caretakers if they become moody in certain situations.

With these animals presented as a challenge sample it sets a complex array of strategy for the managerial staff to come up with plans to utilize the knowledge, skills and abilities of everyone's roles, duties, and responsibilities to acquire the expertise of partners involved for developing the standard practices and procedures of sustainability in the zoo (Mandić & Kennell, 2021).

1. Welfare of Zoo Keepers/Caretakers

Captive animals placed in an artificial environment created by humans requires a competent and capable group determine where the opportunities for succeeding are to give individuals the self-esteem to achieve the organization's goal and objectives. Although the working positions may not be equivalent as putting one's life on the line as in the military, firefighting, or in a search and rescuing operation the exposure to being severely injured or death is high when dealing with wild animals. Therefore, the functional roles being carried out towards the mission framework needs to have the visible infrastructures laid out for achieving performance to know that their effort is recognized (Whitham &

Wielebnowski, 2013) and learning how to improve themselves and others. The stress from the feeling of being placed in danger may cause fear that prevents them from truly performing to their potential (Gill & Burrow, 2018). In this working environment, the use of fear can be applied as a learning tool to question methods or approaches that the framework has set out for and calling for adjustments in the procedures or change if necessary. Not everyone should be replaced if they cannot handle the task assignments but to use every case recorded, whether it's positive or negative, to reflect on the results and measure the practices to keep the working spirit and compassion for sustainability to be steadfastly resilient.

2. Efficiency of Dietary Arrangements

Efficiency is to meticulously measure the distribution of nourishment to the animals while also being mindful of proper conservation of food to prevent an over expenditure of items that are perishable. If there was a perfect scientific formula to get the animals to consume all of the food given at the moment then it would make the feeding task less of a burden for the caretakers. Facts of reality point out on how the food supply chain is being managed in order to maximize the available abundance of items in storage or minimize the product that seems to be leftover or passed beyond the state of freshness and rotting in the residential habitat. In sustainability practice, the zoo as a stakeholder in one of the government's organizations can push for industries in food production on allocating resources to be refined and tailored for animals that have a unique consumption need; pushing for this idea demonstrates that management of the zoo has a moral obligation and commitment to secure the captive animals' welfare and wellbeing (Scollen & Mason, 2020). As the mission performance framework incorporates a sustainable practice with the food, supply chain management has to configure the backgrounds of their suppliers to determine if their operation is sustainable for the long term. It's much healthier to have a good business relationship with a supplier that is innovative and creative with keeping the costs at a reasonable rate and simultaneously finding ways to add value for the recipients (Hanson & Holt, 2014).

3. Application Methods to Ensure Animals' Wellbeing

Handling the wellbeing of animals is a delicate task that must be done with an

open mind towards developing a good relationship with these diverse species. With the concern for safety and health of the caretakers already considered into the equation the managerial staff will also need to coordinate with the front line to develop a collaboration with the animals to trust them in providing them a proper care with their wellbeing (Kelly & Skibins, 2020). Even with a defined mission framework the animals' wellbeing isn't guaranteed of flowing towards the sustainable goal. Groups or teams of caretakers will often find themselves in a basketball match whereas members are trying to pool their resources towards the aim by setting up the systems to attain the factors that contribute to the positive wellbeing of the animals while also preventing unknown and unavoidable negative issues that could derail their constructive living environment (Hosey & Melf, 2015). It's the concern for the wellbeing that is paid too much attention on but also makes the managerial staff to become proactive in administrating the flow of the game and quickly taking any actions on changes that can disrupt the outcome.

4. Safety and Convenience of Zoo Visitors

Although this a diverged topic the managerial staff still needs to configure out the designs of the landscape structure and the customer service system that puts zoo visitors directly out of harm's way and have them mostly immersed in events related to education and entertainment. As millions of people enter and exit the zoo management is dealing with an open organizational system whereas the staff and animals interact with visitors who come from a diverse set of background, ideas, needs, and interests which create more data of facts to improve facility and service operations for visitor satisfaction (Wu et al., 2017). While taking into the consideration of safety and convenience of zoo visitors the managerial staff will need to adapt with their behaviors that may be quite abstract, especially in the age of social media where people like to post photos and send instant messages to their friends or followers, but also be aware that certain behaviors need to be regulated as it could disrupt the comfort and convenience of other guests and animals. The administration of safety and convenience is part of the roles, duties, and responsibilities carried out by zoo management for building the brand reputation of an institution (Kucharska, 2020). Functioning as an open system with the practice of safety and convenience of zoo visitors in mind is responding to the behavioral circumstances and

finding a satisfied balance, but also eager to learn, change and improve the structure to stay on the course of remaining focused on sustainability (Chams & García-Blandón, 2019).

Discussion and Conclusion

The idea of developing a sustainable zoo mission performance framework is an ongoing process. The approach for maintaining a durable habitat for animals incorporates the roles, duties and responsibilities of the managerial staff to work collectively whereas the diverse skills, abilities and knowledge of members are utilized for an efficient and effective outcome. Based on the first research objective, the managerial staff's responsibilities in the concept of sustaining for the Chongqing Zoo would need to go through a restructuring that enables the front-line workers to communicate and collaborate on the best practical ways of maintaining the values for the zoo to be the place for conservation, research, education, and entertainment which is the ideal theory. Sustaining is a strategy that encompasses a vast infrastructure of stakeholders' interests ranging from public and private organizations, thus this work views that it is important for Chongqing Zoo management to redesign the operation of the workplace that embraces the competency and capacity of their workers; encouraging each other to transfer the knowledge, support learning, and motivating high performance for the purpose of equipping workers in handling affairs that are internal as well as external. For the second and third research objective, the process of feeding, grooming, and maintaining the health and wellbeing of the animals does have some hazardous working conditions for the workers as there is bound to be some fatal injuries or a lot of time consumed when tending to a particular animal that requires a special treatment. The work understands that if the animals are not undergoing professional treatment and care not only will they be left in dire conditions, but the zoo will become less attractive for people to visit and changes will definitely have to be made under new management. Operating a sustainable zoo requires management to be well rounded with the business side and the natural science issue, because they have to go hand in hand. Although the Chongqing Zoo is operated by the provincial government it still needs to find additional sources of income through commercial means: people like to go see animals looking strong and healthy, not weak and in a dismal state. Based on the literature review, the theories of procuring the resources to maintain the status of zoo animals does have some merit in reality as some

animals made the work unpredictable and time consuming just to get the task completed. Although the resources are available the managerial staff do want their workers to carry out their duties with efficiency on using the resources and to be effective in obtaining the results. Thus, from an academic perspective the study feels that the Chongqing Zoo managerial staff will need to record case events to learn what methods have helped workers to achieve their aims and where might the procedures can be refined for attaining better results. In order to help the zoo organizations develop a sustainable mission performance that fits with their actual working environment, this study will need to go further in learning to see what type of learning and performance approach is taken under the directions of management. If there is a learning framework already implemented triangulation will be conducted to see how management deals with the facts and information they have for building on the practice of a sustainable zoo.

In conclusion, the study highlighted the themes to provide the managerial staff a framework for sustainability that is more focused on keeping the animals' habitat to be robust for the long term. The benefits of this research are the following: 1. Pointing out some of the challenges for the managerial staff when laying out plans for developing sustainability and taking an initiative to minimize any obstacles that could occur. 2. Providing insightful theories and data for other academic researchers who are interested or doing studies based on the idea of a sustainable zoo. While the questions and methodology brought out a lot of data for analysis the research authors felt that more analysis could have been written with deeper insights. To confess, the limitation of this paper is the lack of statistics showing the health and wellbeing status of the animals when provided with proper treatment methods which would have been useful information in determining the impact of these approaches. However, writing with more greater details would overload on the idea and too much for the managerial practitioner to digest as they have to stay on ground with the realities of the working operation within the zoo. Nevertheless, we hope that the work does add some extra valuable information for management with their current operational framework for a sustainable zoo.

Suggestions

With the information provided for a sustainable zoo mission performance managerial framework focused on maintaining a durable habitat for the animals, the next step would

be focusing heavily on the organizational structure itself. To truly understand if the human resources people and the working system is aligned with management's idea of being sustainable, an outcome mapping method would be ideal because it can examine to see if there is planning with an intentional design with regards to the vision and mission towards sustainability. Also, the tool looks to see how monitoring is done to be aware that the ongoing outcome and performance is actually occurring or not occurring towards sustainability. Finally, the method has an evaluation with the planning of initiatives to ask about how actions are taken and how learning is implemented to make any adjustments. For future research, stakeholders such as the provincial government, academics, frequent zoo visitors, expert veterinarians, and international wildlife organizations should take part in the study which would really help in providing better suggestions for the managerial staff to maintain a sustainable zoo but to also give the study stronger insights on how sustainability is done as a strategy.

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