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**ASIA-PACIFIC ZOOS IN THE 21ST CENTURY:
STAKEHOLDER PERCEPTIONS OF THE ROLES
AND FUNCTIONS OF ZOOS**

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ABSTRACT

The advent of the anthropocene accentuates the transformation of ecosystems on a global scale. This study responds to these concerns by assessing the role and function of 21st century zoos in general and the Asia-Pacific zoos in particular. The lack of information on key zoo stakeholders (visitors, staff members, corporate sponsors and zoo associates) is significant in the Asia-Pacific region, particularly in Asia, where there are complexities that may stem from cultural and societal differences. Furthermore, current literature is predominantly based upon Western research and case studies, which rarely take into account the complexities and differences of Asia. This research considers the diversity of the Asia-Pacific region by examining the perceptions and attitudes of the four groups of key stakeholders.

Zoos in six countries across the Asia-Pacific were visited over a period of six months to March 2013 in order to assess the diversity of the study region. A literature survey and meta-analysis of 138 zoo-based publications was employed to create a matrix table of themes, stakeholders, and research outcomes. These results were used to design survey instruments directed at stakeholder groups as well as provide a framework against which the results of this study can be compared and contrasted. Quantitative analysis such as Principal Component Analysis, Spearman's Rho and Kruskal-Wallis H test were used to analyse the results. The face-to-face and computer-based instruments were augmented with the use of a reflective diary and personal work experience to triangulate and validate the research results.

The results show that individual zoos across the world are facing similar challenges. Differences in educational backgrounds and socio-cultural norms within the Asia-Pacific region are reflected in stakeholders' experiences, perceptions, and evaluations of zoos. The results show that there are many differences amongst Asia-Pacific zoo practices, visitor satisfaction, and stakeholder participation and these differences would make it extremely difficult to coordinate activities at a regional level to give them a single voice with a single agenda.

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TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION	1
1.1. BACKGROUND	1
1.2. PROBLEM STATEMENT	2
1.2.1 AIM.....	2
1.3. OBJECTIVES	2
1.4. CONTRIBUTION OF RESEARCH.....	3
1.5. SCOPE AND SCALE	3
1.6. RESEARCH DESIGN AND PARTICIPANTS.....	4
1.7. PERSONAL REFLECTIONS.....	5
1.8. FIELDWORK PREPARATION.....	6
1.8.1 ATTIRE	7
1.8.2 LANGUAGE	7
1.8.3 LOGISTICS	7
1.8.4 ACCOMMODATION	8
1.9. LIMITATIONS	8
1.9.1 GENDER DISPARITY	8
1.9.2 LANGUAGE BARRIERS	9
1.9.3 TRANSLATION LIMITATIONS	11
1.9.4 OPERATIONAL CONCERNS	11
1.9.5 NATURAL DISASTERS	11
1.9.6 ORGANISATIONAL CULTURE	11
1.9.7 CORPORATE SPONSORS AND ZOO ASSOCIATES	12
1.10. THESIS OUTLINE	12
CHAPTER TWO: BACKGROUND	15
2.1. INTRODUCTION.....	15
2.2. ASIA-PACIFIC	15
2.2.1 DIFFERENT VALUES	18
2.3. HONG KONG, SPECIAL ADMINISTRATION REGION (PEOPLE’S REPUBLIC OF CHINA)	19
2.3.1 STUDY ZOO ONE: OCEAN PARK.....	20

2.4. INDONESIA	21
2.4.1 STUDY ZOO TWO: TAMAN SAFARI	22
2.5. MALAYSIA	22
2.5.1 STUDY ZOO THREE: ZOO NEGARA	23
2.6. NEW ZEALAND	24
2.6.1 STUDY ZOO FOUR: AUCKLAND ZOO	25
2.7. THE PHILIPPINES	25
2.7.1 STUDY ZOO FIVE: ZOOBIC SAFARI	27
2.8. THAILAND	27
2.8.1 STUDY ZOO SIX: KHAO KHEOW OPEN ZOO	28
2.9. CONCLUSION	28
CHAPTER THREE: LITERATURE SURVEY	31
3.1. INTRODUCTION	31
3.2. EVOLUTION OF ZOOS	32
3.3. THE MODERN ZOO	34
3.4. STAKEHOLDERS	36
3.4.1 VISITORS	37
3.4.2 STAFF MEMBERS	38
3.4.3 CORPORATE SPONSORS	40
3.4.4 ZOO ASSOCIATES	41
3.5. CONCLUSION	42
CHAPTER FOUR: RESEARCH DESIGN AND METHODS	45
4.1. INTRODUCTION	45
4.2. RESEARCH DESIGN	45
4.3. QUESTIONNAIRE DESIGN	46
4.3.1 META-ANALYSIS – MATRIX TABLE	48
4.4. SELECTION OF STUDY SITES	49
4.5. SELECTION CRITERIA FOR RESPONDENTS	50
4.6. PILOT STUDY	51
4.7. QUESTIONNAIRES	52
4.7.1 VISITOR QUESTIONNAIRE	52

4.7.2	STAFF QUESTIONNAIRE	52
4.7.3	CORPORATE SPONSOR QUESTIONNAIRE	53
4.7.4	ZOO ASSOCIATE QUESTIONNAIRE.....	53
4.8.	TRANSLATION PROCESS.....	54
4.9.	QUESTIONNAIRE DISTRIBUTION PROCEDURES.....	55
4.9.1	VISITOR QUESTIONNAIRE	56
4.9.2	STAFF MEMBER QUESTIONNAIRE	58
4.9.3	CORPORATE SPONSOR QUESTIONNAIRE	59
4.9.4	ZOO ASSOCIATE QUESTIONNAIRE.....	59
4.10.	DATA MANAGEMENT	59
4.11.	STATISTICAL SOFTWARE	60
4.12.	DESCRIPTIVE DATA ANALYSIS	60
4.13.	QUANTITATIVE ANALYSES.....	60
4.14.	QUALITATIVE ANALYSES	62
4.14.1	REFLECTIVE DIARY	63
4.15.	ETHICAL CONSIDERATIONS AND PROCESS.....	65
4.16.	CONCLUSION	66
CHAPTER FIVE:	RESULTS	67
5.1.	INTRODUCTION.....	67
5.2.	VISITOR STAKEHOLDERS.....	67
5.2.1	RESPONSE RATES.....	68
5.2.2	VISITOR DEMOGRAPHIC PROFILE	70
5.2.3	CONCEPTUAL THEMES.....	73
5.2.4	STATISTICAL THEMES: VISITORS.....	77
5.2.5	FURTHER ANALYSIS: VISITORS	88
5.2.6	OVERALL SATISFACTION.....	90
5.2.7	VISITORS: SUMMARY	90
5.2.8	QUESTION EXCLUDED FROM ANALYSIS	91
5.3.	STAFF MEMBER STAKEHOLDERS	92
5.3.1	RESPONSE RATES.....	93
5.3.2	STAFF DEMOGRAPHIC PROFILE.....	95
5.3.3	CONCEPTUAL THEMES.....	98
5.3.4	STATISTICAL THEMES: STAFF MEMBERS.....	104
5.3.5	FURTHER ANALYSIS	113

5.3.6	STAFF MEMBERS: SUMMARY	115
5.3.7	QUESTION EXCLUDED FROM ANALYSIS	115
5.4.	CORPORATE SPONSOR STAKEHOLDERS	116
5.4.1	CONCEPTUAL THEMES	118
5.4.2	THEMATIC ANALYSIS	121
5.4.3	CORPORATE SPONSORS: SUMMARY	122
5.4.4	QUESTION EXCLUSION FROM ANALYSIS	122
5.5.	ZOO ASSOCIATE STAKEHOLDERS	122
5.5.1	CONCEPTUAL THEMES	123
5.5.2	THEMATIC ANALYSIS	126
5.5.3	ZOO ASSOCIATES: SUMMARY	127
5.6.	CONCLUSION	127
 CHAPTER SIX: DISCUSSION		 129
6.1.	INTRODUCTION	129
6.2.	VISITOR ENGAGEMENT	130
6.2.1	IDENTIFY VISITORS	133
6.2.2	RESPOND TO VISITORS' EXPECTATIONS	134
6.2.3	ADOPT COMMUNICATION TECHNOLOGY	137
6.3.	CONTRIBUTION TO NATIONAL AND INTERNATIONAL CONSERVATION OF SPECIES AND HABITAT	138
6.3.1	SHOW-CASING CONSERVATION-FRIENDLY BEHAVIOURS	142
6.3.2	DEVELOP AND MAINTAIN PARTNERSHIPS	144
6.4.	STAFF ENGAGEMENT	145
6.4.1	HEALTHY WORK ENVIRONMENT	147
6.4.2	SUPPORTIVE AND INCLUSIVE LEADERSHIP	150
6.4.3	STAFF DEVELOPMENT	152
6.5.	ANIMAL MANAGEMENT STANDARDS	154
6.5.1	ETHICAL AND SUSTAINABLE PRACTICES	154
6.6.	INFRASTRUCTURE FOR ANIMALS	157
6.6.1	NATURALISTIC ANIMAL EXHIBITS	157
6.7.	RESEARCH PROGRAMMES	160
6.7.1	SUPPORT RESEARCH	161
6.7.2	PROMOTE GUIDELINES AND PROTOCOLS FOR RESEARCHERS	165
6.8.	COMMERCIAL VIABILITY	166
6.8.1	FINANCIAL, ECONOMIC AND SOCIAL SUSTAINABILITY	167

6.8.2	MUTUALLY BENEFICIAL PARTNERSHIPS	168
6.9.	CONCLUSION	170
CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS		171
7.1.1	BROAD GLOBAL ISSUES	177
7.1.2	REGIONAL AND LOCAL ISSUES	178
7.2.	RECOMMENDATIONS	181
7.3.	FUTURE RESEARCH	183
7.4.	CONCLUSION	184
CHAPTER EIGHT: REFERENCES		185
APPENDIX A: MATRIX FRAMEWORK FOR THE META-ANALYSIS OF LITERATURE THAT INFORMED THE SURVEY INSTRUMENTS FOR THIS RESEARCH.....		205
APPENDIX B: VISITORS RESPONSE RATES		295
DAILY VISITORS RESPONSE RATES FOR ALL STUDY SITES		296
APPENDIX C: SURVEY INSTRUMENTS (ENGLISH)		297
VISITOR SURVEY		297
STAFF MEMBER SURVEY		301
CORPORATE SPONSOR SURVEY		305
ZOO ASSOCIATE SURVEY		309
APPENDIX D: ETHICS APPROVAL		313
MASSEY UNIVERSITY HUMAN ETHICS (LOW RISK NOTIFICATION)		313
APPENDIX E: DISTRIBUTION OF RESPONSE IN PERCENTAGES		315
DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM NEW ZEALAND.		316
DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM INDONESIA .		318
DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM MALAYSIA..		320

DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM THE PHILIPPINES	322
DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM THAILAND...	324
DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM HONG KONG, SAR	326
DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM NEW ZEALAND	328
DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM INDONESIA	330
DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM MALAYSIA	332
DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM THE PHILIPPINES	334
DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM THAILAND	336
DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM HONG KONG, SAR	338

LIST OF TABLES

Table 1.1. Summary of the Chinese language variations used and encountered in Hong Kong.....	9
Table 2.1. Area size of protected and total land in case study countries in the Asia-Pacific region.....	17
Table 2.2 Key characteristics of each case study zoo in this research and their country of origin.	29
Table 4.1. Conceptual themes extrapolated from the body of literature for each stakeholder group. The full matrix from which these themes derived is provided in Appendix A.....	49
Table 5.1. The analytical methods adopted to examine the role and functions of zoo as perceived by visitors in the Asian-pacific region.....	68
Table 5.2. The response rates in percentages of visitor questionnaires, categorised by country.....	69
Table 5.3. The demographic variables of visitors' responses in percentages, categorised by the study zoos in their respective countries (HK: Hong Kong, IN: Indonesia, MY: Malaysia, NZ: New Zealand, PH: Philippines, TH: Thailand, ALL: All countries).....	70
Table 5.4. Percentage of visitors' self-identified religion at each study zoo in their respective countries.	72
Table 5.5. Percentage distribution of visitors' with 'strongly agree' responses regarding statements surrounding their motivation, perceptions, behaviours, and expectations at each study zoo in their respective countries. (Qs ¹ : Question number, NZ: New Zealand, IN: Indonesia, MY: Malaysia, PH: The Philippines, TH: Thailand, HK: Hong Kong, ALL: All case study zoos). ..	74
Table 5.6. Percentage of variance for each of the seven components extrapolated using Principal Component Analysis. Each component groups the statements that explain the variance of visitor responses in the data.	78
Table 5.7. The list of visitor questionnaire statements, grouped by the components calculated using Principal Components Analysis. (T: Refers to the corresponding conceptual themes from Table 5.5, and Q: Question number from the visitor questionnaire). Shaded columns represent the corresponding component number that each statement belongs in.....	80
Table 5.8. Spearman's rho correlation coefficient values reflecting the strength of the relationship between demographic variables of visitors and each component ¹ for all six study zoos.	84
Table 5.9. Thematic grouping of visitors' reasons for visiting the zoo (Question 51). ..	89

Table 5.10. Percentage distribution for questions 49, 52, and 52 from visitor questionnaire per study zoo's country (Y: Yes. N: No, M: Missing data)...	90
Table 5.11. The analytical methods adopted to examine the role and functions of zoo as perceived by staff members in the Asian-pacific region.....	93
Table 5.12. Total staff questionnaires from each study zoo in their respective countries. (Employment numbers include regular volunteers, casual staff, and permanent staff members).....	94
Table 5.13. Percentage distribution of staff members by demographic characteristics from each study zoo and all zoos combined (HK: Hong Kong, SAR, IN: Indonesia, MY: Malaysia. NZ: New Zealand, PH: Philippines, TH: Thailand, ALL: All study zoos).	96
Table 5.14. Percentage distribution of staff members' with 'strongly agree' responses regarding statements surrounding their motivation, perceptions, behaviours, and expectations per case study sites in their respective countries (Qs: Question number, NZ: New Zealand, IN: Indonesia, MY: Malaysia, PH: The Philippines, TH: Thailand, HK: Hong Kong, ALL: All case study zoos).	100
Table 5.15. Percentage of variance for each of the eight components extrapolated using Principal Component Analysis. Each component groups the statements that explain the variance of staff member responses in the data.	104
Table 5.16. Statistical themes: Statements from staff member's questionnaire grouped into the eight components as extracted using Principal Component Analysis. (T: Conceptual themes extrapolation from Table 5.15; No: Question number from questionnaire).	106
Table 5.17. Spearman's rho correlation coefficient values reflecting the strength of the relationship between demographic variables of staff members and each component for all six study zoos.....	110
Table 5.18. The top ten most rewarding aspects of staff members' job, categorised under each study zoo in their respective countries. These aspects were coded as follows: (1) working with or being close to wildlife; (2) interaction with the public/visitors; (3) interaction with fellow colleagues; (4) contributing to conservation efforts; (5) physical environment of the zoo; (6) financial incentives; (7) intrinsic factors; (8) development; (9) miscellaneous; and (10) no comment.	114
Table 5.19. The extent to which corporate sponsors agree with the statements regarding their perception, attitudes, opinions, and evaluation – percentage of responses for each statement in corporate sponsors' questionnaires with the distribution of response (Qs: Question number, $n = 15$; SD: Strongly Disagree, D: Disagree, N: Neither disagree nor agree, A: Agree, SA: Strongly Agree, DK: Don't Know, M: Missing data).....	120
Table 5.20. The extent to which zoo associates agree with the statements regarding their perception, attitudes, opinions, and evaluation – percentage of responses for each statement in zoo associates questionnaires with the distribution of response (Qs: Question number, $n = 20$; SD: Strongly Disagree, D:	

Disagree, N: Neither disagree nor agree, A: Agree, SA: Strongly Agree, DK: Don't Know, M: Missing data).	125
Table 6.1. Key characteristics and attributes of the modern zoo as perceived by major stakeholders in the Asia-Pacific region.	130
Table 6.2. Summary of literature and research findings: Visitor engagement.....	132
Table 6.3. Summary of literature and research findings: Contribution to national and international conservation of species and habitat.....	140
Table 6.4. Summary of literature and research findings: Staff engagement.	147
Table 6.5. Summary of literature and research findings: Animal management standards.	154
Table 6.6. Summary of literature and research findings: Infrastructure for animals. ...	157
Table 6.7. Summary of literature and research findings: Research programmes.	161
Table 6.8. Summary of literature and research findings: Commercial viability.	167
Table 7.7.1. Key research findings and recommendations for the Asia-Pacific zoos...	172

LIST OF FIGURES

Figure 2.1. Selected case study countries in the Asia-Pacific region for this research...	16
Figure 2.2. Regional map of Hong Kong, SAR with the location of the case study zoo identified.	20
Figure 2.3. Regional map of Indonesia with the location of the case study zoo identified.	21
Figure 2.4. Regional map of Malaysia the location of the case study zoo identified.	23
Figure 2.5. Regional map of New Zealand with the location of case study zoo identified.	24
Figure 2.6. Regional map of the Philippines with the location of the case study zoo identified.	26
Figure 2.7. Regional map of Thailand with the location of the case study site identified.	27
Figure 3.1. Evolution of captive wildlife facilities through the centuries - Adapted from Chicago Zoological Society, 1994 (Rabb and Saunders, 2005).....	33
Figure 4.1. Translation process used for this research (Brislin, 1970).	55
Figure 5.1. The distribution of local versus foreign visitors at each case study site ($n = 2279$, HK: 397, IN: 346, MY: 449, NZ: 375, PH: 354, TH: 358). <i>Missing data</i> refers to the percentage of respondents that did not answer this question.	69
Figure 5.2. Distribution of staff questionnaires across all countries ($n = 756$).....	94
Figure 6.1. Left to right: Non-traditional interactive animal displays at the Hamadryas baboons' exhibit (Auckland, New Zealand) and conventional displays at the deer enclosure (Zoo Negara, Malaysia).	136
Figure 6.2. Displays near the Orangutan exhibit informing visitors about the palm-oil free campaign at Auckland Zoo, New Zealand.....	143
Figure 6.3. Non-animal zoo staff members volunteering in local conservation efforts (Left) and keeping the local community clean by picking up litter during office hours (Right).	145
Figure 6.4. An excerpt from my personal diary regarding my opinions and experiences about working alongside my colleagues in a zoo.....	150
Figure 6.5. An experience I encountered regarding ethical and sustainable practices of animal management when travelling in Southeast Asia.	155

Figure 6.6 Photo-taking opportunities with endangered species such as leopards and Asian elephants found on roadsides in popular tourist areas in Thailand (O'Connor and Reyes, 2011).	156
Figure 6.7. Permanent housing conditions for surplus and non-display animals that are hidden from the view of the public.	158
Figure 6.8. Asian small-clawed otter exhibits at two zoos. Both may be considered natural but only the exhibit on the left is suitable for the animal. Exhibition on the left allows the otters to express natural behaviours such as diving as it contains a deep body of water, whereas the exhibit on the right does not.	159
Figure 6.9. Viewing platform in the Singapore Zoo's Treetops Trail, where visitors look for siamangs in the canopies of trees (A siamang is an arboreal species of ape).	160
Figure 6.10. Current range of research disciplines in zoos (World Association of Zoo and Aquariums, 2005).	163
Figure 6.11. An example of applied adaptive management framework with recommended steps for creating and evaluating a five year Zoo Biodiversity Action Plan (Hambly and Marshall, 2014, p. 3).	165

CHAPTER ONE: INTRODUCTION

1.1. BACKGROUND

The International Union for Conservation of Nature (IUCN) (2011) reported that the total number of threatened and endangered species rose by 84.8% during a fourteen-year period up to 2010. The main reasons for this increase are habitat destruction and modification, introduction of non-native species into unsuitable environments, overexploitation of wildlife and industrial pollution (Reeve, 2014; Lenzen, Moran, Kanemoto, Foran, Lobefaro and Geschke, 2012; Didham, Tylianakis, Gemmell, Rand, and Ewers, 2007; Shani and Pizam, 2010; Wilson, 1988; Wilson and Peter, 1988). Given the alarming rate at which wildlife is decreasing, many organisations are now removing representative wildlife from their natural habitat and housing them in managed facilities where they continue to breed. Zoos are one of the captive wildlife facilities that have resorted displaying and selective captive breeding to maintain genetic diversity. Zoos also educate the public about the plight of the wildlife counterparts of the animals seen in the exhibits and, increasingly, they are extending their portfolio to encompass captive breeding, scientific research, and *in situ* conservation efforts in cooperation with other institutions.

Wildlife has been held in captivity since the time of the Egyptians. It was a sign of status and power (Hanson, 2002; Hoage and Deiss, 1996; Kisling, 2000; Kreger and Hutchins, 2010). Since the 1700s, zoos have evolved to provide public recreation, education, scientific research, and the conservation of endangered species, which has assumed a more central role in response to the loss of wildlife habitats and biodiversity (Hanson, 2002; Hoage and Deiss, 1996; Kreger and Hutchins, 2010). Zoos were traditionally associated with entertainment, amusement, and recreation. Most captive animals have been owned or managed by private individuals, public zoological institutions and aquariums, research facilities, private wildlife centres, rehabilitation facilities and the entertainment industry.

Broadly speaking, zoos and their stakeholders evolved in three stages (Alexander, 1979; Kisling, 2000; Rabb and Saunders, 2005). Initially, zoos were mostly owned and funded by individuals; then followed a period when they were owned by both the state and the community and funded by tax dollars and entrance fees. Today, ownership structures

are more complicated and involve multiple stakeholders, and funding structures that depend on a combination of tax dollars, visitor fees, commercial tax-deductible contributions, research-oriented arrangements, international support, private endowments, and public and private research initiatives. Multiple, and often competing, stakeholders make it difficult to determine the future direction zoos will take and their role in society. Any study of zoo, wildlife and society in the 21st century requires some understanding of the relationship between private and public goals of zoo stakeholders; the resources required to meet the operational and development costs of zoos; issues pertaining to human and animal ethics; and their contribution to the conservation of wildlife. Importantly, current zoo research can no longer focus on one discipline; it needs to have a multidisciplinary perspective, drawing upon visitor studies, conservation biology, human resources, social science, computer science, corporate studies, pedagogical studies, economics, for example, to more holistically reflect the reality of the challenges faced by zoos.

1.2. PROBLEM STATEMENT

Analysing both the demands of modern stakeholders and the evolution of zoos is challenging. Who are the zoos' customers, what do they want, and how are the needs of the public and demands of the private sectors reconciled? Most of the current published studies are conducted in zoos in North America, Europe, and Australia and, therefore, the discussion reflect a Western bias. In other parts of the world, particularly in the Asian region, fewer studies have been reported on the factors influencing the value of zoos and their relationships to society and wildlife.

1.2.1 AIM

The aim of this research is to examine the role and functions of zoos in the Asia-Pacific region and analyse their value to society and wildlife in the 21st century in order to inform future development strategies.

1.3. OBJECTIVES

The research objectives are as follows:

1. Differentiate the importance of wildlife to the public and private sectors.
2. Determine the roles and functions of zoos in meeting the needs of the public and private sectors.

3. Design a survey instrument to collect data on the role and importance of zoos in the Asia-Pacific region.
4. Identify case study areas and implement survey instrument.
5. Analyse and report findings and make recommendations.

1.4. CONTRIBUTION OF RESEARCH

Due to the large number of competing recreational options, zoos appear to be increasingly threatened by a decrease in resources required to operate them efficiently. Discretionary funding support from private stakeholders and the sweat equity of volunteers are increasingly augmenting the traditional resource base of zoos. Understanding the competing demands of stakeholders would provide insights to improve prospects for zoos striving for effective conservation, research, and education.

Most related studies reflect a Western bias in our understanding of zoos. There is consensus for an increasing call for a unified zoo community to combined resources for the sake of conservation (Hatchwell, Rubel, Dickie, West and Zimmerman, 2007). Exploring the Asia-Pacific region would make useful contributions to this field of research as this study not only acknowledges the diversity¹ of the region, but also takes into consideration how these diversities may influence strategies for further development and evaluation. Furthermore, this research combines methodological tools from the sciences, social sciences, and humanities to integrate the study in a unique manner. The study data are drawn from a data set (>3000 questionnaires) collected in six countries that provide insights into the evolution of zoos and how they may be better managed in the future.

1.5. SCOPE AND SCALE

This was an ambitious study, with significant logistical challenges that involved visiting six countries to complete the fieldwork. In addition to communicating with the highest levels of management in these countries' zoos, both the survey instruments and results needed to be translated to accommodate the five participating language groups. In total, over 3000 questionnaires were collected from the study zoos. Furthermore, funding needed to be secured to undertake this geographically challenging and time consuming exercise. Other equally challenging aspects of this study included the coordination of

¹ Diversity refers to cultural, educational, organizational, socio-economical, political, and environmental differences.

translations and printing of survey instruments, interpreters, accommodation, and transport arrangements.

This multidisciplinary approach draws upon methods, theories and principles from several academic disciplines such as social sciences, anthropology, visitor studies, human resources, corporate management, economics, and pedagogy. It builds upon principles, similar to grounded theory whereby the process is inductive in nature.

1.6. RESEARCH DESIGN AND PARTICIPANTS

This research adopts a multifaceted approach to exploring stakeholders' perceptions, attitudes, demands, and expectations in a region that is vastly diverse in many aspects and under-represented in the literature. The data acquisition methods and tools selected incorporated the traditional quantitative data (questionnaires) and qualitative data (open-ended and short answer questions in the questionnaires, matrix framework of the literature, observations recorded in my personal journal, and my professional experiences from working for years in zoos). My professional background and experience in this sector are reflected in my critical reflections and observations in this study and complement and contextualise the quantitative results.

A literature survey is done to summarise and organise the literature and to create the matrix framework. This matrix developed (Appendix A) is one that is particularly large and created to design the survey instruments for this thesis and serves as a meta-analysis of the different academic disciplines drawn from to create the matrix. The inclusion of the matrix allows the readers to see the links between the literature and how each source contributes to the creation of the four survey instruments.

For the purpose of this research, a zoo is defined as a facility that is home to multiple captive wildlife species. The layout of the zoo is varied, as described in section 1.9.4. Six study zoos from the Asia-Pacific region are used as case study sites. These zoos are representative of much of the Southeast Asia and Hong Kong and reflect the diversity of the region. The study provides a model for comparing the results collected in this research and from the literature. The six case study zoos in the Asia –Pacific region are as follows:

1. Ocean Park, Hong Kong Special Administrative Region of the People's Republic of China
2. Taman Safari, Bogor, Indonesia

3. Zoo Negara, Kuala Lumpur, Malaysia
4. Auckland Zoo, Auckland, New Zealand
5. Zoobic Safari, Zambales, The Philippines
6. Khao Kheow Open Zoo, Chon Buri, Thailand

New Zealand is the only country in this research that is in the Pacific region and the study zoo in this country reflects a Western framework that is heavily represented in the literature. At each of these zoos, four major groups of stakeholders were surveyed to understand the attitudes, perceptions, and expectations of stakeholders in this region. This would allow zoo managers to provide more directed strategies for engaging with each stakeholder group. The following are the four stakeholder groups that were surveyed in each of the study zoos:

1. Visitors
2. Staff members
3. Corporate sponsors
4. Associates of the zoo (or Zoo associates)

1.7. PERSONAL REFLECTIONS

I did not set out to examine the diversity of this region and how that might impact perceptions and attitudes. I had an initial idea of bridging this gap in the literature that is absent from this region and from the specified stakeholders groups within this industry. However, over the course of the fieldwork, it became evident that the multiple and sometimes subtle differences that I observed seemed to influence the perceptions and attitudes of the stakeholders. Due to these new revelations, it would be inaccurate and unethical to not adjust the direction of this research that includes an anthropological aspect when analysing the data. This allowed a fairer contextual perspective when interpreting and discussing the results.

The passion and enthusiasm I have for this topic sustained me through the many challenging situations I encountered during fieldtrips. Keeping a travel journal has been a habit of mine that I started many years ago. The difference in time zones made it difficult to contact many zoos to arrange the time and other details of this study. In addition to this uncertainty, I had never visited many of the countries in this research, compounding my anxiety regarding the living, social and security conditions that I was exposed to while travelling alone.

Despite the many challenges, which any lone traveler would expect to face, I particularly enjoyed the zoo environment. It brought back nostalgic memories from years of employment as a zoo volunteer, show presenter, animal keeper, department supervisor, and educator at my previous jobs before commencing this doctoral research. During my employment, I had the amazing opportunity to assist in hand-raising juvenile animals, monitoring animals' body condition, and training and conditioning animals to be in close contact with visitors. Generally, my job was to care for many species such as spotted and striped hyenas, pumas, wild cats, otters, civets, large and small snakes, raptors, cheetahs, and parrots. As part of my job, I interacted with visitors daily through animal shows, classrooms, and interactive group sessions. Every day was different. Watching these animals grow and sharing wildlife facts with visitors was an extremely rewarding experience.

I am conscious that my previous work experiences have the potential to bias my sampling and data interpretation, and thus threaten the validity of my results. As I was aware of these challenges from the beginning, I took steps including critical reflections with supervisors and advisors, to identify and mitigate such sources of bias.

During the course of my fieldwork, I made many friends who were warm, welcoming, and willing to share a meal with me. It was through social and professional settings as well as passing conversation during the fieldwork that I journaled many observations about zoos and their staff members. I have omitted the names of people and places. This anonymity enabled me to more freely incorporate my observations to provide context around many of the results. Thus, I am in a unique position to combine and analyse the quantitative research results with other more subjective results coming from my personal observations during the fieldwork period, and my professional experience. I am very grateful for the level of trust and respect that many staff members have placed upon me.

1.8. FIELDWORK PREPARATION

There are many considerations that I made while establishing trust and rapport with the stakeholders to allow information to be gathered informally and formally. Specifically, there were four aspects, which I have addressed in this following section namely attire, language, logistics, and accommodation.

1.8.1 ATTIRE

Several religions, including Buddhism, Islam, and Christianity, were and are still common in the study zoo areas. This was particularly true in Indonesia and Malaysia where Islam is the predominant religion. Particularly in Asia, the attire of most women is generally, conservative despite the tropical heat: for this reason, I took care to dress appropriately. Adhering to such conventions presents myself as an individual that is professional and respectful of the local culture. For example, wearing modest clothing such as shorts or dresses that did not rise above the knee.

1.8.2 LANGUAGE

It was important to me to be able to communicate with stakeholders without being completely reliant on a translator. I am able to speak simple Mandarin and have a very basic grasp of Bahasa Malaysia, Bahasa Indonesia, and a couple of Chinese dialects. It was possible to initiate conversations in most of the case study sites by using a mix of these languages and dialects. With additional use of body language and gestures, I was able to understand basic conversations with visitors and staff members. In other sites where language was a major barrier, I had to learn simple key sentences in the local language and used an electronic translator to communicate with people. The limitations and resulting implications on the data collection are addressed in section 1.9.2.

1.8.3 LOGISTICS

Commuting to five countries outside New Zealand was very challenging, as confirmation of participation and commencement dates for four study zoos were not established before departure. Minor tasks such as mailing the completed questionnaires back to New Zealand for safekeeping was difficult in several countries. I could not risk using local mailing services to send the questionnaires back to New Zealand and therefore had to source and utilise reputable air courier companies including FedEx, UPS, and/or DHL to mail them back. Due to the remoteness of some case study sites, it was not possible to use the pick-up service. Therefore, I had to travel to the local town to organise this personally. It was even more challenging as language was a barrier and the sourcing of such information was well beyond my foreign vocabulary. Furthermore, public transportation in some of these remote places is dissimilar to the conventional types used in New Zealand. Balancing a large, heavy bag filled with paper (questionnaires) on the back of a small motorbike was an interesting experience. I was

very fortunate to have enlisted the help of many strangers who were patient with me as I tried to explain what I required.

1.8.4 ACCOMMODATION

The issue of accommodation is important to address as most of the study zoos are isolated and accommodation is expensive. Due to the limited funds available for this research, I had to be creative when sourcing safe and convenient accommodation in each country. Using the volunteer-based network, *CouchSurfing*², I was able to connect with local members for advice regarding accommodation, local transportation, and other security concerns that I had. From this, I was able to hire private apartments and rooms at a low cost when the zoos were not able to assist me.

1.9. LIMITATIONS

Each study zoo had different language, cultural, and operational challenges that needed to be resolved to ensure that the data collected were homogeneous. I faced several limitations across all the countries throughout the fieldwork. I could not have prepared for many of these in advance. There were seven limitations encountered: (1) gender disparity, (2) language barriers, (3) translation limitations, (4) operational concerns, (5) natural disasters, (6) organizational culture, and (7) contact with corporate sponsors and zoo associates. These limitations were dealt with as encountered and taken into consideration during the management and analysis of the data. The details and implications of these limitations are outlined next.

1.9.1 GENDER DISPARITY

It was observed on many occasions during the random selection of visitors, that when a male was selected, he would pass the questionnaire on to his wife/girlfriend or daughter to complete. There was limited direct communication between the female individuals that completed the questionnaire and myself, as the male would act as the catalyst during interaction. Further details will be elaborated in Chapter Five: Results (p. 70).

² *CouchSurfing* is an online global community of people that connects travelers and local members in over 120,000 cities willingly to share their homes, experiences, and journeys: <http://about.couchsurfing.com/about/>

1.9.2 LANGUAGE BARRIERS

I experienced significant language barriers in four of the six countries surveyed. Due to my ethnic background (Southeastern Chinese), I resemble the local population in five of the six countries. I could approach local visitors easily, but once the conversation started, the difference in my accent was noted and potential visitor participants would usually avoid speaking to me or simply walk away. I was able to learn several simple sentences with assistance from the local zoo staff members. This was useful and served to increase the response rate during the second week of data collection. This sub-section details the specific language barriers that made data collection challenging in Hong Kong, Indonesia, the Philippines, and Thailand. There were no noteworthy language barriers that impaired data collection in the other two study sites, Malaysia and New Zealand, so there was no impact on the data collection in those sites.

Hong Kong

The second language option for the questionnaire was written using the traditional Chinese language. There are two sets of characters in the Chinese language: traditional (繁体字) and simplified (简体字). The local people in Hong Kong officially use the traditional Chinese characters and people from Mainland China have adopted simplified Chinese characters. It is easier to read simplified Chinese if the individual has learnt the traditional characters. However, the reverse is not true. This restricted many Mainland Chinese visitors from doing the questionnaire. The table that follows summarises the Chinese language spoken and written in these sites as well as my own comprehension level.

Table 1.1. Summary of the Chinese language variations used and encountered in Hong Kong.

Respondent(s)	Spoken	Written
Hong Kong Chinese	Cantonese dialect (香港话)	Traditional Chinese (繁体字)
Mainland Chinese	Standard Chinese (普通话)	Simplified Chinese (简体字)
Researcher	Simple Standard Chinese (普通话) and Cantonese dialect (香港话)	Basic Simplified Chinese (简体字)

Generally speaking, Mainland Chinese people speak Standard Chinese or Mandarin (普通话). Hong Kong Chinese people use the Cantonese dialect (香港话). Consequently, there were a number of potential respondents who agreed to complete the survey, but

were unable to read the traditional characters in the questionnaire. These were not included as a rejection. A few of these potential respondents requested that I read it to them, but the extent of my ability to comprehend the language is restricted to simplified characters as well as only basic Mandarin conversation, so I was unable to help and therefore they were not surveyed.

Indonesia

Bogor, Indonesia, has a large Arab community. During the fieldwork, I encountered many Arabic visitors who spoke Arabic but not Bahasa Indonesia. I could distinguish between Bahasa Indonesia and Arabic because I was exposed to the former while growing up and working in Singapore with many native Malays. Based on the visitors encountered during the fieldwork, I estimated approximately 40-50% who could be classified as Arabs and who did not understand English or Bahasa Indonesia. Due to this language barrier, I was not able to survey any of these visitors and they are therefore not part of the sample population.

The Philippines

I went to the Philippines by invitation of the owner of several local zoos. The invitation included conducting this research as well as an assessment of the zoos' facilities, educational programmes, animal presentations, and animal training techniques. I visited and assessed four facilities during the three weeks spent in the Philippines. In doing so, I only spent two to three days, personally, distributing the questionnaires to the visitors. In the subsequent days, a team of zoo staff members was assigned to continue the distribution, while maintaining contact and updating me on its progress daily. This was done via meetings or via the telephone when I was based at a different location.

Thailand

There was a language barrier in Thailand between the visitors and myself. The first three days of data collection yielded a relatively low response rate (40%), because of my inability to speak Thai (Appendix B). The visitors who participated in the survey were either English-speaking foreigners or those approached by a native speaking staff member who conducted the survey in Thai. A native speaker was hired to assist me with subsequent data collection.

1.9.3 TRANSLATION LIMITATIONS

It became apparent that many staff members and visitors might not have understood the questionnaires. Native speakers with postgraduate qualifications from English-speaking universities (e.g. Massey University, New Zealand and National University of Singapore, Singapore) translated the questionnaires. The language used may have been too formal or academic for potential participants who did not have higher education. It is common for native speakers of any language not to understand formal and/or academic writing unless they have had prior experience with this formal style of language. Consequently, staff members assisting with the implementation of survey were trained to clarify any uncertainty respondents may have had.

1.9.4 OPERATIONAL CONCERNS

The participating zoos had different layouts that had to be taken into consideration when distributing the questionnaires to the visitors. These layouts affected how the questionnaires were distributed, as there were limitations to where I could approach visitors. Broadly speaking, the zoos were laid out in one of two styles:

- a. Traditional layout: where visitors primarily have to walk through to view animals in the exhibits. With this type of layout, visitors were approached at the exits of the park.
- b. Safari layout: where visitors predominantly tour the park in a vehicle either provided by the zoo or a private vehicle. Visitors were approached at either animal show venues or at popular rest stops in the second leg of the tour.

1.9.5 NATURAL DISASTERS

I was trapped and subsequently evacuated from one case study site in Indonesia where flooding was caused by an extreme weather event. There was damage done to the zoo following the flood and this caused a delay of several days in distributing questionnaires. However, this situation provided me with a unique insight into how staff members responded to a stressful event.

1.9.6 ORGANISATIONAL CULTURE

I spent many hours formally and informally interacting with staff members. It is an important point to note that many of the staff members who worked in some of these

zoos were very appreciative of their job. Generally, there was a sense of loyalty towards the zoos and this loyalty influenced is reflected in many of the responses provided. There were several conversations held privately with some staff that indicated displeasure with regard to difficulties faced, but very few of these issues came to light through the questionnaires out of fear of being identified and subsequently losing their livelihood. Despite guaranteeing confidentiality, staff members were still very unwilling to pen their opinions on paper. I will further discuss the implications of this in the Discussion chapter.

It was also observed in some zoos that, due to the bureaucracy of the zoos' organisational structure, it was difficult for zoo managers to reprimand under-performing staff members and it appeared that many staff members capitalised on this situation. In addition to these issues, the penmanship in many of the completed questionnaires appeared to be identical. These staff members identified had been recommended as 'helpful' and 'cooperative' by upper management, but their responses did not truthfully represent reality in the questionnaires.

1.9.7 CORPORATE SPONSORS AND ZOO ASSOCIATES

Creating the opportunity to have discussions with corporate sponsors and zoo associates was limited as these external groups or organisations were not located at the same site as the zoos. All initial communication and requests for their participation was made through a zoo staff member at each study zoo. It was at the discretion of the zoo staff member to select and email the questionnaires to corporate sponsors and zoo associates. Due to these restrictions, the qualitative and quantitative data collected for these stakeholders are limited.

1.10. THESIS OUTLINE

This thesis is divided into seven chapters.

Chapter One introduces the research and provides an outline of the problem being researched. This chapter also covers the research aim, objectives, limitations, contribution to knowledge, and the structure of the thesis. It also introduces the scale of this research and the study limitations.

Chapter Two provides an insight to the challenges and status quo of wildlife and relevant socioeconomic issues in the Asia-Pacific region. It provides an important

background to each case study country. This highlights the diversity of the region, and a brief history of the zoo selected in each country.

Chapter Three examines the evolution of zoos and their roles and functions. This chapter also describes the zoo stakeholders that are central to this research and highlights the lack of current literature on these stakeholders.

Chapter Four describes the methods chosen to undertake this study. The tools selected contribute to the interpretive framework that provides a deep understanding of the challenges and issues faced by zoo managers in the study region. In addition, the chapter introduces the use of my professional experiences and observations as tools that are relevant to providing context to the quantitative data collected through the survey instruments.

Chapter Five presents the results and analysis drawn from the data set collected from the six study zoos. The qualitative data, such as personal observations and experiences, are not presented in the chapter but are integrated into the following chapter where it is better suited to contextualise the survey results.

Chapter Six discusses the results against seven key zoo characteristics that are informed by the literature and compares them with the results and qualitative data gathered from personal observations and experiences. It highlights the attributes that are unique to this region. The seven key characteristics are visitor engagement, contribution to national and international conservation of species and habitat, staff engagement, animal management standards, infrastructure for animals, research programmes and commercial viability.

Chapter Seven addresses the significance of this research and provides insights that zoo manager may consider when developing future management strategies in the Asia-Pacific region.

We do not inherit the Earth from our ancestors; we borrow it from our children

Native American Proverb

CHAPTER TWO: BACKGROUND

2.1. INTRODUCTION

Zoos are facing competing demands from their stakeholders and yet there is limited literature that explores the relationships, expectations, and perceptions of zoo visitors, staff members, corporate sponsors, and associates in the Asia-Pacific region. There are three broad areas that provide background to this research: (1) the choice of the Asia-Pacific as a region; (2) zoos as an evolving industry; and (3) the stakeholders selected for their importance in the zoo industry. All participating zoos in this research will be referred to in this thesis as study zoos.

This background chapter focuses on the literature research reflecting the first broad area: the choice of the Asia-Pacific as a region. It highlights the economic, social and environmental diversity in the Asia-Pacific, as well as the study zoos selected to represent this region. The next chapter focuses on the evolution of zoos and the selected stakeholders. Asia, in particular, is recognised as a ‘hotspot’ for biodiversity. i.e. a high density of species per unit land area, many of which are endangered (Veech, 2003). The Asia-Pacific region was selected for this research because it is one of the most culturally, economically and environmentally diverse regions in the world (Brook and McGrew, 2013; Bhandari and Abe, 2000).

The chapter is divided into several sections, covering the existing characteristics of each research site. A description of each participating zoo’s country and their location on maps is provided. S. Villacis created all maps specifically for this research using ArcGIS software. Lastly, a brief history of the case study zoos will be given where possible. There are six study zoos in total and these are discussed in alphabetical order.

2.2. ASIA-PACIFIC

The Asia-Pacific region tops the world in human population density. Thus, the survival of natural forests and wildlife, including protected biodiversity hotspots, are at serious risk in many countries (Woodruff, 2010; Agoramoorthy and Hsu, 2001; Cincotta, Wisniewski, and Engelman, 2000). The region is suffering from rapid and extensive erosion of that diversity (Sodhi, Koh, Brook, and Ng, 2004). Figure 2.1 depicts the countries in the Asia-Pacific that are part of this research.

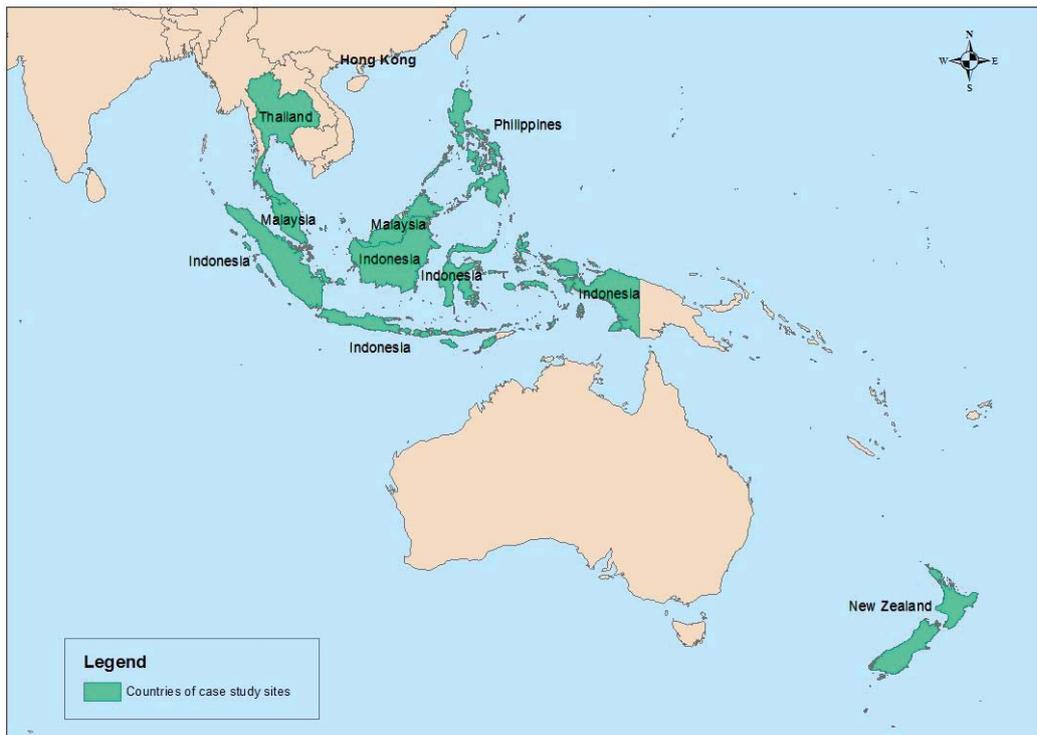


Figure 2.1. Selected case study countries in the Asia-Pacific region for this research

Although all regions are impressive in terms of size, population and diversity, the Asia-Pacific region leads all others on all three dimensions. The region includes five sub-regions, all impressive in size and diversity which combined holds more than half of the world's population (UNESCO, 2009, p. 18)

The Asia-Pacific region is home to a diverse range of cultures (Ryan, Tilbury, Corcoran, Abe and Nomura, 2010; Waggner and Lane, 1997). The region's countries are shaped under different civilisations and traditions (Simone and Feraru, 1995) and house all the major religions of the world: Hinduism, Buddhism, Christianity, and Islam. Religion often strongly reflects the ingrained social values and beliefs, which structure institutional forms and individual community lifestyles (Daniels, 1998). A shared cultural feature in this region is the high value placed on family and community welfare above individual interest (Rozman, 2014; Baylis, Smith and Owens 2013; Simone and Feraru, 1995). The population for the Asia-Pacific region is large, rapidly growing, and disproportionately distributed (Waggner and Lane, 1997). In 2010, there were approximately 754 million people living in the Asia-Pacific region and almost half of this population were living in urban areas (Social Development Division, 2013). Seven of the ten most populous cities in the world are found in this region. Of the 22 mega-cities (population of more than 10 million), 13 are found here (Social

Development Division, 2013). The developing Asian economies have grown rapidly³ over the past 30 years (Lee and Hong, 2012). However, there is a large divide between the rich and the poor, and a significant number of people are economically and socially dependent on the natural environment (Ryan et al., 2010; Bhandari and Abe, 2000). Furthermore, this region is overwhelmed with persistent poverty, rapidly expanding populations, discrimination, and inequity (Woodruff, 2010; Ryan et al., 2010; Abe and Bhandari, 1999).

The Asia-Pacific region is also home to a diverse range of natural habitats (such as rainforests, coral islands, beaches) and biodiversity. Because of this diverse range, ever-increasing urbanization and climate change, the percentage of protected land in each country is limited and the natural resources of the Asia-Pacific region are deteriorating at an alarming rate (Bhandari and Abe, 2000). The following table presents the percentage of protected area in each of the countries surveyed in this research.

Table 2.1. Area size of protected and total land in case study countries in the Asia-Pacific region.

Country	Land area 1,000 ha	Protected area 1,000ha	Protected area (%)
Indonesia	181 157	19 340	11
Hong Kong ⁴	118.2	50.8	43
Malaysia	32 855	1 487	5
The Philippines	29 817	567	2
New Zealand	26 331	8 763	33.4
Thailand	51 089	6 475	13

The Asia-Pacific region has the record of the world's highest number of threatened species with six of ten countries found to be in South-East Asia (United Nations Development Programme, 2014), and studies have shown that population density is a primary cause of forest loss in Asia (Sodhi and Brook, 2009). The presence of large-scale markets, which are poorly policed and offer a wealth of threatened species seems to be especially prevalent in Asia (Davies, 2005; Oldfield, 2003 in Nekaris, Shepherd, Starr, and Nijman, 2010).

³ The region's real GDP in purchasing power parity climbed from \$3.3 trillion in 1980 to an estimated \$24.5 trillion in 2009; three times more than the world economy in the same period.

⁴ Hong Kong is the first Special Administrative Region of the People's Republic of China. Although it is not a country, it has a different political system and attitudes from Mainland China, therefore considered a 'different country' in this research.

The major challenges in mitigating the current and imminent threats to Southeast Asia's biodiversity are primarily socioeconomic in origin, including population growth, poverty, and chronic shortage of conservation resources (such as expertise and funding), weak national institutions, and extensive corruption (Sodhi and Brook, 2009). Sodhi et al. recommended that key solutions to these challenges should include: (1) an increase in public environmental awareness; (2) defined, protected, and biologically representative reserves; and (3) the establishment of economic incentives for conservation (2004). Economic conditions, cultural traditions, and changes in wide-scale agricultural practices mean that trade practices in Asia are detrimental to wildlife. However, as the Asia-Pacific region is culturally diverse, approaches to nature are equally diverse and complex (Frost, Laing, and Beeton, 2014; Fuentes, Inciong, and Jose-Castillo, 2012; Packer, Ballantyne, and Hughes, 2014).

2.2.1 DIFFERENT VALUES

Conservation practices in Asia are often generalised and linked to the region's major economies and religions (Nekaris et al., 2010). In the case of wildlife trade, culturally specific patterns are evident among the different ethnic groups, even within a country itself (Nekaris et al., 2010). A survey of attitudes towards the welfare and rights of animals was conducted in universities in 11 European and Asian countries to improve understanding of cultural differences that might influence trade and international relations (Phillips et al., 2012). There were national and continental differences in the attitudes between European and Asian students' concerning animal welfare and rights, which appeared to arise because of the socio-political situations in the different regions more so than religious or other differences. Therefore, economic factors instead of religion appear to affect this region's conservation practices. Key drivers may include economic situation, and uses of animals, as determined by the climatic and historical situation of a region. Culture perpetuates the different positions that animals hold in human society throughout the world (Phillips et al., 2012) and the relationship between humans and animals.

Phillips et al. found that students in European countries had greater concern for animal welfare, but not rights, than students in Asian countries (2012). A better understanding of cultural attitudes toward animals and how humans use them can promote understanding and tolerance if differences between Europeans and Asians are clearly understood (Turner and D'Silva, 2006 in Phillips et al., 2012). A recent study

comparing two culturally different cultures is that of Packer, Ballantyne and Hughes (2014), in which they studied the differences and similarities between Chinese and Australian visitors' attitudes towards nature, animals and environmental values.

Despite the Chinese approach to nature being influenced by ancient traditions, cultural values and religious and philosophical beliefs, the Chinese hold a more anthropocentric view of nature than Australians. This is further supported by Harris (2008) who reported that Chinese people consider economic growth of higher importance than environmental protection. These studies highlight the importance of recognising and understanding that different cultures may have different approaches towards nature and the environment.

Consequently, the different approaches towards nature and environment would affect how different cultures respond to nature-based experiences; therefore play a significant role in facilitating adaptations to develop strategies that encourage environmentally sustainable behaviour that takes cultural differences into consideration (Packer et al., 2014).

2.3. HONG KONG, SPECIAL ADMINISTRATION REGION (PEOPLE'S REPUBLIC OF CHINA)

Hong Kong SAR is made up of 263 islands. These islands border the South China Sea and China in Southeast Asia (Lands Department, 2005) and have a total land area of 1104.43 square kilometres (Figure 2.2). Hong Kong has a population of approximately 7.08 million. The quality of education is considered 'good' in Hong Kong, with approximately 75% of the population over 25 years old holding at least some form of secondary school education (United Nations Economic and Social Commission for Asia and Pacific, 2014). The people are free to practice all religions, which include Buddhism, Taoism, Confucianism, Islam, Hinduism, Sikhism, and Judaism (Hong Kong Government Yearbook, 2012). The *World Fact Book* indicates that a diverse range of local religion (90%) and Christian (10%) is practiced (Central Intelligence Agency, 2014b). The official languages of Hong Kong are Cantonese and English.

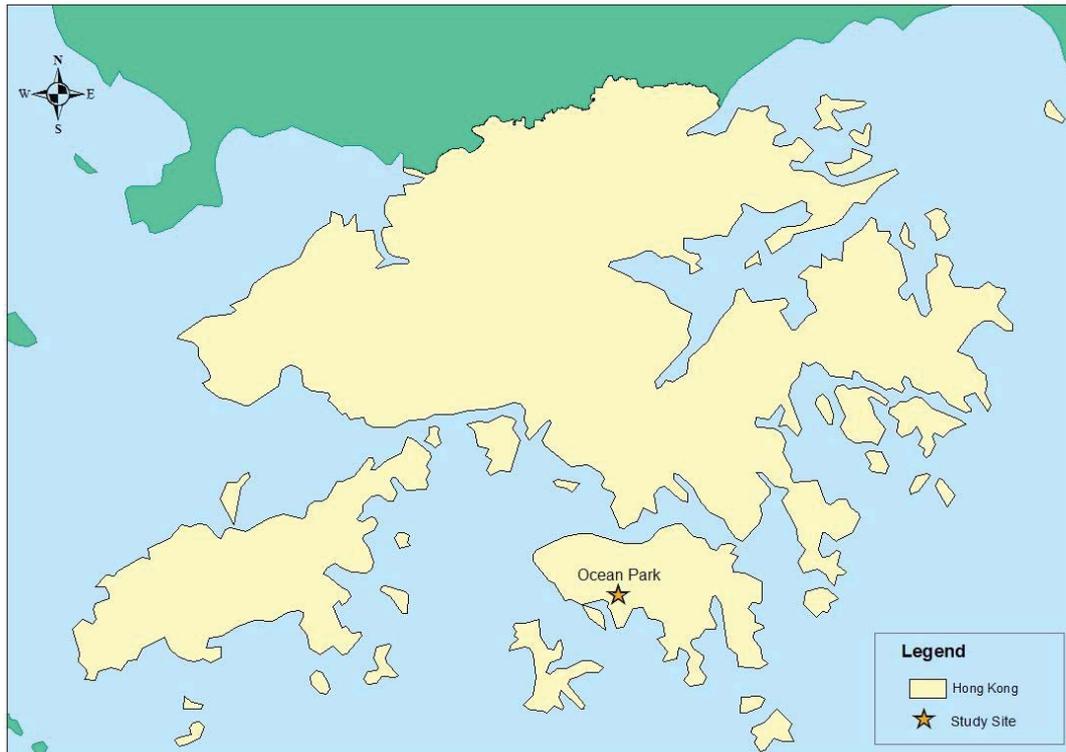


Figure 2.2. Regional map of Hong Kong, SAR with the location of the case study zoo identified.

Hong Kong has developed significantly in the past 150 years. It has become one of the most densely populated urban habitats in the world (Warren-Rhodes and Koenig, 2001). The natural terrain of Hong Kong is mostly mountainous. The population therefore settles on limited existing and reclaimed land (Warren-Rhodes and Koenig, 2001). Hong Kong has retained a high diversity of ecological habitats due to its geographic location. Its islands are positioned at the periphery of the tropical and temperate climatic zones (Ng and Obbard, 2005). There are more than 3,300 species and varieties of vascular plants, of which 2100 are considered native. There are over 50 known species of terrestrial mammals, 520 species of wild birds, and over 100 species of reptiles and amphibians (Agriculture, Fisheries and Conservation Department, 2014).

2.3.1 STUDY ZOO ONE: OCEAN PARK

Ocean Park, situated on the southern side of Hong Kong Island, is Hong Kong's premier educational theme park. Ocean Park was officially opened in January 1977 by the then Governor of Hong Kong, Sir Murray MacLehose (Ocean Park, 2014). The current park covers more than 870,000 square metres of land and features a diverse selection of world-class marine attractions, thrill rides and shows divided between three areas: Lowland, Headland and Tai Shue Wan. The park is operated by the Ocean Park Corporation, a statutory board, and not-for-profit organization that aims to provide elements of entertainment, education, and conservation at an affordable price. The park

has consistently rejuvenated and reinvented itself to better serve its guests, establishing itself as a major tourist attraction both locally and abroad. Since its opening more than 30 years ago, over 100 million guests have visited Ocean Park. Over 5 million guests visit Ocean Park each year (Ocean Park, 2014).

2.4. INDONESIA

Indonesia is the world's largest archipelago with over 17,000 islands. These islands are located between the Indian Ocean and the Pacific Ocean in Southeast Asia (Figure 2.3). It covers a land area of over 1,900,000 square kilometres and has a population of 237 million people. It is the fourth most populous country in the world. The quality of education in Indonesia is 'very poor' with only 44.5% of the population over 25 years old holding at least some secondary school education (United Nations Development Programme, 2014). This is the second lowest compared to the other countries in this research region. There are four main religions practiced in Indonesia. These are Islam (86.1%), Christianity (8.7%), Hinduism (1.8%), and other or unspecified (3.4%) (Central Intelligence Agency, 2014c). The official language in Indonesia is Bahasa Indonesia.



Figure 2.3. Regional map of Indonesia with the location of the case study zoo identified.

The country spans over two bio-geographic regions and it supports a wide diversity of wildlife in its rain forests, costal and marine areas (The World Bank, 2013). There are over 3,300 known species of amphibians, birds, mammals and reptiles as well as over 29,000 species of plants that are endemic to the islands (The World Bank, 2013). There are many challenges in Indonesia. The country's environmental issues include deforestation, wildlife trade, pollution, and overfishing. There is an increasing demand for this country's fish, oil palm, timber, wood pulp, gold, oil, and gas resources (Central Intelligence Agency, 2014c). The UN Food and Agriculture Organisation estimated that Indonesia loses a 1.87 million ha of forest every year. The primary reason for this loss is the global demand for wood pulp and palm oil (Central Intelligence Agency, 2014c).

2.4.1 STUDY ZOO TWO: TAMAN SAFARI

Taman Safari spans over 170 hectares and is home to approximately 2,500 animals. Visitors are encouraged to drive around in private cars around the park due to its size and safari type layout. The study zoo is located in Cisarua, Bogor on the island of Java in the West Java province. It is approximately 70 kilometre from the capital. Taman Safari is privately owned by a family of circus owners, headed by Mr. Manasung and opened in 1986. Taman Safari bought a large plot of mountain land near the west Java tea plantation and over the years, the family developed several endangered species programs and supported many conservation projects (Walker, 2001).

2.5. MALAYSIA

Malaysia is located on the peninsula that borders Thailand in Asia and the northern one-third of the island of Borneo. It has 11 states and two federal territories (Tourism Malaysia, 2014) (Figure 2.4). The United Nations considers the quality of education to be 'good' in Malaysia, with approximately 70% of the population over 25 years old holding at least some secondary school education (United Nations Development Programme, 2014).

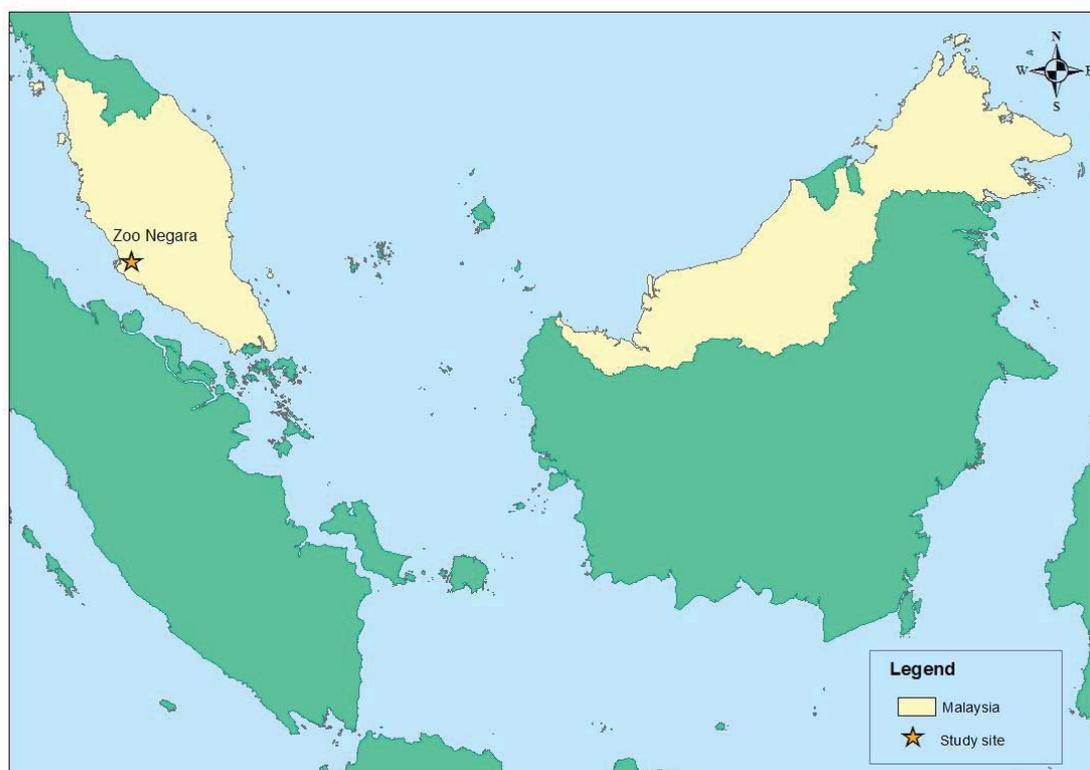


Figure 2.4. Regional map of Malaysia the location of the case study zoo identified.

The predominant religion practiced in Malaysia is Islam (61.3%) followed by Buddhism (19.8%). The official business language is Bahasa Malaysia and there are approximately 30 million people living in Malaysia (Central Intelligence Agency, 2014d). Kuala Lumpur is the capital of Malaysia with an urban population of over 1.8 million people (VisitKL, 2014). It is the most industrialised and, economically, the fastest growing region in the country. Current environmental issues include air and water pollution, and deforestation. One of their primary economic industries is rubber and palm oil manufacturing and processing (Central Intelligence Agency, 2014d).

2.5.1 STUDY ZOO THREE: ZOO NEGARA

Zoo Negara, opened in 1963 (Zoo Negara, 2014), and is home to over 470 species of animals on 110 acres of land. It was the first zoo to ever be opened in Malaysia and is located approximately five kilometers from Kuala Lumpur's city center. The Malaysian Zoological Society, a non-governmental organisation, founded in 1962, manages Zoo Negara. Zoo Negara welcomed over 745,000 visitors in 2011, with 136 staff and over 10,000 volunteers over the period of that year (The Malaysian Zoological Society, 2011).

2.6. NEW ZEALAND

New Zealand is an island country in the Southwestern Pacific Ocean. It comprises of two main islands and is divided into 27 regions that stretch over 1,600 kilometres (New Zealand Information, 2014). As of June 2014, the national population is estimated to be 4.51 million (Statistics New Zealand, 2014). The quality of education in New Zealand is considered by the UN to be ‘very good’ with over 95% of the population over 25 years old holding at least some secondary school education (United Nations Development Programme, 2014). This is the highest percentage compared to the other countries in this research region. English, Maori, and New Zealand Sign Language (NZSL) are the three official languages of New Zealand. English is the principal language spoken and the prevalent religion is Christianity. With 48.9% of the population identifying themselves as Christian, the top two denominations are Catholic and Anglican (Statistics New Zealand, 2012; Central Intelligence Agency, 2014a).



Figure 2.5. Regional map of New Zealand with the location of case study zoo identified.

Auckland is located in the northern central region of the North Island of New Zealand. It has held over 30% of the entire country’s population since 1997 and this percentage is increasing steadily (McClure, 2012). A strong contributing factor to this growth is the influx of international migration to the region. It is projected that the Auckland region will grow to over two million by 2031 (McClure, 2012).

The natural ecosystems of New Zealand have been significantly impacted and modified through direct and indirect human activity (Clout, 2001). Much of the natural landscape has been reduced and/or altered over the years following the settlement of European people. In addition, nearly all of natural lowland has been cleared and drained for farmland (Ministry of Environment, 2010). In 2005, only 24.8% of New Zealand is native forest (Swarbrick, 2012).

Due to geographical isolation, New Zealand has an extremely diverse range of flora and fauna species, many of which are considered endemic. Myers et al. (2000) indicates that New Zealand has over 2,300 plants species, of which 1865 species are endemic. This makes 0.6% of global plant species. There are 217 vertebrate species found in New Zealand. Of this, 139 are considered endemic. This contributes to 0.5% of global vertebrate species (Myers et al., 2000).

2.6.1 STUDY ZOO FOUR: AUCKLAND ZOO

Auckland Zoo opened in 1922 (Auckland Zoo, 2014a), and owns the largest collection of native and exotic animals in New Zealand (Regional Facilities Auckland, 2012). It is located approximately five minutes away from central Auckland and it is easily accessible by public transport. Auckland Zoo is part of the larger Regional Facilities Auckland, a Council Controlled Organisation (CCO), governed by local Auckland Council Regional Facilities, and covers 17 hectares of public land. The main source of operational funds for Auckland Zoo is from the Auckland Council (Auckland Council, 2012). They welcomed 717,000 visitors in 2013 (Auckland Zoo, 2014) with the strength of approximately 400 staff, which include permanent, casuals (part-time) and volunteers (pers. Comm Zwaan, 2012).

2.7. THE PHILIPPINES

The Philippines is an archipelago made up of 7017 islands. The islands are located between the Philippine Sea and the South China Sea in South East Asia (Figure 2.6). The Philippines archipelago covers a land area of 298,170 square kilometres and has a population of approximately 105.7 million people (Central Intelligence Agency, 2014e). It is the 12th most populous country in the world. The UNDP determines the quality of education to be 'good' in the Philippines, with approximately 70% of the population over 25 years old holding at least some secondary school education (United Nation Development Programme, 2014). The main religion practised in the Philippines is

Roman Catholicism, accounting for about 84% of the population. Approximately 10% are Protestant or members of other Christian denominations and the remainder are Muslim (Embassy of the Philippines, 2007). The official languages are Tagalog and English.



Figure 2.6. Regional map of the Philippines with the location of the case study zoo identified.

The Philippines archipelago is split into three island groups: Luzon, Mindanao, and Visayas. The large islands have mostly mountainous terrain, which are volcanic in origin (Philippine Consulate General, 2014). The Philippines islands are considered one of the most biologically rich regions in the world (Posa, Diesmos, Sodhi, and Brooks, 2008). It has an exceptionally high level of endemism for its land area in both terrestrial and marine species (Posa et al., 2008). There are over 5800 endemic species of plants and 510 endemic species of vertebrates found in the islands. This makes up 1.9% of the global plant and vertebrate species (Myers et al., 2000). As with many other areas of Southeast Asia, the biggest contributing factors to the loss and degradation of the tropical ecosystem are due to human factors, where populations are “dense, impoverished, and rapidly increasing” (Posa et al., 2008 p. 231). Posa et al. indicate that the exploitation and widespread environmental degradation from humans has brought this mega-diverse country to the brink of ecological ruin (2008). Bagarinao (1998) estimates that the Philippines have only 700,000 of 12 million hectares of the old growth forest left.

2.7.1 STUDY ZOO FIVE: ZOOBIC SAFARI

Zoobic Safari spans over 25 hectares of land in Subic Bay Freeport Zone, The Philippines (Zoobic Safari, 2011). The park has been developed as a safari-type layout where visitors are able to either walk or drive through attractions in private cars or trams. Zoobic safari houses 147 species from a collection size of 2312 animals. The safari is part of the larger Zoomanity Group and it is a privately owned entity.

2.8. THAILAND

Thailand borders the Andaman Sea and the Gulf of Thailand in Southeast Asia. Thailand covers a land area of over 510,000 square kilometres, with a population of approximately 67.4 million people (Central Intelligence Agency, 2014f) (Figure 2.7). The quality of education in Thailand is considered ‘very poor’ with only 38% of the population over 25 years old holding at least some secondary school education (United Nation Development Programme, 2014). This is the lowest compared to the other countries in this research region. The main religion practiced in Thailand is Buddhism (93.6%) (Central Intelligence Agency, 2014f). The official language is Thai.



Figure 2.7. Regional map of Thailand with the location of the case study site identified.

2.8.1 STUDY ZOO SIX: KHAO KHEOW OPEN ZOO

In 1974, the Zoo Organization Committee, affiliated with Thailand's royal family, selected an area at the base of Khao Kheow Mountain. It was a forest that they rehabilitated and restored, and built the facilities required for the zoo (Khao Kheow Open Zoo, n.d.) . The Khao Kheow Open Zoo was opened to the public on 1 June 1978 and in 1984, the Zoo Organization was granted a permit from government ministers to extend the area of the zoo by a further four square kilometres. This extension was in the animal and wildlife conservation area of Khao Kheow and Khao Chum Puh. The Khao Kheow Open Zoo is 2000 acres and located 25 kilometres from Siricha town.

The Khao Kheow Open Zoo occupies an area of about eight square kilometres and is inhabited by approximately 8,000 animals of 300 different species from various parts of the world, mostly from Thailand and other parts of Asia (Khao Kheow Open Zoo, n.d.). The Khao Kheow Open Zoo specialises in wildlife conservation and research, with success in the area of breeding and returning animals to the wild. It also provides many activities for zoo visitors, including an animal safari and an after dark safari, conservation education, enrichment and feeding programs, trekking on foot and elephant-back, zip line and tented camping, and dining and shows (Khao Kheow Open Zoo, n.d.).

2.9. CONCLUSION

The aim of this chapter was to provide a brief insight into the challenges, diversity, and current status of wildlife and relevant socioeconomic issues for zoos in the Asia-Pacific region. There are many countries in the Asia-Pacific region and a select few are part of this research (Hong Kong, Indonesia, Malaysia, the Philippines and Thailand) as representatives of the diversity of the region. New Zealand, as the only Pacific representative, plays a role of importance. New Zealand's cultural norms and frameworks are comparative to those explored in Western-biased literature. The New Zealand case study provides an important further cross-cultural comparison and analysis of the data obtained from study zoos in the Asian region. A summary of their key characteristics are presented in Table 2.2.

Table 2.2 Key characteristics of each case study zoo in this research and their country of origin.

Case study zoo	Size of zoo (hectares)	Ownership	Annual visitation	Age of zoo (years)	Country	Population (million)	Quality of education*
Ocean Park	87	Ocean Park Corporation (not-for-profit)	~ 5 million	30	Hong Kong, SAR	7.08	Good
Taman Safari	170	Private	Unpublished	35	Indonesia	237	Very poor
Zoo Negara	44.5	Malaysian Zoological Society (NGO)	~750,000	54	Malaysia	30.6	Good
Auckland Zoo	17	Public	~ 720,000	94	New Zealand	4.51	Very good
Zoobic Safari	25	Private	Unpublished	Unpublished	The Philippines	105.7	Good
Khao Kheow Open Zoo	809	Thailand's Royal Family	~ 650, 000	42	Thailand	67.4	Very poor

* Quality of education refers to the categories as assigned by the United Nation Development Programme (2014).

There is clearly a plethora of issues faced economically, socially, and environmentally by this region. The loss of land and natural habitats, as presented in Table 2.1, contributes to the loss of wildlife diversity and puts endangered species in a vulnerable position. Many zoos are trying to address these issues by using captive animals as ambassadors for the problems faced in the wild. There were over 10,000 zoos worldwide in the early 1990s and most of these were in Europe, North America, and Australia (Mason, 2000). In addition, Mason (2000) reported that there is an increasing number of zoos being set up in developing countries. This exacerbates the growing concern about wildlife in captivity and has led to zoos in this region being placed under scrutiny by animal activists and other zoos in developed countries, many of which may be found in this study region. For example, Singaporeans founded the Animal Concerns Research and Education Society (ACRES), they conduct campaigns to promote animal welfare in other countries such as Malaysia and Thailand.

Due to the diversity of zoos in terms of language, cultural norms, and socio-economic status, the manner in which this research is designed is important to accommodate these differences. Table 2.2 is a summary of the key characteristics of each case study zoo in this research. The implication of this diversity has not been previously explored, in

particular, the implications on perceptions and attitudes. The next chapter (Chapter Three) provides a survey of the current literature regarding the evolution, roles, and function of zoos, and the importance of selected stakeholders within the study zoos, respectively. Chapter Two, Three and Appendix A, together, provide important contextual settings upon which this research is built as they highlight the importance of this cross-cultural research and gap in the literature.

CHAPTER THREE: LITERATURE SURVEY

3.1. INTRODUCTION

The complex nature of societal and cultural norms that exist in the Asia-Pacific region, as well as a review of each study country and zoo were briefly described in the previous chapter. With an increasing number of zoos being set up in developing countries, it is essential to establish how zoos have evolved over the centuries, and define and understand the potential stakeholders in this development. The functional aspects of zoos such as conservation, education, research, and entertainment are fluid and continue to evolve through time and space.

As this evolution continues, studies that evaluate a zoo's role in research, education and conservation have followed. Many such studies assess the value of zoos by attempting to measure the impacts of these roles. Most of these studies are based in Europe and North America with a small number having been conducted in Asian countries such as China, Japan, and Singapore (Hosey, Melfi, and Pankhurst, 2013). Whilst the approach appears to be pragmatic, the conclusions drawn from Western zoos may be limited in their generalizability given the fundamental cultural, social, and economic differences across the Asia-Pacific region compared to that of the Western world. Many zoos accept other zoos as the paradigm, using them as examples, evaluating themselves only against what is done elsewhere (Hancocks, 2012 p.4).

This chapter presents the key concepts from the literature regarding: the history and evolution of zoos, visitor studies in tourist attractions, human resources, and corporate stakeholder research. This literature survey chapter and the matrix framework (Appendix A) summarise and organise the literature and enhance the analysis of the results. This chapter is divided into two sections. The first section examines the evolution of zoos and their roles and responsibilities. In the second section, the zoo stakeholders are discussed and the importance of this group is evaluated in the context of this research. This section highlights that there is limited information about each zoo stakeholder group and therefore more information needs to be drawn from sectors outside the zoo industry.

3.2. EVOLUTION OF ZOOS

The shift from royal and private menageries to public menageries occurred between the late 1700s and early 1800s (Brambell, 1993; Kisling, 2000; Koebner and Conway, 1994; Rabb, 2004; Tribe, 2012). The term 'zoo' was first used as an abbreviation for Clifton Zoo in Bristol, England in 1847, in place of zoological gardens. This term has various definitions, but is commonly known to encompass zoos, aviaries, reptile parks, insect collections, aquariums and most animal collections that are open to the public (Alexander, 1979; Baratay and Hardouin-Fugier, 2004; Kisling, 2000). The first public zoo began in the late 18th and early 19th century, with Jardin des Plantes, Paris opening in 1793 (Tribe, 2004). The uniquely named zoological gardens were established mainly for the scientific study of anatomy and only accessible to society members (Turley, 1999a). The common purposes for traditional zoo establishments were entertainment and leisure. In addition, they were status symbols of the wealthy and elite society (Carr and Cohen, 2011). It was not until after the 1800s that funding for menageries shifted from the wealthy members of society to becoming financed by membership fees to the public. It was in the late 19th century, that zoological gardens, particularly those in Europe, opened their gates to the general public. During this time (mid to late 1800s), menageries began to emerge in what is now the United States. These followed the model of those in Europe at the time and were financed similarly (Hoage and Deiss, 1996). Around this time, similar establishments such as the London Zoo, Amsterdam Zoo, and Berlin Zoo spearheaded a direction that changed the function of zoos from pure public amusement to one that incorporated public education and scientific research (Koebner and Conway, 1994). London Zoo became a popular venue that based its founding principles on science and naturalist landscaping, becoming a leader which most zoos were modelled after in the next hundred years (Hancocks, 2001). Since the 1800s, zoos have evolved to provide public recreation, education, and scientific research. The conservation of endangered species also assumed a more central role (Kreger and Hutchins, 2010) due to the need to address the loss of wildlife habitats and biodiversity.

Since the turn of the 20th century, most captive animal centres have mixed ownerships: owned and/or managed by private individuals, public zoological institutions and aquariums, research facilities, private wildlife centres, rehabilitation facilities and the entertainment industry. Particularly in developed countries, zoos have responded to increasing concern surrounding environmental issues and animal welfare ethics due to

the availability of funds. The evolution of captive wildlife facilities from menageries, to zoological parks or traditional zoos, to the current conservation centres is illustrated in Figure 3.1 and demonstrates the growing appreciation of nature in Western societies (Rabb, 2004; Rothfels, 2002).

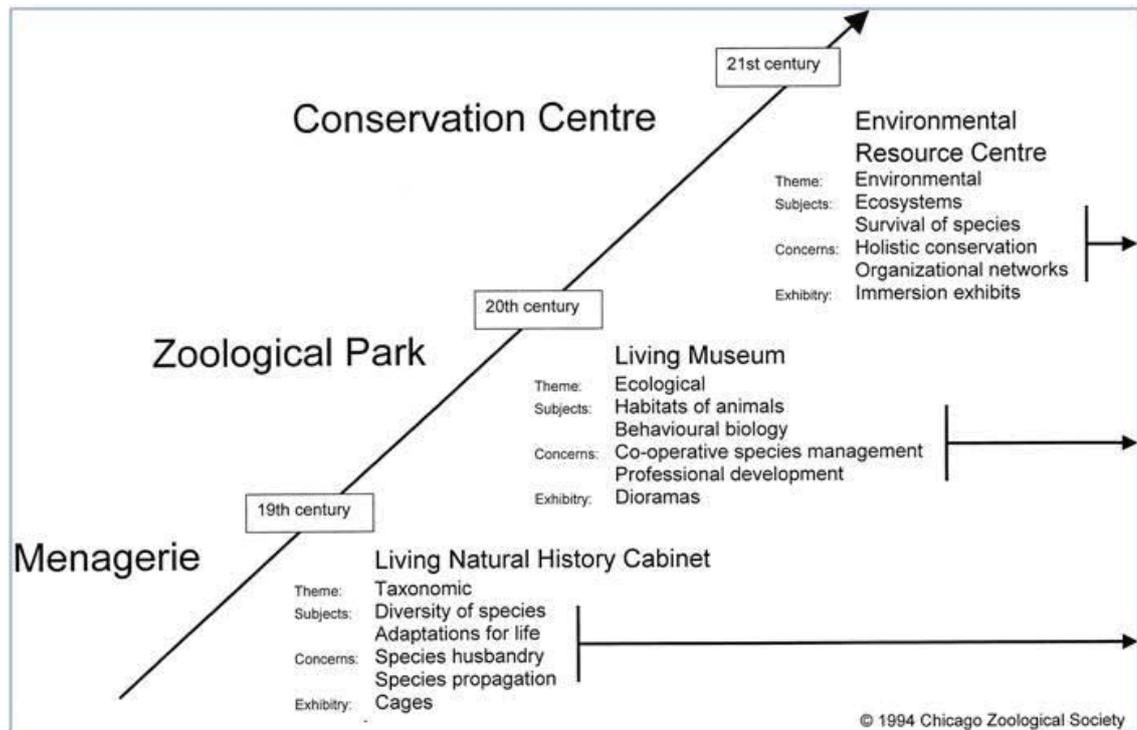


Figure 3.1. Evolution of captive wildlife facilities through the centuries - Adapted from Chicago Zoological Society, 1994 (Rabb and Saunders, 2005).

The increased focus of zoos on conservation, education and research is a result of the loss of biodiversity from habitat destruction and various other environmental influences such as greenhouse warming, toxic emission, pollution, and poaching (Pearce-Kelly, Khela, Ferri, and Field, 2013). Given the alarming rate at which wildlife is decreasing, many managed facilities where they can continue to breed (International Union for Conservation of Nature, 2010). The *modern zoo* is defined in this research, as a captive animal facility that have resorted to captive breeding and the display of wildlife for the purposes of conservation (Brambell, 1993; Breadsworth and Bryman, 2001; Fernandez, Tamborski, Pickens, and Timberlake, 2009; Marino, Lilienfeld, Malamud, Nobis, and Broglio, 2010; Odinsky-Zec, 2010; Reade and Warren, 1996). They attempt to maintain genetic diversity through selective captive breeding. They also attempt to educate the public about the plight faced by the wildlife counterparts of those animals seen in the exhibits.

Many studies supportive of the contemporary role of zoos argue that zoos allow people to learn about wildlife by immersing visitors in naturalistic surroundings (Bruni, Fraser, and Schultz, 2008). They are also a source of employment, family leisure, education, conservation, advice, influence, and inspiration. Zoo advocates also argue that zoos are commonly well-loved and trusted centres in their communities and are expected to have a moral obligation to make positive social contributions, and to engage and lead their local communities by example in issues regarding equality and human rights (Townsend, 2009). In this research, these conservation centres are also referred to as a modern zoo or zoos. Current participating organisations for wildlife conservation include zoological parks and aquariums. In a bid to overtake the increasing speed of wildlife extinction and to be socially responsible, modern zoos have become increasingly proactive in the crucial roles of promoting conservation efforts and awareness (Agoramoorthy, 2004; Conway, 2003).

3.3. THE MODERN ZOO

Zoos are commonly perceived as recreational destinations, therefore it is expected that the enjoyment and entertainment of the public are their main priorities (Field, 1976). Several studies conducted in the late 1970s and early 1980s suggested that the majority of visitors appreciated only the aesthetic values of the animals in the exhibits and lacked interest in the natural sciences that was also part of the experience; they visited the zoos purely for entertainment reasons and not to increase their appreciation or knowledge of a given ecosystem (Rosenfield and Terkel, 1982; Marcellini and Jenssen, 1988 in Turley, 1999a, 1999b)

In recent decades (late 1960s and early 1970s), zoos have undergone a transformation in response to the changing demands of society (Kawata, 2011). It is suggested that zoos aim to bring people closer to nature through education and by immersing visitors in simulated natural environments (in an 'ecosystem approach') (Bruni, Fraser, and Schultz, 2008). Zoos have a unique capacity, to bring people closer to nature, as unlike many other tourist attractions, zoos in the United States tend to attract large numbers of people and the profiles of the visitors are more demographically diverse than at other types of institutions (Association of Zoos and Aquariums, 2007). This supposition has been supported by several studies regarding visitors' motivations and satisfaction (Morgan and Hodgkinson, 1999; Tomas, Crompton, and Scott, 2003).

The perceptions and ideals of a 21st century 'zoo person' or zoo keeper is quickly transforming into one who is not only interested in animal husbandry, but also in conservation. This new philosophy has been the driver behind a substantial number of changes in recent decades (Knowles, 2003). This change has driven zoos to become integrated venues for animal display, encompassing other responsibilities, apart from pure entertainment, such as conservation, education and research; functions that justify their collection of captive wildlife (Coe, 1986; Kleiman, Thompson, and Baer, 2010). The modern zoo strives to help society realise sustainable relationships with wildlife by inspiring people to practice environmentally friendly lifestyles, contributing to the management of limited natural resources and building human capacity by mentoring and training others (Rabb, 2004).

Zoos also provide a social context in which environmental information may be disseminated without being associated with political agendas (Clayton, Luebke, Saunders, Matiasek, and Grajal, 2014). Many zoos consider that they play an important role in education and in providing many opportunities for learning, for both general visitors and school groups (Tofield, Coll, Vyle, and Bolstad, 2003). Currently, urban zoos (Western and Asian alike), located specifically in an urban setting have attracted criticism for their exploitative nature and lack of redeeming educational or conservation features (Frost et al., 2014). All zoos are strongly tourism-driven, with the main emphasis on the visitors' experience, and are increasingly designed for regional rather than Western markets (Frost et al., 2014) as well as focusing on being more educational. Centuries of economic development have provided the west with opportunities to value nature differently. Asian and Pacific societies, it has been argued, have a more practical and less idealistic view of nature (Kellert, 1995). However, the Asia-Pacific region is not monocultural and, consequently, attitudes toward nature vary widely (Buckley, Cater, Zhong, and Chen, 2008; Lee, Lawton, and Weaver, 2013; Weaver, 2002).

Captive breeding of endangered species may be a short-term practical solution for conservation (Conde, Flesness, Colchero, Jones, and Scheuerlein, 2012). It has the potential to act as an insurance policy to maintain targeted populations against threats until reintroduction is possible (Conde et al., 2012). The International Species Information System (ISIS) database contains the most comprehensive information on animals held in zoos and aquariums globally. Conde et al. (2012) used ISIS and the IUCN Red List of Threatened Species to ascertain the threat category of terrestrial vertebrate species. They reported that one-quarter of the world's described bird species

and approximately 20% of mammal species are held in ISIS zoos. Current participating organisations of wildlife conservation include zoological parks and aquariums. In the face of increasing wildlife extinction and to play a socially responsible role in society, zoos have become increasingly proactive in promoting conservation efforts and awareness (Agoramoorthy, 2004; Conway, 2003).

While zoos may increasingly find it difficult to justify maintaining endangered wildlife purely for entertainment or profit, many believe it is justified for research, educational and/or conservation purposes (Hutchins, Smith and Allard, 2003). As a majority of zoos are located in cities, they have the potential to connect nature to communities that would generally have little or no access to the natural world (Rabb and Saunders, 2005). The tasks ahead for zoos are to change the perceptions of the public as part of their conservation and educational efforts (Hatchwell, et al., 2007).

Schwan, Grajal and Lewalter (2014) reported that North American zoos have a higher level of attendance than the entire combined visitation at other cultural or outdoor destinations. In light of this, allocating resources requires prioritising conservation places and actions that will present the maximum return for environmental functions and species survival in the wild. It is essential that there are clear goals, such as the assessment of the current status of species, clear objectives for work selection, and a means to measure success (Groves, Higgins, Beck and Saxon, 2003). Yet with limited sources of funding, zoos have to be careful where investments for conservation are made.

3.4. STAKEHOLDERS

For the purpose of this research, stakeholders will be defined as any person, group or organisation that can place a claim on the organisation's attention, resources, or output, or is affected by that output (Bryson, 2011). As zoos have evolved over the centuries, with new and changing roles and functions, it is important to understand the collaboration that has occurred behind the scenes among stakeholders. There are four widely accepted roles and function of a zoo (entertainment, conservation, research, and education), important groups of people that may be affected by any changes in the zoo need to be identified. From a strategic management point of view, attention to stakeholders is paramount as the survival and success of the organisation depends on satisfying what key stakeholders' deem valuable. Identifying stakeholders is an iterative

process and there is always the risk that some stakeholders may be accidentally omitted or that too many are included (Reed et al., 2009).

Identifying the stakeholders from both the public and private sector provides basis for understanding how zoos can steer towards the 21st century (Frost et al., 2014). Zoo managers have long had to perform balancing acts among relevant stakeholders' demands and needs. The four groups of stakeholders identified for this research are: (1) visitors, (2) zoo staff members, (3) corporate sponsors, and (4) zoo associates. The next four sections will elaborate on the importance of these selected stakeholders and the current challenges specific to the stakeholder that this research will attempt to address.

3.4.1 VISITORS

Visitors have been extensively studied as they play a crucial role in the success of a tourism destination and provide valuable income and resources to the local communities (Leask, 2010). They are one of the stakeholders that zoos, as a tourist attraction, need to effectively manage. To do so, it is crucial that zoos understand their expectations. Despite being artificial and socially managed, many members of the public regard zoos as a typical wildlife tourist attraction (Mason, 2000) allowing visitors the opportunity to encounter and experience wildlife (Clayton et al., 2014). As zoos have changed through time, visitors have too. Winter and Linke (2008) noted that today's visitors are better informed, more travelled and environmentally conscious. With the increase in these types of visitors, zoos may lose the opportunity to fulfill their role as educators if they are not regarded as an acceptable tourist attraction (Mason, 2000).

Zoos need to manage the competing demands from all their stakeholders. A major challenge that most zoos face is to fulfill their role as an entertainment centre, attracting visitors, but not compromising their other roles in education, research and conservation (Tribe, 2004). Although several studies have examined how zoos influence visitor behaviour, the range of methods employed has demonstrated that zoos have limited success in doing so (Smith et al., 2008). Those that did have success found that the acquired commitment to conservation action returned to pre-experience levels after six to eight months (Adelman, Falk, and James, 2000; Manubay et al., 2002). A possible explanation is that the exhibits in the zoo were not planned and delivered with effective communication that foster a positive change in conservation behaviours in visitors (Smith et al., 2008).

In addition to fostering positive change in visitors for the benefit of wildlife, Fraser (2009) found zoos were regarded as useful tools for helping children develop environmental values, and skills with altruism. As with most other research conducted in zoos, most of the studies regarding zoo visitors are Western-centric. The previous chapter highlighted the diversity in the Asia-Pacific region. Hence, it is important to establish if this diversity, influences perceptions of visitors in the study region of Asia-Pacific. Conceptual themes such as visitors' reasons for visiting the zoo, expectations and perceptions of conservation, impacts of a zoo visit, and behaviours of visitors at the zoo have been conducted in many Western zoos (Adelman et al., 2000; Bashaw and Maple, 2001; Cain and Meritt, 2007; Fernandez et al., 2009; Heinrich and Birney, 1992; Lindemann-Matthies and Kamer, 2006; Luebke and Matiasek, 2013; Marino et al., 2010; Olukole and Gbadebo, 2008; Patrick and Tunnicliffe, 2013; Smith and Broad, 2007; Stoinski, Allen, Bloomsmith, Forthman, and Maple, 2002; Swanagan, 2000). These studies developed recommendations for programmes, milestones, and/or criteria for successful zoos in respect to visitor satisfaction. Greater understanding of visitor satisfaction and engagement can inform the predictability of the visitor's behavior (Black, 2012 and Sheng and Chen, 2012). All these studies contribute to the current Western-centric framework but little research has been published on the visitor behaviours of those zoos in the Asia-Pacific region. It is important to establish if the profile of visitors determined in Western zoos are similar to those in Asia, as this would have an effect on the strategies adopted by the Asian zoos.

3.4.2 STAFF MEMBERS

An organisation's success depends on its ability to attract and retain staff members who are competent, productive, and motivated, and who are loyal to the company and its values (Martensen and Grønholdt, 2001). Hutchins and Smith (2003) reported that the success of zoos and aquariums were related to the passion, knowledge, and political acumen of the institutional director. These individuals would know how to recruit and hire highly qualified staff and how to delegate tasks to them. It has been reported that the satisfaction and engagement of staff members is related to meaningful business outcomes (Harter, Schmidt, and Hayes, 2002) and the quality of staff members in zoos is found to be positively and significantly related to the overall service quality determined by visitors (Tomas et al., 2003).

Job satisfaction may be considered a strong predictor of the overall wellbeing of the staff member (Diaz-Serrano and Cabral Vieira, 2005, cited in European Foundation for the Improvement of Living and Working Conditions, 2007). A way of distinguishing between these perceptions, feelings, and behaviours is to identify intrinsic and extrinsic factors regarding the job satisfaction of staff members. Based upon Herzberg's model (1968), intrinsic factors are recognition, achievements, the work itself, responsibility, and development, while extrinsic factors focus on working conditions, supervision, co-workers, and salary (Baylor, 2010). As the zoological profession is evolving and becoming more complex and challenging, it has been recommended that all staff members of the zoo should have a basic understanding of their institution's missions, vision, and goals for conservation, research, and education (Hutchins and Smith, 2003). To achieve such goals, zoo staff need to be well trained and must possess the skills and motivation to implement them (Hutchins and Smith, 2003).

In addition to the diversity of cultures in the Asia-Pacific region, it is important to understand the potential diversity in socio-demographics within the staff cohort as this can consequently present challenges for management and staff members. Diversity among staff members may be defined as a construct representing the distribution of differences among members of an organisation (van Knippenberg and Schippers, 2007; Harrison and Kelin, 2007). Socio-demographic factors such as gender, age, and education have been found to contribute to job satisfaction in an organisation (Judge and Bono, 2001, cited in Van Der Westhuizen, Pacheco and Webber, 2012).

The differences in organisational cultures may strongly influence how staff members perceive, feel, and act at work (Hansen and Spitzbeck, 2011; Schein, 1990 cited in Lok and Crawford, 2004). Van Der Westhuizen, Pacheco, and Webber indicated that organisations are increasingly more concerned with better understanding how differences in cultural values can affect the behavior of employees (2012). Additionally and related, the effect of national culture on staff members' behaviour and the differences between Asian and Western cultures are well established and significant (Hofstede, Neuijen, Ohayv, and Sanders, 1990; Lok and Crawford, 2004; Trompenaars and Hampden-Turner, 1998). Asian organisational cultures promote collectivism and are generally paternalistic. In addition, they usually have centralised decision-making where staff members have limited empowerment. On the other hand, Western organisation cultures promote individualism, decentralised decision-making, and more likely to empower their staff members (Lok and Crawford, 2004).

In the west, most zoo management would have less of a hierarchical organisational structure as they draw on strengths from all levels in the organisation (Hutchins and Smith, 2003). On the contrary, leadership styles in most of the Asian zoos tend to be based on position, authority and seniority and leaders from this region tend to carefully control information and use authoritarian decision styles (Dorfman, Howell, Hibino, Lee, and Tate, 1997; Lok and Crawford, 2004). The conservative cultural values of the Asian region reflect a strong central leadership style, resulting in low individualism (Chen, 2004; El-Kahal, 2001). This means that staff members tend to follow instructions without question.

Effective leadership by those in charge is important for the zoo to be successful in meeting the demands of their staff (Smith, Shaw, Bettinger, Caniglia, and Carter, 2007). Mazur and Clark (2001) found that many zoo staff members in Australia were concerned about the standard of communication among the departments and the different hierarchy level of organisation. They found that many zoo staff were concerned that they were being exploited, due to their enthusiasm for working with animals, and recommended that zoos should move towards less segregated departments and include more participative decision-making processes. This does not only refer to the top levels of management but also to middle management, where individuals have constant interaction and communication with other staff members, reflecting a more progressive style of management.

3.4.3 CORPORATE SPONSORS

There is a need for zoos to sustainably use available resources and various marketing strategies to raise funds for attaining financial stability without compromising their conservation goals or the welfare of the animals in their collections (Bonal, Gupta, and Aktar, 2012). Zoos need to adopt better business sense to ensure sustainable and increasing resources for the development of animals, staff, research, conservation and education portfolios (Cain and Meritt, 1998; Hutchins and Smith, 2003). This is important as all zoos are fighting for the consumer dollar. Interestingly though, Beattie found that only 20% of donors to accredited North American zoos and aquariums thought that zoos managed their resources in a business-like fashion (1994, in Hutchins and Smith, 2003). This finding is alarming, as it should not be surprising that developing strong relationships with corporate sponsors allows long-term financial

gains, more resources for zoo-oriented projects, opportunities to expand research portfolios, and mutual brand/company awareness.

Corporate sponsorship has become a popular and effective form of marketing and communication (IEG, 2001 in Berkes and Nyerges, 2004). Increased awareness and image building of brand, products, and company are the two most commonly-cited benefits of sponsorship (Cornwell and Coote, 2005). There has been a rapid growth in sponsorships as a legitimate component of an organisation's marketing strategies (Lee, Sandler, and Shani, 1997). As corporate sponsorship originates from the idea of ethical marketing and corporate social responsibility (Shen, 2004), organisations with a strong sense of responsibility towards nature and ecosystem integrity may be keen to contribute resources for the development of zoos (Bonal et al., 2012).

A majority of corporate sponsorship research comes from highly industrialised Western countries; Asia and other developing regions are only marginally represented (Walliser, 2003). As most developing economies are capital-intensive and export-oriented, they occasionally neglect social impacts such as low wages but longer working hours and poor work conditions (Bohle and Greskovits, 2006; Shen, 2005). Asia, in particular, has unique cultures, social norms, and values in business, which potentially encourage sponsorship activities (Shen, 2005), yet there is limited research on corporate sponsorship from this region.

Exploring the relationship that zoos in the Asia-Pacific region have with their corporate sponsors is important in order to ascertain if their motivations are similar to those reported in the literature on Western zoos. It is also important to see if the strategies that they have established, or are developing, need to incorporate factors that may be unique to this study region.

3.4.4 ZOO ASSOCIATES

There has been little research regarding the characteristics of the structure and process of successful and functional zoo conservation partnerships (Smith et al., 2007). Partnerships are essential for conservation programmes because of increasing financial constraints (Smith et al, 2007). Partnerships with zoos and aquariums have been increasingly prevalent in recent decades (Clark and Brunner, 2002) as they are essential for species and habitat recovery. These partnerships include a collection of scientists working towards a common goal. For the purpose of this research, these are termed Zoo

associates. Zoo associates are individuals and/or organisations that conduct research, educational and/or conservation programmes using the resources from zoos.

Hutchins and Smith (2003) have recommended that modern zoos should establish a method for evaluating research proposals and protocols for visiting scientists. The structure and process of these partnerships is constantly evolving. They can be time consuming and requires dedication and flexibility to succeed (Smith et al, 2007). Smith et al, propose three important areas to consider before and during the relationship of these partnerships between zoos and the zoo associates (2007):

- Have clear goals, roles, responsibilities, expectations and financial obligations set out between the zoo and the associates. This includes strong time management to ensure short and long-terms goals are timely monitored and evaluated.
- Identify a strong but neutral leader to advocate project efforts.
- Develop strong relationships between the zoo and the associates through trust-building, open, and effective communication for decision-making.

3.5. CONCLUSION

The aim of this chapter presents the background for the research being undertaken by exploring key concepts and definitions from the breadth of literature available. It examined the evolution of zoos and their currently accepted roles and functions. This chapter also highlighted the importance of the four stakeholder groups studied in this research. Furthermore, it presented how diverse yet limited the available literature is on each stakeholder group. For example, there are limited studies conducted on corporate sponsors in zoos. The majority of the limited research supporting the importance of this stakeholder group is found in business studies and financial relations publications. Therefore, this research is important to bridge this gap so serve as an umbrella study that explored these stakeholders in a similar context. In addition, it is important to understand if and how cultural differences affect the perceptions and attitudes of the stakeholders. All these would allow zoos to develop strategies that are specific to stakeholders' expectations and establish how future programmes and direction should consider these diverse roles.

Different conceptual themes have been extrapolated from the plethora of literature found within each stakeholder group. Using these themes, which are predominately

found or established in the west, it is important to explore if similar stakeholders in Asia react, behave and/or perceive similarly to what has been published. The next chapter discusses the research design of this study. More importantly, it explains how and why the methodological tools adopted in this study are important to contribute to the interpretive framework of exploring and understanding stakeholders' expectations in this study region.

Our greatest weakness lies in giving up.

Thomas Edison

CHAPTER FOUR: RESEARCH DESIGN AND METHODS

4.1. INTRODUCTION

In the previous two chapters, the importance of studying zoos in the Asia-Pacific region and the importance of their stakeholders' taste, values and experiences was emphasized along with the Western bias that may be attributed to the lower levels of reporting from other regions in the literature.

The methods used in this study contribute towards an interpretive framework with which the perspectives and relationships of zoos in the Asia-Pacific region have with their key stakeholder groups can be described. This framework provided a better understanding of the challenges and issues faced by zoo managers in this region. More importantly, this chapter highlights the importance of acknowledging the researcher as a key research instrument. This is a mixed-method study: I selected a variety of qualitative and quantitative approaches in an effort to ascertain, interpret, and explain the complexity of perspectives and relationships faced by zoos in this region. These selected methods are critical to understand the large amount of data gathered (>3000 responses; ten years of industry experience and hours of observations) in this research from six countries.

In this chapter, the following elements of this study are addressed: study site selection, respondent identification, pilot study, structure, translation and the distribution of questionnaires; data management and analysis, reflective diary and ethical considerations.

4.2. RESEARCH DESIGN

One element of this research was to identify the expectations and relationships of the four stakeholder groups at zoos in six countries in the Asia-Pacific region. To reduce bias, multiple methods were used so that the results could be triangulated across several methods (Adelman, Falk and James, 2000). Triangulation refers to observations and data drawn from different sources, time and/or from different people (Kimchi, Polivka, and Stevenson, 1991; Decrop, 1999; Flick, 2004). In order to suitably represent the stakeholders, I used a mixed-method approach that systematically integrated several evaluation methods: a population-based survey, observations, and a research diary informed by my professional experience, and critical reflections on the fieldwork. This

approach was selected so that the qualitative data may facilitate the interpretation of the quantitative results (Bryman and Bell, 2007).

A population-based survey was the primary method of quantitative data collection from the four stakeholder groups. The next section details the types of questions selected for each stakeholder group. The questionnaires were distributed among the four stakeholder groups at each zoo. The data was complemented by recorded observations of each stakeholder in the data analysis.

My past professional experiences in several culturally different zoos and wildlife sanctuaries allowed me to reflect upon personal experiences and observe stakeholders in a unique way in order to gather rich data. The results from my observations are presented in a combination of excerpts that reflect my professional and personal experiences, as well as any relevant observations from the field. This provided an important opportunity to contextualise the results in the discussion chapter (Chapter Six).

4.3. QUESTIONNAIRE DESIGN

There were a few stages in selecting and designing a ‘population-based’ survey instrument. First, this section sets out the key strengths of questionnaires to support it as the choice of survey instrument in this research. Second, I briefly explained how the content and language for the questionnaires were considered and tested; the influence of using questionnaires on delivery methods; and the types of structural questions that were selected. Finally, the benefits of using questionnaires during the data analysis stage were considered.

Numerous options of quantitative and qualitative methods were considered for this study, but the use of questionnaires was determined to be the most appropriate instrument for the following reasons. First, questionnaires are highly structured for collecting information in the field from specific target audiences (Cooper, Schindler and Sun, 2006 p. 245). They have been utilised across many disciplines to give potential respondents the option of expressing their opinions. Second, questionnaires have the potential to allow researchers to survey a large sample from their target population and third, they are less time consuming to complete than one-to-one interviews (Bryman and Bell, 2007; Gill and Johnson, 2010; Morgan, 1998; Peng, Peterson, and Shyi, 1991).

It was important that I was able to visit the study sites and observe the operational flow of each organisation i.e. what a 'typical' day at the zoo looks like and how visitors move from the entrance through the zoo. There were two summary distribution methods employed for this research: physical distribution of the paper questionnaire, and an online platform, SurveyMonkey®. An option for the zoos themselves to distribute the questionnaire was considered, but later disregarded, as that would have placed a strain on their operational resources and also had the potential for interviewer bias via prompting.

There were several factors to take into consideration when designing the questionnaires including word choice, delivery options, and type of questions. There were three types of closed questions chosen for this research: dichotomous, multichotomous and scale. Many of the dichotomous and multichotomous questions were used to explore the demographics of the target populations. Several of the close-ended multichotomous questions took the form of a five-point Likert scale. Sociologist, Rensis Likert, developed these scales to measure psychological attitudes in a scientific manner. This is a non-comparative scaling technique and is one-dimensional in nature. The benefit of employing this scale is its simplicity, enabling participants to read and complete the questionnaires easily. In addition, Likert scales have proven to be reliable and allow respondents to freely provide information in confidence (Matell and Jacoby, 1971; Jacoby and Matell, 1971; Babbie, 2007).

The recommended number for the response scale is three, five or seven points (Jacoby and Matell, 1971). Respondents were invited to reveal their attitudes and opinions along a 5-point continuum by circling a number between 1 – 5, representing the range between the two extremes "strongly disagree" and "strongly agree" respectively, with an additional option of 0 that represented "Don't know".

The final questionnaires included a list of closed and open-ended questions with the following goals:

1. To better understand the selected topic.
2. To further explore ideas from each stakeholder regarding specific topics such as motivations and conservation value.
3. To become familiar with the issues and constraints of the selected topics.

Results from the responses were easily quantified and subjected to a variety of statistical analyses. Each question had its response assessed individually and combined with other

related questions to create a score for a group of statements (Jamieson, 2004). Open-ended questions were included in the questionnaires to allow the respondents to express their opinions more freely and accurately. These open-ended questions provide the potential to generate a rich source of information. The open-ended questions represented a small percentage of questions in the questionnaires so that it would be quicker and less intimidating for the respondents to complete the questionnaire. An analysis of the open-ended questions was challenging due to the multiple languages the questionnaires were translated from, into English. Further details of the translation process may be found in section 4.8.

4.3.1 META-ANALYSIS – MATRIX TABLE

A systematic review of journals and textbooks ($n = 138$) was undertaken over an 18-month period and the results were set out in a matrix system that systematically recorded relevant publications. The matrix table that emanated from the meta-analysis was designed with three outcomes in mind:

1. A review of the extensive literature encompassing several disciplines.
2. A contribution to the design of the four survey instruments.
3. To compare and link the results from the survey instruments and observations to the original literature.

Appendix A shows the substantial size of the matrix, using this meta-analysis technique, it was possible to identify common threads in the literature that resulted in the stakeholders groups and conceptual themes ($n = 22$), as presented in Table 4.1. These conceptual themes would become the foundation of topics to be explored and would be posed to the stakeholders using the questionnaires (Appendix B).

Table 4.1. Conceptual themes extrapolated from the body of literature for each stakeholder group. The full matrix from which these themes derived is provided in Appendix A.

Stakeholder group	Conceptual themes
Visitors	<ul style="list-style-type: none"> A. Motivations for visiting the zoo B. Expectations of visitors C. Potential impacts of the visit D. Behaviour / habits of visitors E. Evaluation of zoo experience F. Evaluation of the zoo
Staff members	<ul style="list-style-type: none"> A. Intrinsic factors of job satisfaction B. Extrinsic factors of job satisfaction C. Personal conservation attitudes D. Evaluation of stakeholder relationship E. Opinions of external stakeholders F. Evaluation of animal management G. Evaluation of zoo operational aspects H. Assessment of zoo's wider values
Corporate sponsors	<ul style="list-style-type: none"> A. Motivation factors B. Satisfaction of relationship C. Marketing strategies D. Strength of affiliation
Zoo associates	<ul style="list-style-type: none"> A. Application process B. Operational relationship C. Intrinsic relationship D. Miscellaneous

4.4. SELECTION OF STUDY SITES

As previously described in Chapter Two, the Asia-Pacific region is socially, economically, and environmentally diverse. Zoos were selected to represent the region as well as reflect its diversity. This section will present the detailed process of how the study sites were selected; the logistical challenges that influenced the selection; sundry contributions of participating study sites; features of participating zoos; and duration of the data collection at the study sites.

Using the South East Asian Zoo and Aquarium (SEAZA) Association data, 11 zoos were initially shortlisted. This association encourages zoos in the region to adhere to their animal welfare standards and more importantly, to create a network of zoo professionals to exchange knowledge. Phone calls were made to zoo management from New Zealand with the help of my supervisors. Following the phone calls, emails with the study proposal attached were forwarded for further consideration. This process took over three months due to the time differences as well as the schedules of the supervisors and zoo management teams. Eight zoos were excluded by August 2012 due to conflicts

between the zoo and my schedules, and the varying degrees of perception of the sensitivity of questions for stakeholder groups.

Many zoo management personnel were difficult to contact due to the time difference. In order to secure a sufficient number of case studies to represent the diversity of the region, I attended the SEAZA conference in Taiping, Malaysia in November 2012 where I presented my research. From contacts made at the conference, I was able to enlist three more zoos to participate in this study.

A few of the study zoos contributed towards my accommodation, living, and/or travel costs. In total, six study zoos were selected in the following countries: Indonesia, Hong Kong (SAR), Malaysia, the Philippines, Thailand, and New Zealand participated in the research. The zoos all operated under a number of ownership models; attracted high visitation numbers; were located in the Asia-Pacific region; displayed a wide range of economic and religious diversity; were available to host me within the require time frame; and were within my budget. The final set of four questionnaires (one for each stakeholder group) was distributed at all the study zoos.

I spent approximately 25 days in each country, 14 days of which were dedicated to distributing questionnaires to the visitors and staff members at each zoo. The timing of data collection was planned according to accommodate public and school holidays. The exact dates that I spent at each case study site are detailed in Appendix B. In total, I spent five and a half months in six countries.

4.5. SELECTION CRITERIA FOR RESPONDENTS

An information sheet was presented to each survey participant. This contained information about the purpose of the study, a brief description of the target respondents and my introduction (Appendix C). In line with the requirements of the Massey University Research Ethics guidelines, participants were informed of their rights to refuse to answer any question, to ask any questions about the research at any time and to ask about the confidentiality clauses that applied. They were informed that completion of the questionnaires implied consent, along with the contact details of my supervisors and myself.

The selection criteria for each stakeholder group included:

1. *Visitors*: Zoo-goers that were 18 and above years of age, and able to read and write in English or the business language of the country. These individuals were randomly selected from various locations at the zoos.
2. *Staff members*: Employees and volunteers at the respective zoos willing to participate in the survey. These were self-selected individuals from all levels of each organisation.
3. *Corporate sponsors*: Organisations contributing cash or in-kind resources to the zoos. These organisations were invited to participate via email at the discretion of each zoo.
4. *Zoo associates*: Organisations and/or individuals that receive cash and/or in-kind support from the zoo for projects that may or may not be zoo-related. This group was invited to participate through email at the discretion of each zoo.

4.6. PILOT STUDY

Fifty potential participants with various levels of experience in the zoo industry, such as past volunteers, ex-zoo staff members, corporate relations and visitors to other zoos (none of which were associated with the study zoos) were selected for the pilot study as they were representative of the research respondents. These individuals were my acquaintances and/or ex-colleagues. An initial request for participation was emailed to these participants and the questionnaires were sent to them upon confirmation of their participation. Participants were informed that their identities would remain confidential. A reminder email was sent seven working days after the initial email with the questionnaire. In total, 35 participants responded and 21 completed the questionnaires within 10 – 14 working days. None of the results from this pilot study were included in the data set as this exercise was intended to test how long it took to complete the questionnaires and to identify any issues regarding word choices. Feedback from the questionnaires was taken into consideration and adjustments were made to the questionnaires.

4.7. QUESTIONNAIRES

This section describes the structure and content of each stakeholder questionnaire. It provides details of the number of questions, the type of questions and the content for each type of question. The questionnaire for each stakeholder group is detailed below and the actual questionnaires are attached in the appendix (Appendix C).

4.7.1 VISITOR QUESTIONNAIRE

The visitor questionnaire contained 52 questions to investigate the demographic profiles of visitors.

1. Multi-choice: Six multiple-choice questions served to determine the demographic profiles of the visitors, such as gender, household income, and highest level of education.
2. Short answer: Five short answer questions further explored the demographic profiles of the visitors, as well as visiting habits.
3. Combination⁵: Four combination questions that attempted to explore the reasons for or against current and future zoo visits, recommending the zoo to others and aspects of the zoo visits that could be improved.
4. Scaled response: Thirty-seven scaled response questions measured responses on 5-point Likert scales. These were divided into the conceptual themes as listed in Table 4.1.

4.7.2 STAFF QUESTIONNAIRE

The questionnaire consisted of 57 questions to investigate the demographic profile of the staff members. The only different questionnaire was for Ocean Park, Hong Kong, where seven questions were omitted at the request of the zoo management as they were not comfortable exploring the profile, relationship, and satisfaction of their staff members.

1. Multi-choice and short answers: There were five multiple-choice and four short answer questions used to explore the demographic profiles of the staff population.

⁵ Combination questions include both multi-choice and short answer questions.

2. Open-ended: There were three questions that explored the rewarding aspects of working at the zoo; reasons for recommending the zoo to friends; and staff members' confidence in the zoo's operational success.
3. Scaled response: There were 45 questions where responses were measured on 5-point Likert scales. These were divided into the conceptual themes as listed in Table 4.1.

4.7.3 CORPORATE SPONSOR QUESTIONNAIRE

As previously described, themes were identified that provided insights to the potential motivations and profiles of corporate sponsors. They have been studied in other sectors such as sporting and art events (Jones, 2007). Based upon these themes, 29 questions were developed and included in the questionnaire.

1. Multi-choice: Two multiple-choice questions that explored the ownership of the organisation and their preferences for sponsorships.
2. Short answer: Seven questions that explored the demographic profiles of the corporate sponsor as well as behavioural habits and resource support of the sponsors.
3. Open-ended: There were three open-ended questions that explored the characteristics and preferences of sponsor organisations, their expectations for sponsorship, and their confidence level in the sponsored zoo's operational management.
4. Scaled response: Seventeen questions where responses were measured on 5-point Likert scales. These were divided into the conceptual themes as listed in Table 4.1.

4.7.4 ZOO ASSOCIATE QUESTIONNAIRE

Individuals and/or organisations that receive cash and/or in-kind support from the zoo for their research or projects are referred to as Zoo Associates in this research. There were 24 questions exploring the demographic profiles of zoo associates and the three conceptual themes as listed in Table 4.1.

1. Multi-choice: One multiple-choice question asked the zoo associates the type of support they received from the zoos.
2. Short answer: One short answer question explored the length of the relationship between the zoo associates and the zoos.

3. Open-ended: Six opened-ended questions investigated the aspects of the relationship between the zoo associates and the zoos. These aspects included the type of project that was being conducted, the countries in which the project was conducted, a description of support provided by the zoo, and the benefits the project had for the zoos. The zoo associates were asked their opinions on how zoos might enhance their support and their confidence in the zoo's future operational success.
4. Scaled response: There were 16 scaled questions measured using 5-point Likert scales.

4.8. TRANSLATION PROCESS

Questionnaires were translated into the local languages, as English is not the official language. Once the English version of the questionnaire had been pilot tested and then revised, it was translated into Bahasa Indonesia, Bahasa Malaysia, Traditional Chinese, and Thai. The questionnaires were available in five different languages (including English) commonly used in the target countries. It was imperative that all participants interpreted the question in the same manner. Several techniques were applied to translate questionnaires to minimise survey bias. This section explains the choice of translation used and how it was conducted in this research.

The technique that is most frequently adopted for validating the translations is 'back-translation' (Brislin, 1970). In this technique, the original version of the questionnaire is translated into the target language and subsequently translated back into the original language. Another technique is the bilingual method, whereby bilingual translators translate the document and correct any inconsistencies (Cha, Kim, and Erlen, 2007; Maneesriwongul and Dixon, 2004; Varricchio, 2004).

This research employed a mixture of both translation techniques. Figure 4.2 depicts how the questionnaires were translated. Bilingual individuals possessing a minimum of postgraduate qualifications from their home countries were asked to translate the questionnaires from English to the target language. These individuals (Bilingual translator #1 in Figure 4.2) had had prior experience translating for personal and/or other postgraduate researchers; and had been recommended by other academics at Massey University and by my ex-colleagues from zoos. Once that was done, another translator (Bilingual translator #2 from Figure 4.2) translated the target language back into English. The two English versions were then compared and any discrepancies were

discussed and clarified with the translators. A layperson from each country was invited to complete the translated version. Any additional feedback gleaned from this was considered and further discrepancies identified were then re-examined and resolved if necessary.

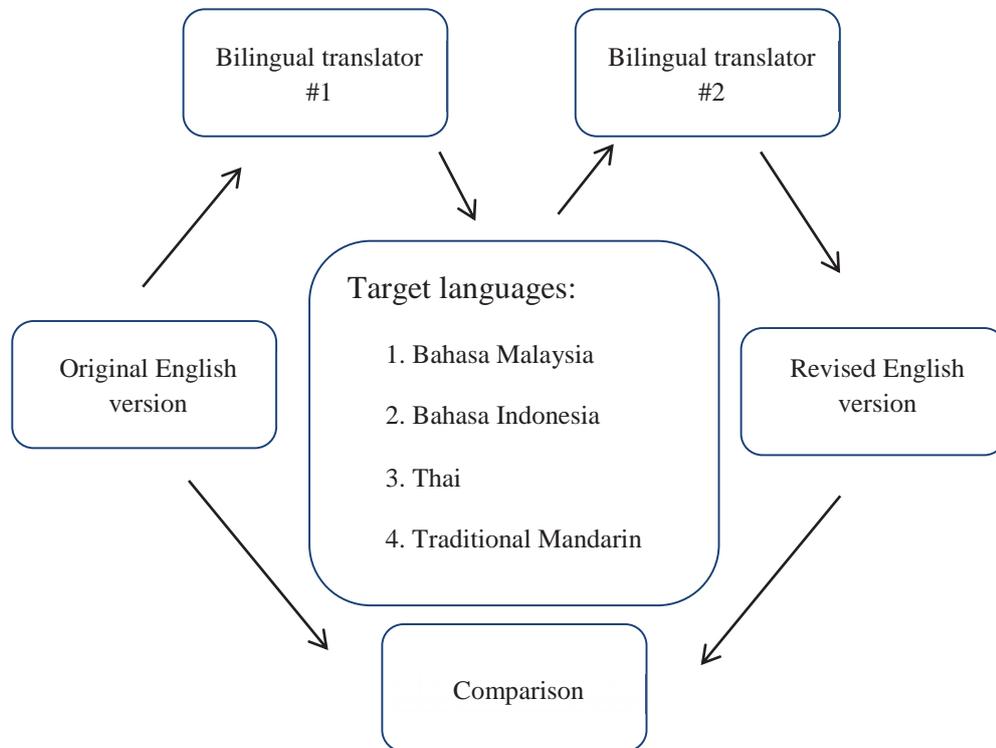


Figure 4.1. Translation process used for this research (Brislin, 1970).

To simplify translation and reduce uncertainty, the use of technical terms was avoided. In total, 12 bilingual local persons were involved in the translation process. Four of the six zoos had two language options for potential participants. Zoo management advised not having a second language available to the potential participants in the Philippines as English is an official language and is used in schools and government.

4.9. QUESTIONNAIRE DISTRIBUTION PROCEDURES

In this section, the distribution procedures for each stakeholder's questionnaire are detailed. Challenges that surfaced in several countries are also included to provide perspective on the challenges I faced.

4.9.1 VISITOR QUESTIONNAIRE

The questionnaires were only distributed after visitors had walked around the zoo/park. Each zoo had different operational times and each zoo was different in size. Therefore, consultation with the appropriate zoo staff member(s) was done at the beginning of the week, before data collection commenced. Advice from zoo staff members included the best locations to survey visitors and the average time taken to complete a tour of the zoo. Appropriate locations were determined for two reasons: first, to capture the best representation of visitors; and second, to prevent surveyors (volunteer or paid staff members of the zoo and myself) hindering daily operations. All zoo visitors (except those in New Zealand and the Philippines) were approached and addressed in either English or the country's business language. The visitor was informed of the time required to complete the questionnaire and then consent was requested. Participants had the right to refuse to answer any questions at any point in the survey. All questionnaires, completed or not, were kept and filed by myself and later tagged with a unique identity number during data entry. Visitors were randomly selected using a pair of dice that were rolled each morning to determine the sampling interval of visitors would be approached. For example if the roll was eight, every eighth person would be approached.

Due to the operational limitations as mentioned in 1.10.4, the following paragraphs detail the procedures taken at each zoo during the fieldwork, In addition, I have included situations that were unique at each zoo. I informed all zoos of the target number of 400 questionnaires to be completed at each zoo. This figure did not change despite the differing volumes of visitors at each park and this took into consideration that I would be distributing the surveys independently. This number was chosen to ensure enough questionnaires were collected to adequately represent the range of types of visitors that patronised these zoos.

Indonesia

The most popular methods to view animals in this park were by touring in a private vehicle and by foot. Due to the zoo's safari-like layout, visitors were approached in the afternoons at several animal show locations. Visitors were selected as they walked into the show arena. If they were already seated, the count for selection would start from the entrance. I am able to understand simple Bahasa Indonesia and was therefore able to distribute the questionnaire and communicate with the visitors. A zoo staff member

accompanied me throughout the data collection. This allowed for more in-depth explanation when visitors asked questions that I was unable to translate accurately.

Hong Kong, SAR

Visitors at this site toured on foot as this zoo has a traditional layout. They were approached in the afternoons in front of the animal presentations as well as at the exit area of the park. As previously mentioned, visitors were randomly selected. I can converse in basic Mandarin and understand basic Cantonese and therefore, was able to distribute the questionnaire and communicate adequately with most visitors. On some days, a zoo staff member assisted me.

Malaysia

Visitors at this site toured on foot as this zoo has a traditional layout. They were approached as they were leaving the zoo as well as before the last show each day. I can understand basic Bahasa Malaysian and was therefore able to distribute and have simple conversations with visitors. Volunteers and intern staff members from the zoo education team were frequently assigned to assist me. I held detailed briefings and a follow-up meeting was held with the assistants to ensure that the distribution methods previously outlined were kept consistent.

The Philippines

Similar to the zoo in Indonesia, visitors toured this park through designated vehicles and by walking. Visitors were approached at the last rest stop on the tour. There were some seats, shade, and tables that visitors could rest at and complete the questionnaire. Staff members were delegated to assist me daily in the distribution and collection of the questionnaires from visitors. They were briefed and monitored by me to ensure that the methods used were consistent with what was stipulated. Most people spoke English in this country so there was no need to translate the questionnaire or learn another language to communicate with the visitors.

Thailand

Visitors could walk or drive around this zoo. Unlike the zoos in Indonesia and the Philippines, it was not possible to approach visitors as they exited the park. All visitors were approached at the start of the afternoon shows as well as at popular animal

exhibits. I cannot speak the Thai language but did learn a few simple sentences that facilitated the distribution of the questionnaires and I hired local person to assist me with data collection. Communication between the assisting staff members and me was through dictionaries and other informal translation methods, such as smartphone applications. I monitored the data collection procedure to ensure that methods employed were consistent, for example by keeping count of the random number used for selecting visitors.

New Zealand

Due to the traditional layout of the zoo, the distribution of questionnaires was conducted at the entrance/exit area. I identified visitors who were walking out of the park. A local person assisted me on weekends when the number of visitors was high. Three visitors requested that they be allowed to complete the questionnaire at home. Only upon these requests, did I provide them with a mailing address and an email address for any electronic copies. I received all three surveys back from them.

4.9.2 STAFF MEMBER QUESTIONNAIRE

As each zoo had different operational needs and restrictions, the procedures for distributing questionnaires varied slightly between zoos. This was to prevent any hindrance to the operation of the zoos. Two language options were made available to staff members of each zoo. In addition, two ways of completing the questionnaires were also made available. The first option was to distribute paper copies of the questionnaire to staff members, who would then return them upon completion via a collection box in the staff resting/office area. In countries where language was a barrier, a local staff member, appointed by the zoo liaison person, accompanied me to distribute the questionnaires to the staff members. The second option was an online version using the web platform, SurveyMonkey[®]. The Human Resource manager (or equivalent) emailed the web link to all staff members. In the email, a brief introduction, similar to the first page of the questionnaire was communicated to the email recipients. New Zealand and Hong Kong zoos welcomed this online option as most or all of their staff members had access to the Internet and preferred to have the option of completing the questionnaire online. The other zoos only did the paper surveys, as many of their staff members did not have access to the Internet.

4.9.3 CORPORATE SPONSOR QUESTIONNAIRE

An initial discussion with zoo staff members from each country was conducted before the distribution to ensure that the zoo was satisfied with how their corporate sponsors were approached. This questionnaire was translated into four other languages - Bahasa Malay, Bahasa Indonesia, Traditional Chinese and Thai and then entered into SurveyMonkey®. At the discretion of the zoo management, corporate sponsors were emailed to request their participation in this research. These emails included a link to SurveyMonkey®, with the appropriate language options made available to potential participants. The use of SurveyMonkey® allowed for ease of data collection with this group of stakeholders. I was copied into the initial email to allow a follow-up reminder to be sent ten working days after the request was sent from the zoo. All requests for participation included notes regarding confidentiality. It was assumed that this would provide a partial sample of the target population of members of the stakeholder groups that play an important role in zoos in the Asia-Pacific region.

4.9.4 ZOO ASSOCIATE QUESTIONNAIRE

The method of collection for this group of stakeholders was the same as the one applied to the corporate sponsors. The only exception to this was that I did have the opportunity to speak to one of the zoo associates, by chance, during the field trip. This allowed me to gather some data verbally. That participant's identity was kept confidential by request.

4.10. DATA MANAGEMENT

There were over 3000 questionnaires in paper form distributed and collected from staff members and visitors over the course of the fieldtrip. The fieldtrip spanned six countries, five of which were outside my home country, New Zealand. As I travelled from one country to the next, it was impractical for me to carry all the survey to later physically bring them back to New Zealand in my luggage. This method of data transportation would have posed a great risk of losing the raw data set, as several towns that were visited were isolated and a substantial distance away from the main cities. To ensure that these hard copies would not get lost or damaged, they were mailed to New Zealand from Indonesia, Malaysia, the Philippines, and Thailand after each collection phase. Each paper questionnaire was tagged and photographed before being mailed away as an extra precaution in the unlikely event that the boxes were lost in transit. Any

electronic questionnaires returned were printed and tagged as well to ensure accuracy, all data was coded and transcribed by two people. Categorical responses, such as gender and occupation were given a numerical code to allow the results to be included in analyses. For questionnaire responses in foreign languages, local speakers helped to translate responses from the respective foreign language into English. Several of the translators were the same individuals, who translated the survey from English, but none had any affiliation with the zoos surveyed and, therefore, there was no conflict of interest. Two translators were used to ensure the accuracy of each translated response as described in section 4.8.

4.11. STATISTICAL SOFTWARE

The Statistical Package for Social Science (SPSS) version 22.0 was used to perform the statistical analysis required for the research (IBM®, 2015). This software provided the necessary tools for data storage, data management, modifications, and complex statistical analysis.

4.12. DESCRIPTIVE DATA ANALYSIS

Data description was the first stage in the data analysis for this research. It assisted in detecting errors in the coding process; it provided a summary of what the ‘typical’ response would be; and it informed me of the distributional assumptions that subsequent statistical tests would be satisfied (Diamantopoulos and Schlegelmilch, 1997). The results from each question were summarised and they are presented in Chapter Five. This highlighted any outliers in the data set. In addition, descriptive data analysis provided useful initial examination and insight into the nature of the responses obtained (Diamantopoulos and Schlegelmilch, 1997). Descriptive data analysis was part of the range of statistical tools utilised to explore the large amount of data collected in the field.

4.13. QUANTITATIVE ANALYSES

The extensive utilisation of Likert scale statements and other types of questions in all four questionnaires meant that simple percentages and cross-tabulation would not have sufficed for the analysis of the large amounts of data collected from the visitors and staff members. The conceptual themes were extrapolated from the meta-analysis of the literature survey during the survey design stage of this research. Using these themes,

several Likert statements were formulated to explore further each stakeholder's attitudes and responses. This section therefore outlines the statistical techniques identified as suitable to explore the data sets. Additionally, it explains what each technique aims to establish.

Descriptive statistics were used to describe the data sets. In particular, distributions of several variables are presented. This was done to provide an overview of the data set from each country. The distribution of responses from each country for the visitor and staff member surveys are presented in Appendix E. However, the percentage of 'Strongly agreed' will be presented in the next chapter, this aligns with how data from other studies were presented (Tribe, 2012; Reade and Warren, 1996; Reading and Miller, 2007). In addition, this would allow a more meaningful comparison to their studies.

Subsequently, principal component analysis (PCA) was employed to identify patterns in the data and aided in extracting the data to highlight similarities and differences (Smith, 2002). The advantages of the PCA technique is its ability to extract the important and meaningful information from the data; reducing the size of a data set comprising a large number of interrelated variables; and simplifying the interpretability of the data (Abdi and Williams, 2010; Van Der Westhuizen, Pacheco and Webber, 2012; Field, 2005). This multivariate technique was used to explore how the conceptual themes (Chapter Three) are interrelated within the visitors' and staff members' data sets. As the current themes were extrapolated using various sources and forms of literature (presented in the matrix in Appendix A), this confirmatory factor analysis was used to determine if the responses from the questionnaires would be grouped in similar ways as set out in the matrix. This method elicited *factor scores* that ranked each person's response against the others. These factor scores were used to establish if there were any significant relationships with the demographic variables and to determine if the data among the study zoos were significantly different from one another.

The data sets were considered 'not normal', as the distribution of the data did not spread from the centre, so I used non-parametric hypothesis testing statistical methods. The first was Spearman's rho and the next was Kruskal-Wallis H test. The use of Spearman's rho was selected to calculate significant correlations between the demographic factors and the factor scores calculated with the PCA in the visitors' and

staff members' data sets. This provided an insight to the type of respondents that were likely to have a particular attitude, motivation, and/or perception.

The Kruskal-Wallis H test was used to explore whether there were any significant differences among the zoos. This is important as this region is culturally, socially, economically, and environmentally diverse. The results from this test determined whether or not the data sets from all the six study zoos were homogenous.

The small data sets collected from corporate sponsors and zoo associates meant that contingency tables sufficed to explore any potential relationships among the demographic factors of these stakeholders and the themes explored in these two questionnaires. The data sets are divided and results are presented separately for each stakeholder group in Chapter Five.

4.14. QUALITATIVE ANALYSES

There were three broad types of qualitative data from this research: responses from the open-ended and short answer questions from each type of questionnaire; field observations; and reflections from personal previous work experiences. Each type of data was analysed and presented differently in Chapter Five and Six.

All open-ended and short answer questions from the questionnaire were analysed using an approach called thematic analysis. This required identifying certain words, phrases, or incidents that occurred frequently within the data that denote a theme (Bryman and Bell, 2007). These commonalities were grouped into themes and these were further reduced where necessary. No statistical software was used to analyse the data, as I was able to do it manually by identifying concepts and searching for appropriate synonyms in the responses. Following this, I grouped them together and calculated the percentages of each identified concept. These results are presented in the next chapter (Chapter Five).

The field observations and use of previous work experiences in combination with the quantitative results and the qualitative data from the open-ended and short answer questions allowed for triangulation and added credibility to the research as a whole. Triangulation refers to observations and data drawn from different sources, times and/or from different people (Kimchi, Polivka, and Stevenson, 1991; Decrop, 1999; Flick, 2004). The various perspectives from each of my supervisors and myself were discussed

systematically when we reviewed the results. Similar triangulation of methods and sources of data to achieve a comprehensive and selective research design were also used in other zoo studies (Mazur and Clark, 2001). Contradicting results from quantitative and qualitative data were discussed with supervisors at length to ensure that my personal values did not bias the research findings. Several excerpts from my reflective diary and field observations were selected to contextualise some of the findings in the body of the discussion chapter (Chapter Six).

4.14.1 REFLECTIVE DIARY

The use of diaries is common in research (Välimäki, Vehviläinen-Julkunen and Pietilä, 2007). It allows the researcher to explore daily processes from a social, psychological, and physiological perspective (Burgess, 1981; Bolger, Davis and Rafaeli, 2003). Reflecting upon diary entries allow one to generate additional data to complement observations and interview material for the researcher and have been proven to be valuable to provide unique insights that are subjective (Burgess, 1981). My personal diaries were maintained regularly during the fieldwork period. They capture the “little experiences of everyday life that fill most of our waking time and occupy the vast majority of our conscious attention” (Wheeler and Reis, 1991, p. 340).

My personal diary was used to inform my fieldwork each day and used *ex post facto* to refine my results and analysis. Many of the personal records provided valuable insights, enabling me to observe the data collected. Several entries in my diaries highlighted my emotions regarding animal welfare concerns that I had encountered. More importantly, these entries allowed me to reflect how different or similar the day’s events were to what I had previously experienced while working in other zoo facilities. There were entries of events I observed contradicting the responses that were reported in the survey instruments. These entries were carefully discussed in depth and reflected upon with my supervisors and advisors to mitigate any bias.

The data from my diaries were analysed *ex post facto*. They seek to reveal the possible relationships by reflecting on the observations and to recall plausible contributing factors (Kerlinger and Rint, 1986). This form of data collection does not include any form of data manipulation, or measurements before the fieldwork. Ultimately, this approach allowed me to highlight the value of my recorded diary entries being used as a research instrument to provide insights into situations which may have been missed using more formal techniques (Burgess, 1981). A lot of my experiences were informed

by zoo management and practices; these personal experiences augmented the data set that was developed.

Personal experiences

Prior to this research, I had spent several years working and volunteering in captive wildlife establishments. My experiences as an animal keeper and educator in the zoo industry in the study region influenced my decision to explore this topic. These experiences provided a basis for reflection on the quantitative data gathered. I faced the challenge of accurately interpreting and representing the observations during fieldwork, along with identifying the perceptions of stakeholder groups, without succumbing to any presumptions held from prior experiences. For this research, I considered experiential knowledge in the zoological industry as a valuable tool to be used alongside literary reviews, the quantitative data collected, and analytical processes. This elucidated a deeper appreciation for the topic researched and; an appreciation to which others on the outside may not be privy.

Reflecting upon the observations in the field helped me to understand the perspectives of the four stakeholder groups. A distinguishing feature of this method is that I treated my experiences as important and legitimate sources of data (Brewer, 2000). Personal interactions between the stakeholders and myself allowed first-hand observations of day-to-day experiences and practices. At a majority of the case study sites, I assumed an observer position that maintained superficial contacts with the people being studied (Waddington, 2004). In the capacity of a participant, there were occasions where I was invited to speak to groups of staff members regarding this research, my previous work experiences and my opinions of certain matters such as animal training techniques and education programmes.

I was able to record information that provided contextual insight on the perceptions of these stakeholder groups. Much of the interaction consisted of informal conversations and a travel journal that was informally written during the course of the fieldwork to record notable discussions, observations, stories, and topics.

Observations in the zoos allowed me to develop a familiarity with the diverse cultural settings of each research site. In addition to my previous work experiences in several other captive wildlife facilities, a personal travel diary that I kept during this research period and in previous years while working proved to be invaluable. I took notes about

the things I had heard and seen during the course of the fieldwork. It is important to reiterate the fact that this research took place in six different countries, surrounded by a diversity of cultures and languages. Due to the language barriers between most participants and myself, body language and facial expressions were a few of the non-verbal cues taken into account during conversations or settings.

There are several strengths and weaknesses of my observations. An important strength is that they provide a broad context for the relationships and practices of the stakeholders. By conducting several types of qualitative and quantitative research methods, triangulation can be done for much of the data (Babbie, 2007). My reflections provide greater depth of context for the data gathered. A weakness of this method is the reliance on my ability to recall and record the information noted at the end of each day. As reflection on the notes was done *ex post facto*, there were potentially important points not noted in my travel diary that may have been useful. Another weakness of this method is the subjectivity of the observations alone. The observed data collected was used to complement or supplement the formal data collected in the questionnaires. No individuals' names were revealed in the results in order to protect the identities of respondents.

4.15. ETHICAL CONSIDERATIONS AND PROCESS

Before the commencement of data collection, I read and discussed the *Massey University Code of Ethical Conduct for Research, Teaching and Evaluations* with my supervisors. I completed a screening questionnaire to determine whether the approval procedure for a full human ethics application was required. The results from this screening questionnaire determined that this research was of low risk and a notification to the Massey University Human Ethics Committee (MUHEC) was appropriate. None of the four questionnaires contained any sensitive questions that were deceptive or threatening, nor did they place the researcher or participants in a situation that could be deemed a conflict of interest. MUHEC sent an acknowledgment and approval for this research before the commencement of data collection in October 2013 (Appendix D). Before completing the questionnaires, all potential participants were presented with an information sheet explaining the aim of the research as well as their rights.

4.16. CONCLUSION

My goal in presenting this chapter was to detail the steps taken to collect and analyse the data. More importantly, it supports the use of mixed-method approach, using personal observations and experiences to contextualise the statistical results. To achieve this goal, the choice of ‘mixed-method’ approach was discussed. The data collected was also supported by observations carried out during the fieldwork period as well as past professional experiences. The justifications for using this qualitative approach were discussed as they provide important and valid information that strengthens the results from the quantitative data by putting the results into broader context. The survey design for each stakeholder group was also detailed as each questionnaire was different. The content of each questionnaire was designed for the respective stakeholder to gather as much information in the shortest amount of time without affecting the operational flow of the zoos during data collection.

This chapter discussed how the data sets were managed and the choice of statistical tools employed. Another important aspect of this chapter was to outline the issues faced during the fieldwork by considering my personal reflections as well as the limitations encountered. The next chapter presents the results from each data set in four sections, each representing one stakeholder group (visitors, staff members, corporate sponsors and zoo associates). Each section reveals the response rates for that stakeholder group and distribution patterns, demographic profiles, and correlations. The qualitative data in the form of observations and excerpts from my reflective diary will be included in the following chapter (Chapter Six) to provide further context and/or potential explanations on the statistical results.

CHAPTER FIVE: RESULTS

5.1. INTRODUCTION

The previous chapter details the methods employed to gather qualitative and quantitative data in six case study sites within the Asia-Pacific region. It highlights the importance of recognizing the researcher, as a key research instrument. This chapter presents the results from the four questionnaires from all six case study sites. The aim of this chapter is to present the statistical results and qualitative results from the open-ended and short answer questions to highlight the perceptions, attitudes and expectations of the stakeholders. In addition, they emphasize the importance of recognizing this region's diversity. The qualitative results from my professional reflections in the form of journal extracts are integrated into the Discussion chapter (Chapter Six).

This chapter is divided into four sections, each representing one stakeholder. For the visitors' and staff members' sections, the quantitative results encompass the response rates, demographic profiles, stakeholders' perceptions, behaviours, and expectations. All results from the corporate sponsors and zoo associates are presented in this chapter, but are significantly shorter due to the limitations as described in section 1.9.7.

5.2. VISITOR STAKEHOLDERS

Visitors provide valuable income and resources to local communities and zoos (Leask, 2000). The development of existing literature for an outstanding modern zoo and the four stakeholder groups is biased. This bias resulted from the majority of existing bodies of research have focused on the regions of North America, Europe, and Australia. Therefore, it is important to establish if the profile of visitors explored in Western zoos are similar to those in Asian zoos, and if there are any differences among the zoos due to the diversity in the region as presented in Chapter Two (Background). This research explores the demographic characteristics of visitors in the selected zoos as a representation of the diversity of the Asia-Pacific region, and to determine if there are significant differences in responses among the zoos. Understanding the characteristics of these visitors may impact the strategies adapted by zoos in the region. This section details the results as stipulated in Table 5.1.

Table 5.1. The analytical methods adopted to examine the role and functions of zoo as perceived by visitors in the Asian-pacific region.

Question No.	Question	Analytical method
1	What are the characteristics of visitors in this study region?	Explored by presenting the responses rate (Table 5.2), distribution of demographic variables (Section 5.2.2) and survey responses grouped using the conceptual framework, informed by the current literature, from each country in (Table 5.5).
2	Were the conceptual themes from the existing western framework similar to the statistical themes derived from the survey results?	Principal Component Analysis is used to group the statements from the questionnaires. These newly formed components reflect how the statements were statistically grouped (Table 5.6) and compared to the previous grouping using the conceptual framework in (Table 5.5).
3	Were the demographic characteristics of the visitors correlated with factor scores and were these correlations supported by observations made in the field?	Using the factor scores generated by PCA, Spearman's rho correlation was used to explore if there is a statistical relationship between demographics and the PCA components (Table 5.8).
4	Were there any significant differences of visitors' perceptions and attitudes among the zoos?	The Kruskal-Wallis H test was selected to determine if there were any significant differences among the countries using the factor scores. They would provide insight to whether the statements in each county were ranked and grouped homogenously or not, therefore reflecting the diversity of the region.

5.2.1 RESPONSE RATES

Over the course of the fieldwork, 3055 visitors were approached to complete the surveys at the six zoos. In total, 2279 agreed to complete the survey. This represents a 75% response rate. The detailed response rates per day, from each country, were in Appendix B. The different response rates for each zoo were presented in Table 5.1. The lowest response rate is from Khao Kheow Open Zoo, Thailand. The *distribution* column is the percentage of each of the zoo's representation in the overall sample. From Table 5.1, the distribution of sample sizes is relatively similar, ranging from 15.2% to 19.7% of the total visitor sample.

Table 5.2. The response rates in percentages of visitor questionnaires, categorised by country.

Country	Approached	Frequency	Response rate	Distribution
	Total (n)		(%)	(%)
Ocean Park, Hong Kong, SAR (HK)	564	397	70.4	17.4
Taman Safari, Bogor, Indonesia (IN)	411	346	84.2	15.2
Zoo Negara, Malaysia (MY)	557	449	80.6	19.7
Auckland Zoo, New Zealand (NZ)	486	375	77.2	16.5
Zoobic Safari, The Philippines (PH)	496	354	71.4	15.5
Khao Kheow Open Zoo, Thailand (TH)	541	358	66.2	15.7
Total	3055	2279	74.6	100

An important point to consider is the percentage of respondents that were local or foreign, as knowing the ‘type’ of visitors could potentially influence the zoos’ marketing and educational strategies (Figure 5.1).

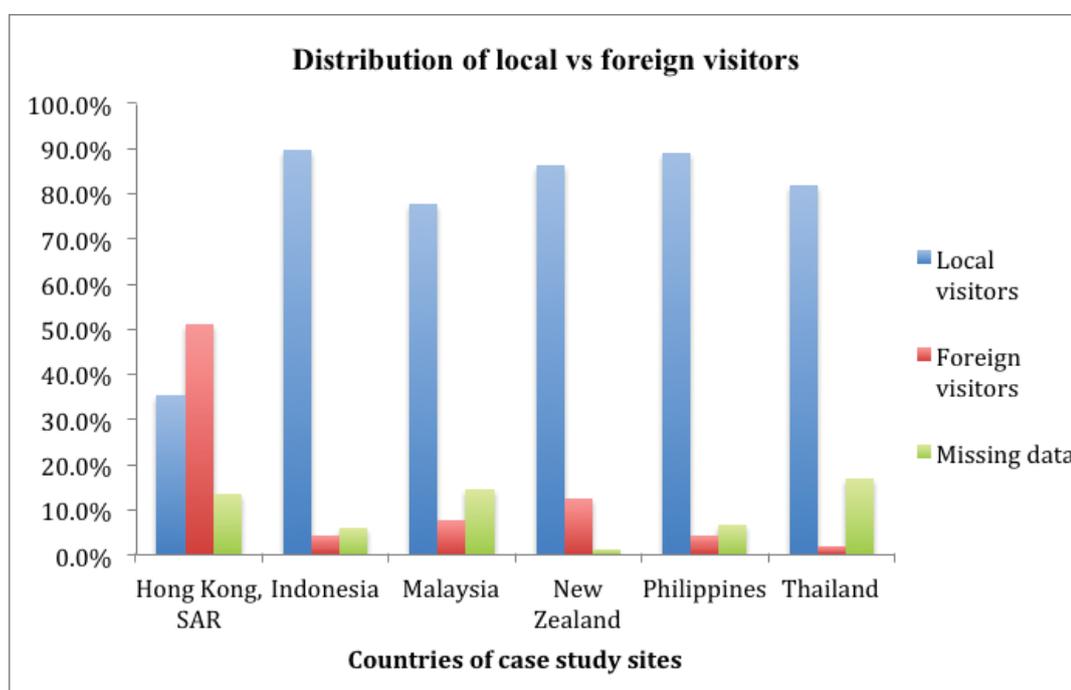


Figure 5.1. The distribution of local versus foreign visitors at each case study site ($n = 2279$, HK: 397, IN: 346, MY: 449, NZ: 375, PH: 354, TH: 358). *Missing data* refers to the percentage of respondents that did not answer this question.

5.2.2 VISITOR DEMOGRAPHIC PROFILE

In this section, the distribution of responses on demographic variables such as country of origin, gender, highest level of education and age distribution (Table 5.3) were presented.

Table 5.3. The demographic variables of visitors' responses in percentages, categorised by the study zoos in their respective countries (HK: Hong Kong, IN: Indonesia, MY: Malaysia, NZ: New Zealand, PH: Philippines, TH: Thailand, ALL: All countries).

Demographic variable	Country						
	HK (n = 397)	IN (n = 346)	MY (n = 449)	NZ (n = 375)	PH (n = 354)	TH (n = 358)	ALL (n = 2279)
Gender							
Male	38	56	40	33	37	31	39.2
Female	54	40	57	63	60	64	56.5
Missing data	8	4	3	4	3	5	4.3
Highest education attained							
Primary School	1.0	1.2	1.1	1.6	0.8	1.4	1.2
Secondary School	16.6	18.8	19.8	20.5	7.3	11.5	16.0
Tertiary Diploma	7.8	15.9	9.4	10.4	24.9	3.1	11.7
Vocation / Trade qualification	3.8	2.0	2.0	6.7	6.8	2.8	3.9
University degree	43.6	48.0	29.6	37.1	38.1	54.5	41.3
Postgraduate diploma or degree	19.4	8.7	34.5	20.8	15.8	14.8	19.7
Missing data	7.8	5.5	3.6	2.9	6.2	12.0	6.2
Age							
18 – 25	16.6	25.7	32.7	17.3	42.7	13.4	24.8
26 – 35	39.0	39.9	39.0	18.4	28.8	29.6	32.7
36 – 45	22.7	19.9	18.9	34.7	17.2	21.5	22.5
46 – 55	4.8	6.4	5.8	15.2	3.7	14.8	8.3
56 – 65	4.0	0.6	1.1	6.9	3.7	7.8	3.9
Over 65	1.0	0.0	0.0	5.9	0.0	0.0	1.1
Missing data	11.8	7.5	2.4	1.6	4.0	12.8	6.6
Accompanying children							
Yes	48.1	48.6	54.1	64.5	44.6	77.4	56.6
No	18.9	5.5	21.4	26.4	31.4	6.1	18.5
Missing data	33.0	45.9	24.5	9.1	24.0	16.5	24.9
Repeat visitors							
Yes	25.2	32.7	31.4	36.3	18.4	27.7	28.7
No	44.1	49.7	54.1	52.0	62.1	40.5	50.5
Missing data	30.7	17.6	14.5	11.7	19.5	31.8	20.8
Group Size							
Alone	0.3	0	0.7	0.3	0.3	0.6	0.4
2 – 5 pax	74.1	42.8	57.7	81.3	29.9	30.4	53.6
6 – 10 pax	8.3	19.7	21.8	12.5	21.2	12.3	16.0
More than 10	3.0	20.5	10.7	4.3	38.1	46.4	19.7
Missing data	14.3	17	9.1	11.6	10.5	10.3	10.3

Gender

The responses indicated that a larger percentage of women than men responded to the survey, except in Indonesia where there was a higher number of male respondents than female. There were many occasions when I happened to approach a man, who was part of a family group, to complete the survey. In those instances, he most likely passed it on to his female companion to complete. When the questionnaire was completed, the woman handed it back to the man, who in turn handed it to me. The answers were declared as written by a 'male', despite having the woman answering it.

Education

Over 50% of all respondents had a university education or higher. Apart from the Philippines, where the next largest group of respondents held tertiary diplomas, all the other countries held secondary school as their highest form of education. This reinforces the concept that zoo visitors tend to be well educated. This should be useful to zoos when designing and/or updating future exhibits and programmes in terms of how they present their educational material to the public. This will be further discussed in the next chapter.

Age group

The Philippines had the largest population of young respondents between the age of 18 and 25 years old (42.7%). The oldest age bracket that formed the largest percentage of the respondents was found to be in New Zealand, where 34.7% of respondents were between 36 and 45 years old. The largest population in Hong Kong, Indonesia, Malaysia, and Thailand was aged between 26 and 35 years old.

Number of accompanied children

Thailand had the highest percentage of respondents that visited the zoo with at least one child (77.4%). Generally, all study zoos had approximately 50% of respondents that visited the zoo with at least one child. This was seen to be highest in Thailand (77.4%)

However, less than 20% of respondents in Hong Kong, Indonesia and Thailand were visiting the zoo without children.

Repeat visitors

Approximately half of all visitors surveyed were first-time visitors to a given zoo. However, 20.8% of all the respondents chose not to reveal how many times they had visited the zoo. Almost a third of the visitors in Hong Kong and Thailand did not

disclose if they were repeat visitors. Less than a third of respondents at each study zoo were repeat visitors except for New Zealand. The Philippines has the lowest percentage of repeat visitors at 18.4%. Approximately 40 – 60% of respondents were first-time visitors to the zoos. This may suggest that zoos are not attracting repeat visitors as successfully as first-time visitors.

Visitor group size

With the exception of the Philippines and Thailand, the most common group size was between two to five people. Over 80% of all visitors to New Zealand were in this group. The most common group size in the Philippines and Thailand were more than 10 people. There was a large range of group sizes that visited the zoos in this region. The largest group was 400, which was a school group comprising parents, students, and teachers, in Thailand.

Religious affiliation

A unique demographic question posed to the visitors was if they identified themselves with any religious affiliation. The Philippines had the highest percentage of visitors that did not indicate religious affiliation (Table 5.4).

Table 5.4. Percentage of visitors' self-identified religion at each study zoo in their respective countries.

	Non-religious	Christianity	Islam	Buddhism	Others	Missing data
Hong Kong (n = 397)	46.9	18.9	0.3	8.1	0.8	25.2
Indonesia (n = 346)	4.3	16.5	57.5	1.2	0.6	19.9
Malaysia (n = 449)	7.3	4.2	60.8	6.2	1.8	19.6
New Zealand (n = 375)	62.7	21.1	1.1	0.8	0.8	13.6
The Philippines (n = 354)	16.9	41.5	0	0	0	41.5
Thailand (n = 358)	3.4	2.5	2.0	61.2	0	31.0

When I spoke to a few of the visitors, many mentioned that they were baptised Catholics, but no longer practised the religion. However, some did indicate that they would return to the church in the future, '*just not now*'. Many of these individuals left this particular question blank rather than choosing no religious affiliation. These distributions reflect the general patterns of religious affiliation in each society: Indonesia and Malaysia were mainly Islamic, Thailand has mostly Buddhist, the

Philippines has mostly Catholics, and Hong Kong and New Zealand were mostly not religious (Central Intelligence Agency, 2014a, 2014b, 2014c, 2014d, 2014e, 2014f).

5.2.3 CONCEPTUAL THEMES

A table presenting the distribution of responses for each statement is used to display the results. Six themes have been extrapolated and developed from current zoo literature and other visitor studies were explored in this research:

- A. Motivations for visiting the zoo
- B. Expectations of visitors
- C. Potential impacts of the visit
- D. Behaviour / habits of visitors
- E. Evaluation of zoo experience
- F. Evaluation of the zoo

Table 5.5 presents the percentages of ‘Strongly agree’ from each country in the thematic groups listed above.

Table 5.5. Percentage distribution of visitors' with 'strongly agree' responses regarding statements surrounding their motivation, perceptions, behaviours, and expectations at each study zoo in their respective countries. (Qs': Question number, NZ: New Zealand, IN: Indonesia, MY: Malaysia, PH: The Philippines, TH: Thailand, HK: Hong Kong, ALL: All case study zoos).

Themes	Qs	Statements	NZ	IN	MY	PH	TH	HK	ALL	
A. Motivation for visitation	5	I usually come to the zoo to see specific animals	17.3	17.9	30.3	33.3	9.8	22.7	22.2	
	6	I usually come to the zoo to learn about the animals	13.9	23.1	38.3	31.6	33.8	23.7	27.7	
	8	I usually come to the zoo to spend a day out with friends	25.9	26.6	22.9	28.0	25.7	30.7	26.5	
	9	I usually come to the zoo to spend the day with family	58.9	56.4	52.8	39.0	35.2	57.1	49.8	
	10	I usually visit a zoo because of their range of animals	52.3	51.2	41.6	32.5	50.3	43.0	44.7	
	23	If the entry fee was lower, I would come more often	39.2	66.5	53.5	52.0	41.6	54.4	51.2	
B. Expectations of visitors	24	The zoo should give discounted entrance fees to residents of this city	37.6	66.8	38.5	45.2	45.8	41.8	45.4	
	26	The zoo should sell products made only from sustainable sources	36.8	49.7	31.0	28.0	35.8	29.7	34.8	
	27	It doesn't matter to me where the zoo sources their animals	10.9	11.3	16.7	16.7	21.5	23.2	16.8	
	28	The zoo should sell products only bought through ethical purchasing	43.5	37.6	28.5	26.6	46.1	44.1	37.5	
	29	The zoo should be active in improving international conservation efforts	49.6	59.0	53.9	34.7	53.4	55.2	51.1	
	30	The zoo should be active in improving national conservation efforts	54.1	65.6	53.5	36.4	61.5	52.9	53.9	
	31	I would like the zoo to create reserves in unprotected environments	34.9	54.3	45.9	38.4	65.9	44.6	47.1	
	32	The zoo should assist developing countries to conserve wildlife	40.5	56.6	48.3	37.3	59.5	50.4	48.7	
	C. Potential impacts of zoo experience	3	My visit to the zoo made me keen to find more about the threats faced in the wild	28.0	40.2	42.1	32.2	32.7	33.8	35.0
		4	The zoo has inspired me to do more in my private life for the benefit of wildlife	18.4	45.1	32.7	25.4	38.0	31.2	31.7
36		I would be interested in volunteering for conservation projects conducted by the zoo	15.2	18.8	26.3	22.3	37.4	23.2	23.9	
D. Behaviour of	11	I frequently hear the zoo mentioned on T.V, radio and magazines	33.1	27.2	26.3	22.0	32.4	25.2	27.6	

Theme A: Motivations for visiting zoo

Respondents in New Zealand, in particular, indicated that the most common motivations for visitors were to spend time with family and to enjoy the range of animals they could find at the zoo. These distribution percentages were similar to those reflected from Indonesia, Malaysia, and Hong Kong. Thailand elicited the lowest percentage for visiting the zoo to see specific animals (9.8%); they were more likely to visit the zoo for the range of animals. In the Philippines, the distribution for their motivation for visitation is fairly equal for all the reasons in this theme.

Theme B: Expectations of visitors

Over 50% of visitors (with the exception of the Philippines) strongly agreed that zoos should be actively involved with conservation efforts, which include national and international collaborations. Despite these conservation sentiments, less than 25% of all visitors strongly agreed that it did not matter where the animals were sourced; and less than 50% strongly agreed that the zoos should sell products only brought through ethical purchasing. It appears that despite visitors' expectations that zoos should contribute to conservation, they may not necessarily be well informed or concerned about ethical and sustainable purchasing of products and animals.

Theme C: Potential impacts of zoo experience

Malaysia presented the highest percentage of visitors that indicated that their zoo visit made them keen to find out more about threats faced by wildlife. However, more visitors from Indonesia were inspired to do more in their private life for the benefit of wildlife. Thailand presented the highest percentage of visitor responses who most frequently indicated that they were interested in volunteering for conservation projects conducted by the zoo.

Theme D: Behaviour of visitors

The highest percentage of visitors who indicated that they frequently hear about the zoo from mainstream media such as TV, radio, and magazines were from Thailand. Less than 25% of all visitors make use of the zoos' social media network and the lowest being New Zealand at only 4.8%.

Thailand presented the highest percentage of visitor responses; make use of the zoo's social media network; and find the zoo's website up-to-date. The highest percentage of visitors was from Indonesia indicated that they took the time to read the information

displayed at the animal enclosures.

Theme E and F: Evaluation of experience and zoo

There were over 50% of all visitors strongly agreed that they enjoyed finding out about wildlife in their habitat. The exception to this was the Philippines where only 31% felt this way. This was half as many as compared to Indonesia at 65%. Despite these sentiments, approximately 30% of visitors indicated that they strongly agreed that watching a wildlife documentary was not a substitute for their experiences.

When asked if the zoo did a good job entertaining the visitors, only 30% of visitors from Malaysia, the Philippines and Hong Kong strongly agreed. This was half as many as those visitors reported from Indonesia (61.8%). The percentages from the Philippines and Hong Kong in this theme were consistently lower than the other study zoos. All things considered, nearly two-thirds of visitors to New Zealand zoo strongly agreed that they were doing an excellent job. Hong Kong elicited the lowest percentage where only 25% had similar sentiments.

5.2.4 STATISTICAL THEMES: VISITORS

Principal Component Analysis (PCA) was selected to explore how the conceptual themes were interrelated within this data set. It explored how the responses to the statements from Table 5.5 were statistically grouped. As the statements were previously grouped into conceptual themes: (A) Motivation for visitations; (B) Expectations of visitors; (C) Potential impacts of zoo experience; (D) Behaviour of visitors; (E) Evaluation of experience; and (F) Evaluation of zoo, this analysis proved useful in exploring how and whether the conceptual themes from the literature have any statistical basis. Kaiser (1974) recommends accepting Kaiser-Meyer-Olkin (KMO) values greater than 0.5 with values closer to 1 indicating that patterns of correlations were relatively compact and that the analysis should yield distinct and reliable factors (Statistic Hell, n.d.).

The (KMO)⁶ score was 0.933. Bartlett's Test of Sphericity was statistically significant ($p < 0.005$) indicating that the data was suitable for this analysis. The PCA produced seven components that had eigenvalues⁷ greater than one. This explained a cumulative percentage of 56.87% of the variance. The individual percentages for each component

⁶ KMO index measures whether the samples are adequate by comparing the values of correlations between variables and those of the partial correlations.

⁷ It is the value that tells you how much variance there is in the data; if its greater than 1, it is the acceptable practice to include that component for further analysis.

were detailed in Table 5.6.

A varimax orthogonal rotation⁸ was used to assist the interpretability of the data. There were strong loadings (>0.5) on each component and these were further detailed below (Table 5.6). Seven statements did not load at 0.5 or more on any of the components.

Table 5.6. Percentage of variance for each of the seven components extrapolated using Principal Component Analysis. Each component groups the statements that explain the variance of visitor responses in the data.

Component	Percentage of Variance Explained (%)
Component number 1	29.99
Component number 2	7.23
Component number 3	5.16
Component number 4	4.64
Component number 5	3.45
Component number 6	3.41
Component number 7	2.99

⁸ Kim and Mueller advices were to choose one of the commonly available methods of rotations (1978, p. 50, cited in Brown, 2009).

Table 5.7. The list of visitor questionnaire statements, grouped by the components calculated using Principal Components Analysis. (T: Refers to the corresponding conceptual themes from Table 5.5, and Q: Question number from the visitor questionnaire). Shaded columns represent the corresponding component number that each statement belongs in.

T	Q	Statements	Component number						
			1	2	3	4	5	6	7
B	15	It appears to me that the zoo does a good job entertaining their visitors	.759	.178	.109	.001	.109	.138	.104
C	16	The animals at the zoo are housed in a natural setting	.703	.084	.078	.081	.109	.111	.143
G	17	The quality of the information displayed at most of the animal enclosures is good	.701	.127	.088	.137	.088	.045	.060
G	14	The zoo does a good job on educating the public regarding conservation issues	.694	.151	.217	.056	.088	.053	.168
G	37	All things considered, the zoo is doing an excellent job	.673	.325	.100	.086	.121	.115	-.094
E	2	I enjoyed the zoo's activities and presentations	.632	.222	.274	-.092	.024	.173	.060
F	35	The zoo compares favourably with the other zoos that I have visited	.605	.383	.055	.143	.042	.017	-.014
E	1	I enjoyed finding out more about wildlife in their habitat at the zoo	.559	.248	.361	-.167	.069	.133	.082
B	30	The zoo should be active in improving national conservation efforts	.278	.719	.152	-.174	.141	.041	.278
B	29	The zoo should be active in improving international conservation efforts	.264	.699	.132	-.128	.087	.073	.254
B	31	I would like the zoo to create reserves in unprotected environments	.148	.667	.191	-.024	.146	-.040	.311
B	28	The zoo should sell products only bought through ethical purchasing	.185	.661	-.013	.208	-.009	.185	-.092
B	32	The zoo should assist developing countries to conserve wildlife	.249	.630	.266	-.034	.110	-.024	.298
B	26	The zoo should sell products made only from sustainable sources	.157	.620	.125	.153	-.047	.182	-.077
C	4	The zoo has inspired me to do more in my private life for the benefit of wildlife	.346	.215	.659	.080	.020	.040	.065

C	3	My visit to the zoo made me keen to find more about the threats faced in the wild	.369	.210	.653	-.023	.041	.123	.001
A	6	I usually come to the zoo to learn about the animals	.112	.124	.604	.101	.175	.343	.126
B	27	It doesn't matter to me where the zoo sources their animals	.032	.058	-.146	.658	-.008	.148	.053
D	12	I frequently make use of the zoo's social media network (e.g. Facebook, Twitter and etc.)	.089	-.124	.389	.642	.134	.038	.268
E	25	Based on the experience I had today, I would be willing to pay a higher entrance fee	.010	.083	.161	.601	.343	.031	-.151
F	22	The entrance fee for a child is reasonable	.200	.095	.059	.122	.861	.068	.001
F	21	The entrance fee for an adult is reasonable	.217	.120	.100	.142	.846	.068	-.078
A	9	I usually come to the zoo to spend the day with family	.331	.125	.031	-.110	.053	.679	.182
A	8	I usually come to the zoo to spend a day out with friends	.130	.071	.070	.225	.039	.654	.042
A	5	I usually come to the zoo to see specific animals	-.058	-.001	.312	.290	.005	.511	.117
B	24	The zoo should give discounted entrance fees to residents of this city	.109	.239	-.026	.105	-.007	.153	.694
B	23	If the entry fee was lower, I would come more often	.166	.216	.148	.049	-.161	.180	.677
D	13	I find the zoo's website up to date and informative	.418	-.022	.276	.358	.162	-.003	.324
F	33	The zoo is open and honest when resolving issues raised by the public	.386	.384	.199	.219	.158	-.063	.229
E	19	Watching a wildlife documentary is no substitute for my experiences at the zoo	.362	.273	.106	.289	.042	.220	.055
D	11	I frequently hear the zoo mentioned on T.V, radio and magazines	.358	-.053	.205	.348	.068	.143	.182
C	36	I would be interested in volunteering for conservation projects conducted by the zoo	.178	.267	.499	.383	-.006	.001	-.014
D	20	I took the time to read the information displayed at the animal enclosures	.312	.211	.335	.119	.151	.237	.064
A	10	I usually visit a zoo because of their range of animals	.404	.269	.234	-.113	.122	.424	.101

Relationship (Correlation)

Spearman's rho statistic was selected to examine the relationship between each component, using the calculated factor scores, and the demographic variables for all the six zoos. The correlation coefficient values were presented in Table 5.8.

Significant differences

Kruskal-Wallis H test was used to determine if there were any significant differences among the six case study zoos. This would provide an insight and statistical support that the cultural diversity in the Asia-Pacific region is reflected in the responses. This test is suitable as majority of the respondents, with the exception of Hong Kong, were local and therefore representative of the location (Figure 5.1). The results from this test for each component indicated that there were significant differences among the study zoos for all seven components. The test results for each component would be presented in the next section.

Table 5.8. Spearman's rho correlation coefficient values reflecting the strength of the relationship between demographic variables of visitors and each component¹ for all six study zoos.

Component Number	Country	Demographic variables					
		Gender	Education	Age	Accompanying children	Repeat visitors	Group Size
1	New Zealand	0.124	-0.122	0.162	0.041	0.056	-0.134
	Indonesia	0.211**	0.066	0.237**	0.063	0.001	0.144
	Malaysia	0.133*	0.11	-0.165*	-0.013	-0.084	0.117
	The Philippines	0.11	0.039	-0.132*	-0.045	-0.054	0.089
	Thailand	0.089	0.034	0.173*	0.048	-0.035	0.054
	Hong Kong	0.092	0.035	-0.14	0.005	-0.029	0.014
2	New Zealand	-0.022	0.072	0.064	-0.058	0	0.032
	Indonesia	-0.159	0.275**	0.084	0.056	0.016	0.033
	Malaysia	-0.029	0.114	0.043	-0.087	-0.073	0.066
	The Philippines	0.035	0.012	-0.035	-0.101	-0.06	0.002
	Thailand	-0.101	0.01	0.213**	0.039	0.025	0.066
	Hong Kong	0.004	0.045	0.062	-0.14	-0.1	-0.158*
3	New Zealand	0.172	0.069	0.003	-0.012	-0.023	0.04
	Indonesia	0.023	-0.041	-0.017	0.099	0.106	0.114
	Malaysia	0.085	0.052	-0.002	0.028	0.063	.140*
	The Philippines	0.061	0.027	-0.094	-0.065	-0.033	-0.037
	Thailand	-0.01	0.126	0.1	0.032	-0.051	.280**
	Hong Kong	0.105	0.163*	-0.093	-0.032	-0.094	0.015

4	New Zealand	0.072	-0.02	-0.15	0.006	-0.099	0.082
	Indonesia	-0.087	0.014	-0.011	-0.078	-0.085	0.034
	Malaysia	0.155*	0.044	-0.280**	-0.180*	-0.045	-0.005
	The Philippines	0.098	0.056	-0.13	-0.062	0.003	0.069
	Thailand	0.038	0.051	0.051	-0.026	-0.200**	-0.008
	Hong Kong	0.07	-0.146	-0.002	-0.009	-0.042	0.008
	New Zealand	0.028	0.074	0.166	-0.07	-0.02	-0.011
5	Indonesia	0.05	-0.055	-0.033	-0.075	-0.104	-0.039
	Malaysia	0.174**	0.055	0.021	0.089	0.057	0
	The Philippines	0.014	-0.006	0.083	0.091	-0.039	-0.092
	Thailand	-0.073	-0.045	0.046	-0.072	0.067	-0.057
	Hong Kong	0.026	0.02	0.109	0.034	-0.069	-0.029
	New Zealand	0.091	-0.003	0.059	0.293**	0.133	0.14
	Indonesia	0.029	0.08	0.106	0.143	0.107	.226*
6	Malaysia	0.124	0.04	0.078	0.1	0.057	0.037
	The Philippines	0.948	0.214	0.752	0.201	0.079	0.772
	Thailand	-0.005	-0.143*	-0.13	-0.041	0.198**	-0.233**
	Hong Kong	-0.008	0.068	0.133	0.115	0.035	-0.01
	New Zealand	0.09	-0.186*	-0.186*	0.001	-0.025	-0.077
	Indonesia	-0.026	-0.14	0.034	0.242*	-0.001	0.185*
	Malaysia	0.025	0.016	0.146*	0.170*	-0.062	0.024
7	The Philippines	0.138*	0.026	0.028	-0.07	-0.181*	-0.086
	Thailand	-0.095	-0.023	-0.004	-0.022	-0.091	-0.039
	Hong Kong	0.091	-0.031	-0.032	-0.041	-0.028	0.014
	New Zealand	0.091	-0.031	-0.032	-0.041	-0.028	0.014
	Indonesia	0.091	-0.031	-0.032	-0.041	-0.028	0.014
	Malaysia	0.091	-0.031	-0.032	-0.041	-0.028	0.014
	The Philippines	0.091	-0.031	-0.032	-0.041	-0.028	0.014

*The significance level is 0.05

**The significance level is 0.001

1 This refers to the components extrapolated using PCA and detailed in Table 5.7.

Statistical results and notes for visitors

Component 1 groups statements that reflect how visitors regarded their experience and the zoo. i.e. visitor engagement. These statements help with understanding visitors' expectations. This factor is significantly correlated with age and gender in Indonesia and Malaysia but only with age in the Philippines and Thailand. In Indonesia and Thailand, the relationship between visitor engagement and age is positive (i.e. older respondents in Indonesia and Thailand were more likely to give positive feedback regarding their engagement in the zoo). However, in Malaysia and the Philippines, this relationship is negative. The relationship between this component and gender is positive in Indonesia and Malaysia. Females were more likely to provide positive feedback regarding their engagement in the zoo. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(5) = 126.61, p < 0.05$).

Component 2 reflects the expectations of visitors, as Table 5.5, Theme B. Visitors who were more likely to expect zoos to contribute to national, and international conservation efforts were likely to expect zoos to promote and showcase conservation friendly behaviours such as selling ethically purchased and sustainable products. In addition, visitors also expect zoos to develop partnerships for conservation by assisting developing countries and to create reserves to conserve wildlife. This component is significantly positively correlated with education in Indonesia and age in Thailand. It suggests that the more educated the visitors in Indonesia, and the older the visitors in Thailand, the more likely they were to have stronger expectations from the zoos. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(5) = 32.58, p < 0.05$).

Component 3 includes a motivation for visiting the zoo and the potential impact the experience has on visitors. It groups responses about visiting the zoo to learn about animals with being positively influenced by the zoo visit to do more in their private life for the benefit of wildlife. This component is significantly positively correlated with education in Hong Kong and group size of visitors in Malaysia and Thailand. Therefore, it suggests that the more educated the visitors, the more they would be inspired to do more in their private life, more keen to find out more about the threats faced in the wild and more likely to visit the zoo to learn about the animals. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component

$(H(5) = 51.50, p < 0.05)$.

Component 4 groups the behavioural habits regarding technology from this questionnaire. This component indicates that visitors who are likely to use zoo social media networks may be more willing to pay a higher price for their entrance fee. In addition, it is interesting to note that these visitors are also more likely to care where the zoo sources their animals. This component is significantly positively correlated with gender in Malaysia but negatively correlated with age of visitors and those that are accompanying children. Female visitors who are more likely to use Malaysia's zoo social media networks may be more willing to pay a higher price for their entrance fee. However, the negative correlation values suggest that the older the visitors are, and also visitors with children, the more unlikely they are to use zoo social media networks or pay a higher price for their entrance fee. The other noteworthy negative correlation indicates that repeat visitors in Thailand are unlikely to use zoo social media networks nor pay a higher price for their entrance fees. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(5) = 129.79, p < 0.05$).

Component 5 reflects the financial evaluations of the zoo, establishing whether visitors felt that the entrance fees for adults and children were reasonable. There is only one positively significant correlation in this component: gender and Malaysia. This suggests that females in Malaysia are more likely to regard the entrance fees for adults and children as reasonable. Kruskal-Wallis H test indicated that there were significant differences among the zoos for this ($H(5) = 98.99, p < 0.05$).

Component 6 indicates the remaining reasons for why visitors usually visit the zoo. It seems that visitors who are likely to visit the zoo with family and friends are more likely to visit the zoo to see specific animals. Four demographic variables were flagged to be significantly correlated in this component. Education and size of visiting group were negatively correlated in Thailand. However, repeat visitors were more likely to visit the zoo with family and friends, and were likely to visit the zoo to see specific animals. Visitors with children and size of visiting group were positively correlated in New Zealand and Indonesia respectively. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(5) = 49.61, p < 0.05$).

Component 7 indicates visitors' financial preferences, determining if visitors were

likely to visit the zoo more often if the entrance fee was lowered, as well as if zoos should give discounted fees to local residents. In Figure 5.1, there were significantly more local than foreign visitors. This difference in the number of local responses, in comparison to non-local, may explain why visitors who want zoos to have discounted fees for local residents may also visit the zoo more often if the entrance fee is lowered. This component is significantly positively correlated with gender but negatively correlated with repeat visitors in the Philippines. This suggests that females are likely to visit the zoo more often if the entrance fee is lowered and feel that zoos should give discounted fees to local residents. Repeat visitors were unlikely to feel this way. In New Zealand, the more educated the visitors, the more unlikely they were to visit the zoo more often despite lower entrance fees and they felt that zoos should not give discounted fees to local residents. Age was another demographic variable that had significant correlations. This was positively correlated in Malaysia but negatively in New Zealand. Lastly, visitors from larger groups were likely to visit the zoo more often if the entrance fee was lowered and felt that zoos should give discounted fees to local residents. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(5) = 47.32, p < 0.05$).

5.2.5 FURTHER ANALYSIS: VISITORS

In addition to Theme A from section 5.2.3 (Conceptual themes), Question 51, an open ended item, (Appendix C) asked the respondents to indicate the reasons why they visited the zoo. The responses could be thematically categorised into the following groups as listed in the table below (Table 5.9). It is important to note that only the first reason written in the questionnaire was taken into account as the primary reason for visiting the zoo.

Table 5.9. Thematic grouping of visitors' reasons for visiting the zoo (Question 51).

Reasons for visiting the zoo	NZ	IN	MY	PH	TH	HK	ALL
	%	%	%	%	%	%	%
Spend time with someone	24.0	16.5	17.1	11.6	7.5	8.1	14.2
Educational purposes	2.1	11.8	6.9	10.5	31.8	5.3	11.1
Just a place to go	12.3	11.0	14.7	4.5	4.5	6.0	9.0
To see animals	10.9	6.6	10.5	8.2	11.5	6.3	9.0
Someone else wanted to visit the zoo	13.9	6.1	7.3	7.1	8.1	9.1	8.6
Zoo was a location for an event (<i>e.g. birthday party</i>)	4.5	3.5	3.8	9.0	3.9	11.3	6.0
To have fun	3.7	11.3	3.6	7.9	0.8	8.8	5.9
Attracted by advertising and/or person	10.1	2.6	1.3	11.0	1.4	7.8	5.6
Haven't been to the zoo for a long time	7.7	2.6	4.5	4.0	1.7	4.0	4.1
The weather was good	5.1	2.0	0.7	2.5	1.1	3.3	2.4
To relax	0.0	4.6	1.3	3.7	5.3	0.3	2.4
The zoo conducted an event	2.7	0.3	2.7	0.8	0.0	0.5	1.2
<i>Missing data</i>	<i>2.9</i>	<i>21.1</i>	<i>25.6</i>	<i>19.2</i>	<i>22.3</i>	<i>29.2</i>	<i>20.3</i>
Frequency (<i>n = 100%</i>)	375	346	449	354	358	397	2279

The results from the open-ended question (Table 5.9) supports the results calculated from the Likert scale questions (Table 5.5). The top two reasons were to spend time with someone and for educational purposes, and the two highest percentages were to spend time with family and to learn about the animals. Family, instead of friends (as seen in Table 5.5) was the more common reason to visit the zoo in this region of research. These results indicate that the most common reason visitors in the Asia-Pacific region went to the zoo was to spend time with someone, followed by 'educational purposes'. This was true for four of the six case study sites.

Visitors in Thailand indicated they went to the zoo for educational purposes, while visitors in Hong Kong indicated that the zoo was a good location for an event. A possible explanation for this could be that many of the respondents from Thailand were teachers on a school trip with students and the majority of the respondents in Hong Kong were from Mainland China who came as part of a guided tour. Such differences suggest that visitors from this region mainly visit zoos for entertainment reasons, keeping with the traditional notion that zoos are primarily known for their entertainment value.

5.2.6 OVERALL SATISFACTION

The three combination questions asked visitors if (Qs 49) they would visit the zoo again; if (Qs 50) they would recommend others to visit the zoo; and if (Qs 52) there were aspects of the zoo they did not enjoy. The distributions for each of these questions by country are presented in the table below (Table 5.10).

Table 5.10. Percentage distribution for questions 49, 52, and 52 from visitor questionnaire per study zoo's country (Y: Yes. N: No, M: Missing data).

Country	Qs (49) Visit again			Qs (50) Recommend			Qs (52) Did not enjoy		
	Y	N	M	Y	N	M	Y	N	M
Hong Kong (n = 397)	78.8	6.3	14.9	82.6	3.3	14.1	28.7	61.0	10.3
Indonesia (n = 346)	87.9	2.6	9.5	85.0	4.6	10.4	47.4	37.3	15.3
Malaysia (n = 449)	75.1	11.4	13.5	75.1	11.6	13.3	31.4	49.9	18.7
New Zealand (n = 375)	94.9	4.5	0.6	96.8	2.1	1.1	28.5	64.8	6.7
The Philippines (n = 354)	89.3	4.8	5.9	95.2	0.6	4.2	33.6	56.2	10.2
Thailand (n = 358)	90.8	0.6	8.6	88.3	2.8	8.9	22.9	55.9	21.2

Indonesia presented the highest percentage of visitor responses who expressed that there were aspects that they did not enjoy in the zoo. A potential reason for this result could be due to the fact that during the fieldtrip in Indonesia it was constantly raining. The river that runs downhill from the zoo flooded and there was an evacuation of several homes in the vicinity in the middle of the night. The zoo sustained flood damage but no loss of life. Despite the constant wet weather conditions, there was still a steady flow of visitors, but the weather may have placed a damper on their day.

5.2.7 VISITORS: SUMMARY

To answer the first question set out in 5.2, this study found a high rate of local visitors at all case study sites except Hong Kong. Aside from one case study site (Indonesia), the majority of the respondents were female (54% – 64%) and a majority of the respondents held a university degree or higher (>54%). This suggests that most of the visitors were highly educated locals. The age group at most zoos was relatively young with a majority of the respondents aged between 26 and 35, except for New Zealand

and the Philippines where 36 to 45 and 18 – 25 was reported, respectively, as the most common age groups.

In response to the second question, the distribution of responses regarding motivations for visiting the zoos was statistically similar across all zoos. Principal component analysis established that the statistical themes (components) were similar to the conceptual themes derived from the literature.

The third and last question, in 5.2, asked if there were demographic characteristics of the visitors that correlated with the statements asked and if these correlations were supported by observations made in the field. Age elicited the most number of significant correlations; followed by size of groups and gender. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for all components. This meant that the data set from each zoo was statistically different from one another. These statistical results support that zoos in this region are diverse and the results elicited reflect this diversity.

Three key characteristics of a modern zoo as perceived by these visitors results have been extrapolated and they are: (1) visitor engagement, (2) conservation towards national and international efforts, and (3) animal management standards. The attributes of each key characteristics that will be discussed in more detail in the next chapter.

5.2.8 QUESTION EXCLUDED FROM ANALYSIS

Six questions were not used in the analyses because of the apparent confusion of respondents as to how to answer the questions. The first of these questions asked for total annual household income. Approximately 45.2% of respondents did not answer this question. With the differences in currency exchange rates and where visitors were from, each response was assigned with 'Above average' or 'Below average'. Differing exchange rates and visitors from various countries were two reasons why it is difficult to obtain a reliable measure of household income. Focusing on local visitors from all zoos, 38.6% were earning above the average salary in their respective country and 22% were earning below. However, this did not take into consideration varying family size or the possibility that respondents might have misinterpreted the question, as many homemakers indicated that their household income was zero. Therefore, this lead to concerns about the reliability of the question and the results from this question were deemed not to be useful in any further analyses.

The second question not used in the analysis was one that asked visitors if they paid an annual subscription to be a member of the zoo (Question 44). The reason for its omission was that several zoos did not have an annual membership subscription and, therefore, the results from these zoos would affect the overall analysis. For the zoos that did provide an annual membership, the results were incorporated separately. The third question was the item that asked about occupation (Question 42). This was not used in any further analysis, as there was a large diversity of responses that proved difficult to translate accurately and classify into a relatively small number of meaningful categories.

The fourth, fifth, and sixth statements were: (Question 7) *I usually consider the zoo's reputation before visiting*; (Question 18) *I am aware of the services that the zoo provides to the community*; and (Question 34) *Compassion for animals is an important moral value in my life*. There were many visitors in the non-English speaking countries who raised questions regarding these statements when they were completing the questionnaire. I could not be sure that the staff members, who were there to help interpret, understood my explanations enough to accurately translate them when visitors asked for clarification. As a result, these statements were not used, as their interpretation was deemed inconsistent following an examination and discussion of the responses with translators once the fieldwork was completed.

5.3. STAFF MEMBER STAKEHOLDERS

The zoo as an employer attracts different types of people. It is important for the zoo, or indeed for any employer in fact to keep track of the job satisfaction of their staff. However, there is a limited amount of published research on job satisfaction, perceptions and attitudes among staff members in zoos in the study region. This research explores the demographic characteristics of staff members and their perceptions. There were four research questions to be answered here:

Table 5.11. The analytical methods adopted to examine the role and functions of zoo as perceived by staff members in the Asian-pacific region.

Qs No.	Question	Analytical method
1	What were the demographic characteristics of staff members in this region?	This will be explored by presenting the response rate (Table 5.12), the distribution of demographic variables (Table 5.13). In addition, the survey responses, grouped using the conceptual framework, informed by the current literature, from each country is presented in Table 5.14.
2	Were the conceptual themes from the existing western framework similar to the statistical themes derived from the survey results?	Principal Component Analysis is used to group the statements from the questionnaires. These newly formed components reflect how the statements were statistically grouped (Table 5.16) and compared to the previous grouping using the conceptual framework in (Table 5.14).
3	Were the demographic characteristics of the visitors correlated with factor scores and were these correlations supported by observations made in the field?	Using the factor scores generated by PCA, Spearman's rho correlation was used to explore if there is a statistical relationship between demographics and the PCA components (Table 5.17).
4	Were there any significant differences of visitors' perceptions and attitudes among the zoos?	The Kruskal-Wallis H test was selected to determine if there were any significant differences among the countries using the factor scores. They would provide insight to whether the statements in each county were ranked and grouped homogenously or not, therefore reflecting the diversity of the region.

5.3.1 RESPONSE RATES

This section presents the number of respondents for each demographic group. Demographic survey questions provide a useful picture of the characteristics of the staff and help us to understand their responses to the statements about their differing perceptions and expectations with respect to the zoo. The results from the questionnaires of all staff members surveyed are shown below in Table 5.12 and Table 5.13.

Table 5.12. Total staff questionnaires from each study zoo in their respective countries. (Employment numbers include regular volunteers, casual staff, and permanent staff members).

Country	Frequency (<i>n</i>)	
	Total staff numbers	Total collected
Hong Kong, SAR	~2000	171
Indonesia	~900	264
Malaysia	~150	52
New Zealand	~400	116
The Philippines	~300	43
Thailand	~300	110
Total	~4100	756

The number of staff at each case study site varied greatly. One had a small pool of staff while another employed almost 2000 personnel. Staff numbers varied according to the season at a few locations, as more people were employed during peak season than during off-peak. For example, there were more people hired during the Christmas and New Year period than at other times of the year. The percentage distribution of questionnaires collected from each county is depicted in the following graph (Figure 5.2). These percentages were calculated by using the total number collected from each study site over the total number collected from the whole research. This graph does not take into account the total number of staff members at each site (Table 5.12).

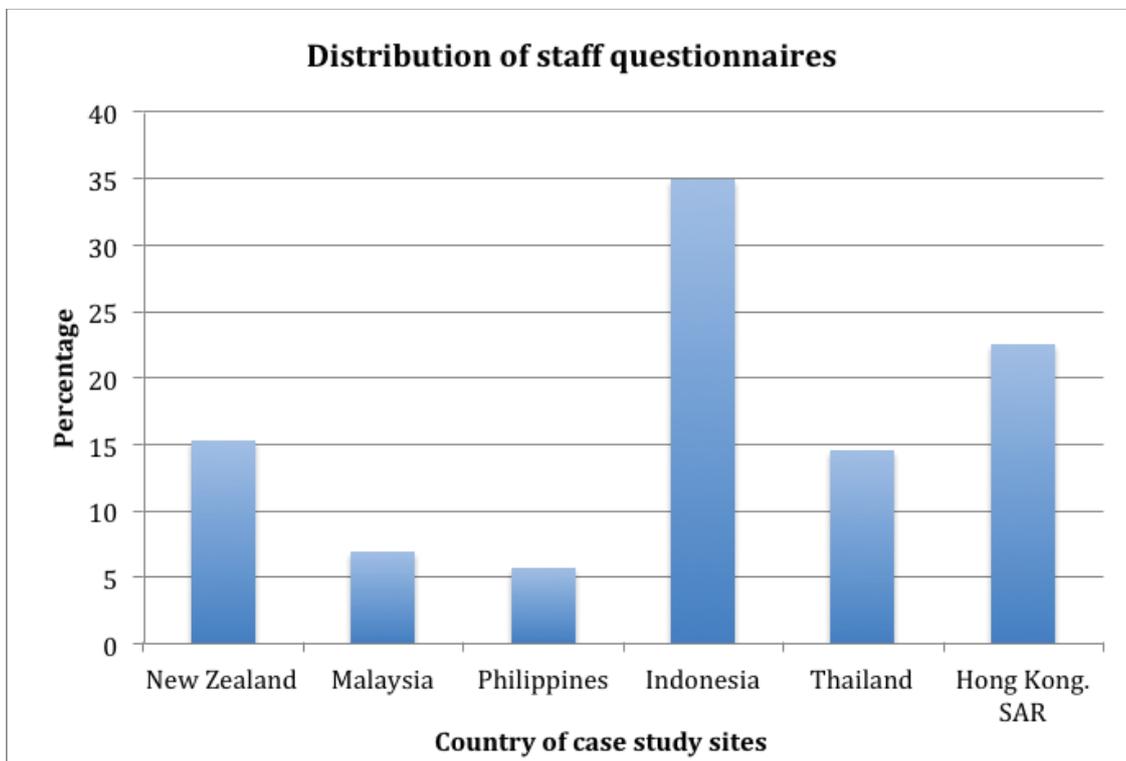


Figure 5.2. Distribution of staff questionnaires across all countries ($n = 756$).

The site with the highest number of collected staff questionnaires was Indonesia ($n = 265$). At this site, there had been a staff member assigned to assist me every day. This proved to be extremely helpful, as I only understood basic Bahasa Indonesia. The next highest number of collected staff questionnaires was Hong Kong, SAR. This facility was home to almost 2000 staff members, which therefore translated to a larger pool of staff to sample.

5.3.2 STAFF DEMOGRAPHIC PROFILE

The distribution of respondents on demographic variables such as gender, highest level of education, age, years of employment, if they worked with animals, and religious affiliation distributions are presented in Table 5.13. The percentage of respondents who did not reveal these details are indicated in the frequency tables as missing data.

Table 5.13. Percentage distribution of staff members by demographic characteristics from each study zoo and all zoos combined (HK: Hong Kong, SAR, IN: Indonesia, MY: Malaysia, NZ: New Zealand, PH: Philippines, TH: Thailand, ALL: All study zoos).

Demographic variable	HK <i>(n =171)</i>	IN <i>(n =264)</i>	MY <i>(n =52)</i>	NZ <i>(n =116)</i>	PH <i>(n =43)</i>	TH <i>(n =110)</i>	All <i>(n =756)</i>
Gender							
Male	39.2	76.5	51.9	25.9	44.2	40.0	51.5
Female	53.8	20.5	44.2	64.7	46.5	41.8	41.0
<i>Missing data</i>	7.0	3.0	3.8	9.5	9.3	18.2	7.5
Highest education attained							
Primary school	5.8	4.9	0	0.9	0	0.9	3.3
Secondary school	28.1	75.8	40.4	15.5	9.3	6.4	39.4
Tertiary diploma	8.2	4.5	5.8	21.6	34.9	7.3	10.2
Vocation / Trade qualification	1.8	7.2	3.8	5.2	11.6	4.5	5.3
University degree	26.9	2.3	15.4	21.6	9.3	54.5	19.7
Postgraduate diploma or degree	19.3	0.8	30.8	24.1	18.6	5.5	12.3
<i>Missing data</i>	9.9	4.5	3.8	11.2	16.3	20.9	9.8
Age							
18 – 25	17.0	29.9	25.0	12.9	37.2	4.5	20.8
26 – 35	31.6	37.1	51.9	19.8	46.5	32.7	34.1
36 – 45	11.7	18.2	5.8	10.3	7.0	30.0	15.7
46 – 55	11.1	7.6	5.8	4.2	0	6.4	7.1
56 – 65	5.3	0.8	0	11.2	0	1.8	3.4
Over 65	0	0	0	10.3	0	0	1.6
<i>Missing data</i>	23.4	6.4	11.5	31.0	9.3	24.5	17.2
Years of employment							
Less than 1 year	10.5	3.8	15.4	9.5	11.6	0.9	7.0
> 1 – 5 years	42.1	29.5	50.0	41.4	55.8	23.6	36.2
6 – 10 years	17.5	27.7	11.5	19.8	18.6	20.0	21.4
11 – 15 years	5.3	11.7	7.7	4.3	0	10.0	7.9
> 15 years	12.3	21.2	7.7	6.9	2.3	17.3	14.4
<i>Missing data</i>	12.3	6.1	7.7	18.1	11.6	28.2	13.0
Working with animals							
Yes	14.0	43.9	44.2	65.5	48.8	23.6	37.8
No	55.6	45.1	40.3	14.7	39.5	28.1	39.7
<i>Missing data</i>	30.4	11	15.5	19.8	11.7	48.3	22.5
Religious affiliation							
Non-religious	66.1	0	0	75.9	14.0	1.8	27.6
Christianity	17.5	8.7	5.8	7.8	65.1	0	12.3
Islam	0	80.3	71.2	0	0	0.9	33.1
Buddhism	4.1	0	0	0	0	64.5	10.3
Others	0	0	5.8	0	0	0	0.4
<i>Missing data</i>	12.3	11	17.2	16.3	20.9	32.8	16.3

Gender

Overall, approximately half (51.5%) of the respondents were male. Indonesia and Malaysia were the only two countries with a majority of male respondents. The largest difference between genders from the case study sites was Indonesia, with 76.5% of the respondents being male and New Zealand, with 64.7% of the respondents being female.

Education

Overall, a large proportion of staff members held secondary school qualifications (39.4%, n= 262) as their highest form of education. The majority of respondents in New Zealand held post-graduate qualifications. In Hong Kong, Indonesia and Malaysia, the majority of respondents held secondary school education. In the Philippines, the majority of respondents held tertiary diplomas and in Thailand, majority held a university degree.

Age

The largest age group was the 26 – 35 age bracket (34%) in all countries, followed by the 18 – 25 age bracket. The only exception was Thailand, where the second largest age group was 36 – 45 years old. The largest percentage of no responses for this question was from New Zealand, where 31% of the respondents chose not to reveal their age.

Years of employment

The highest percentage of respondents who participated in this research had been working at their zoo between 1 – 5 years (36.2%) at all study sites. This was followed by those who had worked at the zoo between 6 – 10 years (21.4%), except in Malaysia where the next largest percentage of respondents had been at the zoo for less than one year.

Working with animals

Staff members were asked which department/team they belonged to at the zoo. From there, each response was categorised into two groups. The first was if they worked with animals (*Yes*) and the second was if they did not work with animals (*No*). The majority of respondents in Hong Kong, Indonesia, and Thailand indicated that they did not work with animals. In the other study sites, the majority of the respondents did work with

animals. Overall, a large group of respondents did not indicate which department/team they belonged to (22.5%).

Religious affiliation

As with the visitors' questionnaire, staff members were asked if they practised any religion. This was to determine whether the religious affiliation of an individual could be related to certain perceptions and/or expectations at work. The percentage of staff members who did not reveal their religion or other demographics was high. During my direct interactions with them, various staff members revealed that they were 'worried' that they might be identified through a process of elimination, and since it was at their discretion to not answer any questions they were uncomfortable with, many did not want to indicate such potentially revealing characteristics.

My study region is home to a diversity of cultures and religious beliefs as described in Chapter Two (Background). Islam is the dominant religion in Indonesia and Malaysia; Thailand has a very high proportion of Buddhists, while the Philippines is overwhelmingly of the Christian faith. Hong Kong and New Zealand have a substantial proportion of their population that were undeclared or of no religion. The figures for the zoo staff that were surveyed reflect these relativities. A high percentage of staff members in New Zealand and Hong Kong, SAR did not identify themselves with a religion (76%, and 66% respectively). The predominant religion in Indonesia and Malaysia was Islam at 80% and 71% respectively. Thailand had 65% of staff members who identified themselves as Buddhist and 65% of the staff members in the Philippines reported practising the Christian faith.

5.3.3 CONCEPTUAL THEMES

There is limited published research on zoo staff members regarding their satisfaction, opinions and evaluations of their employers. These statements in the questionnaire were derived from a variety of different sources (Chapter Three) such as surveys measuring employees' satisfaction from the health industry (nurses and doctors), to the education industry (primary and secondary school teachers) and zoo surveys that attempted to measure visitors' expectations and perceptions. Eight conceptual themes were extrapolated and explored in this research. The topics covered are as listed below:

- A. Intrinsic factors of job satisfaction
- B. Extrinsic factors of job satisfaction
- C. Personal conservation attitudes

- D. Evaluation of stakeholder relationship
- E. Opinions of external stakeholders
- F. Evaluation of animal management
- G. Evaluation of zoo operational aspects
- H. Assessment of zoo's wider values

Table 5.14 presents the individual statements posed to the staff members in the groups as listed above and the percentage of staff members in each zoo that responded 'strongly agree' to these statements.

Table 5.14. Percentage distribution of staff members' with 'strongly agree' responses regarding statements surrounding their motivation, perceptions, behaviours, and expectations per case study sites in their respective countries (Qs: Question number, NZ: New Zealand, IN: Indonesia, MY: Malaysia, PH: The Philippines, TH: Thailand, HK: Hong Kong, ALL: All case study zoos).

Themes	Qs. Statements	NZ	IN	MY	PH	TH	HK	ALL
A. Intrinsic factors of job satisfaction	2 I feel that my opinions are highly valued by zoo management	12.1	16.7	17.3	18.6	25.5	7	15.2
	10 Training for staff members is an important priority for the zoo	33.6	65.2	42.3	46.5	33.6	29.8	45.1
	12 The zoo provides me with the tools to develop my career	18.1	39.4	28.8	25.6	11.8	10.5	24.1
B. Extrinsic factors of job satisfaction	1 I thoroughly enjoy the job that I am doing	67.2	67.4	59.6	60.5	37.3	25.1	52.5
	11 The zoo has provided me with excellent training to do my job	32.8	59.5	30.8	41.9	11.8	15.8	35.6
	23 There are sufficient resources to care for animals at the zoo	30.2	64	25	27.9	15.5	-	32.5
	3 My supervisor encourages me to come up with new ideas at work	28.4	45.5	40.4	37.2	27.3	22.8	34.3
C. Personal conservation attitudes	4 I feel comfortable providing feedback to management	29.3	29.9	26.9	32.6	28.2	-	22.8
	15 I enjoy working at the zoo	61.2	57.2	55.8	60.5	42.7	32.2	50.1
	6 There is really good team spirit in my department	42.2	58	55.8	37.2	33.6	21.1	42.3
	7 There is good communication within my department	37.9	51.1	46.2	32.6	24.5	21.1	37.0
	8 There is good communication between the departments at the zoo	12.1	34.5	28.8	27.9	17.3	9.9	22.2
	9 The working atmosphere is excellent at the zoo	32.8	57.6	38.5	27.9	42.7	-	35.6
	5 I feel safe working near the animals at the zoo	62.9	41.7	61.5	37.2	25.5	31	41.3
	13 My salary at the zoo is competitive for the job I do	4.3	14.4	11.5	18.6	7.3	-	8.6
	16 I frequently participate in field conservation projects conducted by external organisations	15.5	10.6	9.6	25.6	10.9	4.1	10.7
	21 The zoo has made me more aware of current issues faced by wildlife and their habitats	62.9	70.5	67.3	51.2	47.3	32.2	56.0
C. Personal conservation attitudes	20 The zoo has made me appreciate that nature is worthy of protection	56.9	83.3	67.3	55.8	54.5	39.2	62.4
	19 Compassion for animals is an important moral value in my life	71.6	64.8	80.8	67.4	43.6	36.3	57.5

	30	The zoo has an effective partnership with universities to encourage scientific research	19.8	59.1	40.4	41.9	32.7	19.3	39.8
	31	The zoo collaborates effectively with schools to develop educational activities	40.5	68.2	46.2	34.9	45.5	29.2	48.4
D. Evaluation of stakeholder relationship	32	The zoo collaborates effectively with other zoos to sustain animal collections for the future	46.6	68.2	40.4	25.6	46.4	22.8	47.1
	33	The zoo works effectively with external organisations on outside conservation projects	46.6	63.6	25	14	28.2	24.6	41.5
	34	The zoo works effectively with experts from outside the zoo	31	59.5	23.1	18.6	29.1	21.6	37.3
	35	The zoo works effectively with the government to influence environmental legislation	14.7	45.1	23.1	14	24.5	15.2	27.4
	36	The zoo's assistance to developing countries to conserve wildlife is effective	24.1	61	17.3	32.6	24.5	13.5	34.7
E. Opinions of external stakeholders	40	Services provided by individuals / organisations sponsored by the zoo is valuable	43.1	46.2	40.4	30.2	18.2	16.4	33.6
	41	Service provided by volunteers of the zoo is valuable	72.4	58.3	53.8	32.6	18.2	21.1	44.4
	42	Working with corporate sponsors of the zoo is uncomplicated	7.8	20.5	15.4	14	14.5	8.2	14.2
F. Evaluation of animal management	24	Most of the enclosures are well designed for animal welfare purposes	40.5	75	38.5	23.3	12.7	26.9	44.3
	25	Most of the animals in the zoo come from legal sustainable sources	56.9	71.2	50	20.9	46.4	41.5	54.4
	26	Animal breeding is well managed at the zoo	41.4	77.7	30.8	30.2	35.5	29.8	34.8
	27	The zoo exceeds the standards for animal welfare stipulated by regional associations	44	65.2	36.5	25.6	33.6	25.7	44.2
	37	The zoo is actively involved with international conservation programmes	52.6	69.7	19.2	23.3	29.1	22.8	44.4
	38	The zoo is actively involved with national conservation programmes	56.9	76.1	32.7	18.6	39.1	24.6	49.9
	17	I feel that conservation projects conducted by the zoo is worth doing	65.5	62.5	38.5	32.6	33.6	39.8	50.3
	18	I think the zoo is well managed	28.4	61.4	28.8	23.3	17.3	14	49.2
G. Evaluation of zoo operational aspects	22	The primary focus of the zoo is to entertain their visitors	10.3	39.4	38.5	55.8	20	21.6	29.0
	28	Regardless of the impact on the animals, the zoo is determined to turn a profit	4.3	9.8	17.3	20.9	3.6	-	7.0
	29	The zoo is open and honest when resolving issues raised by the public	19	28.8	21.2	20.9	24.5	-	19.2
	14	The zoo is open and honest when resolving issues raised by the staff	12.1	22.3	7.7	23.3	12.7	-	13.4
	45	All things considered, the zoo is an excellent employer	42.2	43.6	23.1	20.9	27.3	21.1	33.2
H. Assessment of zoo's wider values	39	The zoo is working towards creating more reserves in unprotected area	15.5	58	11.5	14	20	8.8	29.1
	43	The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	37.9	65.9	46.2	20.9	51.8	14.6	44.0
	44	The zoo is a main supporter of conservation projects in the region	37.1	55.7	40.4	18.6	30.9	27.5	39.7
Total number of respondents (n)			116	264	52	43	110	171	756

Theme A: Intrinsic job satisfaction factors

Intrinsic factors were recognition, achievements, the work itself, responsibility, and development (Baylor, 2010). Many of these statements reflect staff members' opinions regarding professional development. The highest percentage of respondents that strongly agreed with most of the statements were from Indonesia. In general, respondents from Thailand and Hong Kong had lower percentages for agreeing with these statements. The statement that elicited the lowest percentage of 'strongly agree' was Qs 2 (I feel that my opinions were highly valued by zoo management), where the highest was 25% in Thailand and the lowest in Hong Kong at only 7%.

Theme B: Extrinsic job satisfaction factors

Extrinsic factors refer to the physical working environment and the personal relationships forged within the zoo (Baylor, 2010). Less than a third of staff members in Hong Kong strongly agree that they enjoy working at the zoo as compared to New Zealand at 61% and the Philippines at 60.5%. Overall, the percentage of positive sentiments in Hong Kong is lower as compared to the other zoos. When asked if they feel safe working around the animals, 62.9% of staff members from New Zealand strongly agreed; the lowest was Thailand and Hong Kong, at 25.5% and 31% respectively. Approximately 10% of respondents agreed that the salary at the zoo is competitive, with Hong Kong choosing not to include this question.

Theme C: Personal conservation attitudes

The statements in this theme explore the personal conservation attitudes of staff members. The highest percentage of respondents that frequently participate in externally organised field conservation projects was from the Philippines at 25.6%. However, when asked if working in the zoo made them more appreciative and aware of wildlife conservation issues, the highest percentage of respondents was from Indonesia. The lowest percentage scores were from Hong Kong, across all statements in this theme.

Theme D and E: Evaluation and opinions of stakeholder relationship

Theme D explored the staff members' evaluation of the zoo's relationship with external stakeholders. Across all the statements, respondents in Indonesia scored the highest in this theme. The difference between Indonesia and all the other study sites is

approximately 20% higher. When referring to the partnerships with government and universities, respondents from New Zealand gave low scores, similar to that from the Philippines and Hong Kong respectively.

Staff members were asked about their opinions of their zoo's relationship with external stakeholders in theme E. When asked if working with corporate sponsors was simple, all study zoos elicited low responses with the highest being Indonesia at 20.5%. Respondents in New Zealand appear to value the services from volunteers more than the other five study zoos. However, it is important to take into consideration those volunteers in New Zealand function in a different capacity than those in the other five study sites.

Theme F: Evaluation of animal management

The statements in this theme evaluate the animal management practices of the zoos. The percentages from the Philippines, Thailand, and Hong Kong were lower than the other three study zoos in this area. The highest percentage of respondents was from Indonesia. Regarding the design of enclosures for animals, respondents from Thailand scored the lowest. This suggests that there is a large percentage did not feel the current animal enclosures were suitable. Interestingly, only 21% of the respondents from the Philippines strongly agreed that the animals in their zoo's collection were from legal sources. This percentage is lower than those from the other study sites.

Theme G and H: Evaluation and assessment of zoo's operational and wider values.

In regards to international and national conservation programmes, and those conducted by the zoo, New Zealand and Indonesia were much higher than the rest. Indonesia elicited the highest percentage when asked if the zoo was well managed at 61.4% as compared to the second highest at 28.8% from Malaysia. 55.8% of staff members in the Philippines strongly agreed that the primary focus of zoos was to entertain their visitors; this was the highest and the lowest was New Zealand at 10.3%. Only 7.7% of staff members from Malaysia indicated that the zoo is open and honest when resolving issues that were raised by the staff. When asked if the zoo was an excellent employer, staff members from New Zealand and Indonesia elicited the highest percentage at 42.2% and 43.6% respectively. These were almost twice the percentages from the other study zoos. 58% of staff members from Indonesia strongly agreed that the zoo is working towards creating more reserves in unprotected areas as compared with the other study zoos,

which elicited less than 20%. The lowest percentages of respondents regarding reintroduction efforts of zoo-bred endangered animals were from Hong Kong and the Philippines at 14.6% and 20.9% respectively.

5.3.4 STATISTICAL THEMES: STAFF MEMBERS

A principal component analysis (PCA) was used to explore how the above statements were statistically grouped. The statements were previously grouped into conceptual themes: (A) Intrinsic factors of job satisfaction, (B) Extrinsic factors of job satisfaction, (C) Personal conservation attitudes, (D) Evaluation of stakeholder relationship, (E) Opinions of stakeholders, (F) Evaluation of animal management, (G) Evaluation of zoo operational aspects, and (H) Assessment of zoo's wider values. The PCA analysis is useful in exploring how the items making up these themes interacted with one another and if the conceptual themes from the literature have any statistical basis. As explained in section 5.2.4, KMO values greater than 0.5 with values closer to 1 indicates that patterns of correlations were relatively compact and that the analysis should yield distinct and reliable factors (Statistic Hell, n.d.).

The Kaiser-Meyer-Oklin (KMO) score was 0.925. Bartlett's Test of Sphericity was statistically significant ($p < 0.005$) indicating that the data was suitable for this analysis. The PCA produced eight components that had eigenvalues greater than one but only eight components had statements that loaded at 0.5 or more. These eight components explained a cumulative 58.86% of the variance. The percentages of variance explained for each of the eight components were (Table 5.15):

Table 5.15. Percentage of variance for each of the eight components extrapolated using Principal Component Analysis. Each component groups the statements that explain the variance of staff member responses in the data.

Component number	Percentage of Variance (%)
Component 1	33.27
Component 2	7.60
Component 3	4.11
Component 4	3.32
Component 5	2.94
Component 6	2.75
Component 7	2.46
Component 8	2.41

A Varimax orthogonal rotation was used to assist the interpretability of the data. There were strong loadings (greater than 0.5) on each component and these are further detailed below (Table 5.16). Seven statements were not loaded into any of the components.

The way in which these statements have been divided into the eight components is different from the conceptual themes in Table 5.14 as these components are grouped by the sector (public health, human resources, education, etc.) that the survey statements were extrapolated from:

- Human resources: employees' satisfaction from the health industry (nurses and doctors) and the education industry (primary and secondary school teachers).
- Visitor engagement: zoo surveys that measure visitors' expectations and perceptions.

Table 5.16. Statistical themes: Statements from staff member's questionnaire grouped into the eight components as extracted using Principal Component Analysis. (T: Conceptual themes extrapolation from Table 5.15; No: Question number from questionnaire).

T	No	Statements	Component number							
			1	2	3	4	5	6	7	8
D	33	The zoo works effectively with external organisations on outside conservation projects	.78	.10	.04	.14	-.02	.07	.04	.05
D	32	The zoo collaborates effectively with other zoos to sustain animal collections for the future	.78	.16	.10	.19	.03	.12	.00	-.07
D	34	The zoo works effectively with experts from outside the zoo	.75	.08	.07	.09	.11	.06	-.02	.16
G	37	The zoo is actively involved with international conservation programmes	.73	.15	.22	.06	.04	.14	.13	.11
G	38	The zoo is actively involved with national conservation programmes	.71	.10	.23	.13	.02	.07	.19	.11
F	26	Animal breeding is well managed at the zoo	.68	.10	.18	.07	.13	-.04	-.11	-.26
D	36	The zoo's assistance to developing countries to conserve wildlife is effective	.66	.18	.15	-.11	.15	.18	-.07	.11
D	31	The zoo collaborates effectively with schools to develop educational activities	.65	.24	.07	.21	.00	.16	-.09	-.18
D	30	The zoo has an effective partnership with universities to encourage scientific research	.63	.27	.04	.16	.00	.11	-.14	-.04
H	39	The zoo is working towards creating more reserves in unprotected area	.60	.08	.25	-.24	.13	.33	.04	.18
H	43	The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	.57	.11	.21	-.05	.13	.20	.09	.10
F	27	The zoo exceeds the standards for animal welfare stipulated by regional associations	.56	.03	.06	.17	.22	.01	.19	-.19
H	44	The zoo is a main supporter of conservation projects in the region	.56	.04	.33	.06	.09	.30	.07	.01
F	24	Most of the enclosures are well designed for animal welfare purposes	.55	.19	.41	.07	.03	.08	-.09	-.15
G	17	I feel that conservation projects conducted by the zoo is worth doing	.53	.04	.48	.23	.00	-.01	.09	-.05
C	21	The zoo has made me more aware of current issues faced by wildlife and their habitats	.53	-.03	.23	.34	.18	-.15	.15	.07
F	25	Most of the animals in the zoo come from legal sustainable sources	.53	.06	.29	.29	.08	.23	-.03	-.30
C	20	The zoo has made me appreciate that nature is worthy of protection	.52	.02	.34	.31	.23	-.12	-.03	.02
B	13	My salary at the zoo is competitive for the job I do	.10	.66	.20	.00	.03	.06	-.06	.04
B	4	I feel comfortable providing feedback to management	.10	.65	.02	.17	.27	.00	.07	.06
G	14	The zoo is open and honest when resolving issues raised by the staff	.15	.64	.31	.02	-.02	.28	-.14	-.01
A	2	I feel that my opinions are highly valued by zoo management	.10	.61	.24	.13	.13	.03	.18	.28

B	3	My supervisor encourages me to come up with new ideas at work	.16	.55	.16	.26	.34	-.21	.04	.17
G	29	The zoo is open and honest when resolving issues raised by the public	.24	.51	.05	.26	-.11	.39	.05	-.20
A	11	The zoo has provided me with excellent training to do my job	.38	.30	.61	.04	.13	.01	-.08	.11
A	12	The zoo provides me with the tools to develop my career	.19	.40	.57	.08	.10	.13	-.04	.22
A	10	Training for staff members is an important priority for the zoo	.32	.32	.55	.07	.12	.01	-.05	.08
B	5	I feel safe working near the animals at the zoo	.07	.24	.00	.66	.10	.07	-.04	-.10
C	19	Compassion for animals is an important moral value in my life	.39	-.01	.06	.60	.05	.09	-.09	.06
B	15	I enjoy working at the zoo	.11	.18	.49	.52	.19	.14	.06	.02
A	1	I thoroughly enjoy the job that I am doing	.22	.17	.39	.50	.23	.05	.02	.20
B	7	There is good communication within my department	.12	.25	.10	.15	.81	.11	-.04	.00
B	6	There is really good team spirit in my department	.19	.17	.28	.18	.75	.06	.00	.06
E	42	Working with corporate sponsors of the zoo is uncomplicated	.25	.28	-.01	.04	.12	.65	-.17	-.06
E	40	Services provided by individuals / organisations sponsored by the zoo is valuable	.44	.05	.30	.19	.07	.50	.04	.07
G	22	The primary aim focus of the zoo is to entertain their visitors	-.04	.00	-.11	.01	-.07	.06	.79	.04
G	28	Regardless of the impact on the animals, the zoo is determined to turn a profit	.29	-.02	.10	-.12	.07	-.27	.63	-.33
C	16	I frequently participate in field conservation projects conducted by external organisations	.09	.33	.13	.02	.08	-.02	-.11	.65
A	23	There are sufficient resources to care for animals at the zoo	.48	.26	.35	-.02	.18	.04	-.24	-.30
D	35	The zoo works effectively with the government to influence environmental legislation	.47	.06	.04	-.01	.20	.31	-.19	.23
B	8	There is good communication between the departments at the zoo	.17	.48	.23	-.03	.38	.18	-.15	.08
B	9	The working atmosphere is excellent at the zoo	.13	.40	.48	.09	.31	.12	-.08	-.17
G	18	I think the zoo is well managed	.31	.36	.48	.05	.26	.17	-.01	-.02
G	45	All things considered, the zoo is an excellent employer	.30	.33	.47	.14	.15	.34	.04	-.09
E	41	Service provided by volunteers of the zoo is valuable	.37	-.01	.28	.29	.09	.47	.19	.06

Relationship (Correlation)

Spearman's rho statistic was selected to examine the relationship between each component, using the calculated factor scores, and the demographic variables for all the six zoos. The correlation coefficient values were presented in Table 5.17. As several questions were omitted from the questionnaires in Hong Kong, no correlation was calculated.

Significant differences

The Kruskal-Wallis H test was used to determine if there were any significant differences among the six case study zoos. This provided statistical support that the diversity in the Asia-Pacific region is reflected in the responses. The test results for each component would be presented in the next section.

Table 5.17. Spearman's rho correlation coefficient values reflecting the strength of the relationship between demographic variables of staff members and each component for all six study zoos.

Component number	Country	Demographic variables					Animal or Not
		Gender	Education	Age	Years of employment		
1	New Zealand	0.149	-0.223	0.385	0.293	0.15	
	Indonesia	0.261	0.052	-0.205	0.042	0.12	
	Malaysia	0.218	0.510*	-0.285	-0.516*	0.101	
	The Philippines	-0.322	0.067	0.182	0.14	0.048	
	Thailand	0.111	0.115	0.025	0.143	0.174	
	Hong Kong	0.	0.	0.	0.	0.	
2	New Zealand	0.075	0.081	0.173	0.041	0.39	
	Indonesia	0.101	-0.138	0.076	0.023	0.081	
	Malaysia	-0.34	-0.491*	0.162	0.37	-0.05	
	The Philippines	-0.355	-0.281	0.321	0.097	0.048	
	Thailand	0.125	0.326**	0.11	0.310*	0.099	
	Hong Kong	0.	0.	0.	0.	0.	
3	New Zealand	-0.045	0.164	0.102	0.023	-0.01	
	Indonesia	-0.179	-0.506	0.352	0.302	0.213	
	Malaysia	-0.131	-0.3	-0.083	-0.004	0.176	
	The Philippines	0.189	0.103	-0.046	-0.199	0.361	
	Thailand	0.012	-0.161	0.073	-0.014	-0.083	
	Hong Kong	0.	0.	0.	0.	0.	
4	New Zealand	0.075	-0.383	0.199	0.421	0.11	
	Indonesia	-0.157	-0.027	0.197	0.088	-0.12	
	Malaysia	-0.113	-0.001	-0.013	0.052	0.302	
	The Philippines	0.355	0.1	0.098	-0.063	0.421*	
	Thailand	0.059	0.341**	0.213	0.231	0.24	
	Hong Kong	0.	0.	0.	0.	0.	

5	New Zealand	0.209	-0.25	0.059	-0.041	-0.21
	Indonesia	-0.149	-0.073	0.035	0.132	0.023
	Malaysia	0.619**	0.411	-0.152	-0.398	0.05
	The Philippines	0.022	-0.339	-0.057	-0.178	-0.397
	Thailand	-0.22	0.035	0.123	0.161	0.012
	Hong Kong	0.	0.	0.	0.	0.
6	New Zealand	-0.045	0.24	-0.283	-0.416	-0.21
	Indonesia	0.097	-0.044	-0.166	-0.028	0.12
	Malaysia	-0.078	-0.081	-0.043	-0.047	0.05
	The Philippines	-0.144	0.222	0.224	0.081	-0.084
	Thailand	0.049	-0.388**	-0.155	-0.277*	-0.091
	Hong Kong	0.	0.	0.	0.	0.
7	New Zealand	0.09	-0.127	-0.18	-0.299	-0.03
	Indonesia	-0.071	-0.216	-0.193	-0.293	-0.035
	Malaysia	-0.288	-0.171	0.002	0.302	-0.251
	The Philippines	-0.466*	0.272	0.217	0.075	0.241
	Thailand	0.043	-0.055	-0.139	-0.280*	-0.062
	Hong Kong	0.	0.	0.	0.	0.
8	New Zealand	0.015	0.097	0.056	0.014	-0.31
	Indonesia	-0.019	0.15	-0.095	-0.056	0.016
	Malaysia	0.218	0.027	-0.052	0.05	0.025
	The Philippines	0.033	0.214	-0.106	-0.111	-0.132
	Thailand	-0.121	-0.025	-0.326**	-0.048	-0.231
	Hong Kong	0.	0.	0.	0.	0.

*The significance level is 0.05

**The significance level is 0.001

Statistical results and notes for staff members

Component 1 reflects statements regarding the evaluation of the zoo's roles and functions. It includes statements that measure how well zoos were promoting and highlighting conservation friendly behaviours, the partnerships between the zoo and other stakeholders, and animal management and infrastructure matters. The latter is widely researched in the zoo industry. Within this component, only responses from Malaysia elicited significant correlation and it was with education and the years of employment. This suggests that the more educated the staff members, the better the evaluation they had of the zoo regarding the zoo's role and function. However, it appears that years of employment were negatively correlated with this component. This may suggest that the longer the staff member has been with the zoo, the more likely he/she is to provide a negative evaluation of the zoo. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(4) = 30.56, p < 0.05$).

Components 2 to 5 were mostly about the intrinsic and extrinsic job satisfaction factors concerning staff engagement. Component 2 specifically reflects issues regarding maintaining a healthy work environment and the opinions about zoo management, exploring how supportive and inclusive the leadership is at the zoo. Here, education is negatively correlated in Malaysia but positively correlated in Thailand. The number of years of employment is also positively correlated in Thailand. The Kruskal-Wallis H test indicated that there was no significant differences among the zoos for this component ($H(4) = 4.81, p > 0.05$).

Component 3 explores how respondents feel about their on-going development at the zoo. There was no significant correlation within this component. However, in Indonesia, it appears that staff members with more formal education, are less likely to feel that the zoo valued their professional development. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(4) = 23.35, p < 0.05$).

Within Component 4, staff members who did not work with animals in Malaysia were more likely to respond positively about their jobs. In Thailand, the staff members with higher education were the ones more likely to respond positively. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component

($H(4) = 51.27, p < 0.05$).

Component 5 elicited one positive significant correlation and that is with gender. This suggests that females are more likely to be positive regarding the communication of their team and between departments. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(4) = 13.04, p < 0.05$).

Component 6 is grouped the same as in Theme E, reflecting the opinions zoo staff members have on the zoo's external stakeholders (corporate sponsors, volunteers and zoo associates). Here, there were two significant correlations that were negative in Thailand: education, and years of employment. This suggests that the higher the education level of the staff members, and the longer the length of time they had been employed at the zoo, made them more likely not to have good opinions of the zoo's external stakeholders. The Kruskal-Wallis H test indicated that there was no significant differences among the zoos for this component ($H(4) = 9.10, p > 0.05$).

Component 7 is about the extent to which zoos were determined to turn a profit to entertain their visitors. The coding for these two statements (Qs 22 and Qs 28) was reversed for this analysis to ensure that the direction of positive reviews was the same direction as the other statements. Gender and years of employment were the two demographic variables that were correlated in the Philippines and Thailand respectively. Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(4) = 36.79, p < 0.05$).

Component 8 only had one statement loaded and it was Question 16: *I frequently participate in field conservation projects conducted by external organisations*. Age was the only demographic variable that was correlated to this component in Thailand. It seems that the older the staff members were, the less likely they were to participate in external field conservation projects. The Kruskal-Wallis H test indicated that there were significant differences among the zoos for this component ($H(4) = 15.44, p < 0.05$).

5.3.5 FURTHER ANALYSIS

Staff members were asked to indicate three rewarding aspect of their job and their first response given was assigned into one of ten broad categories. The ten categories are as follows: (1) working with or being close to wildlife interaction with the public/visitors; (3) interaction with fellow colleagues; (4) contributing to conservation efforts; (5)

physical environment of the zoo; (6) financial incentives (job stability or having a job); (7) intrinsic factors (being happy or self-satisfaction); (8) development (Learn new things); (9) miscellaneous (responses that did not fit into any of the above such as ‘no boss around, can have a rest’, ‘don’t want to work hard’, ‘impressive’; and (10) no comment (missing data). These responses were cross-tabulated with the country of the study zoos (Table 5.18).

Table 5.18. The top ten most rewarding aspects of staff members’ job, categorised under each study zoo in their respective countries. These aspects were coded as follows: (1) working with or being close to wildlife; (2) interaction with the public/visitors; (3) interaction with fellow colleagues; (4) contributing to conservation efforts; (5) physical environment of the zoo; (6) financial incentives; (7) intrinsic factors; (8) development; (9) miscellaneous; and (10) no comment.

Country	Percentages (%)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Hong Kong (n = 171)	11.1	4.1	8.8	7.6	1.8	4.7	4.7	12.3	1.8	43.3
Indonesia (n = 264)	20.1	4.9	10.6	2.3	21.2	2.7	2.7	18.9	5.7	11.0
Malaysia (n = 52)	19.2	7.7	13.5	1.9	9.6	1.9	1.9	7.7	7.7	28.8
New Zealand (n = 116)	26.7	6.9	12.9	17.2	6.0	0.9	4.3	5.2	1.7	18.1
The Philippines (n = 43)	25.6	14.0	4.7	2.3	0	2.3	9.3	16.3	2.3	23.3
Thailand (n = 110)	14.5	0.9	4.5	3.6	9.1	10.0	2.7	5.5	0.9	48.2
ALL (n = 756)	18.5	5.2	9.5	6.0	10.7	3.8	3.7	12.4	3.4	26.7

Overall, *working with or being close to wildlife* was the most common rewarding aspect indicated by staff members from four out of six study zoos. The exceptions were Hong Kong and Indonesia, where *development* and the *physical environment* for the latter, were cited as the most common rewarding aspect. In Malaysia, *interaction with colleagues* was the second most common rewarding aspects for 13.5% of the respondents. Only staff members in New Zealand indicated *contribution to conservation efforts* (17.2%) as the second most common rewarding aspect of their jobs. Staff members in the Philippines and Thailand indicated *development* (16.3%) and *financial incentives* (10%) respectively as the second most common rewarding aspect of their job. There was the most number of *no comment* or missing data from Thailand and Hong Kong.

5.3.6 STAFF MEMBERS: SUMMARY

Respondents from Indonesia and Malaysia were mostly male, whereas the opposite was true for the other case study sites. In terms of education level attained, the highest percentage of respondents in Hong Kong, Indonesia and Malaysia were found to have a secondary school education. The highest percentage of respondents in the Philippines held a tertiary diploma, while New Zealand and Thailand had the highest percentage of university degree holders or higher. The most common age group among staff in all case study sites was between 26 and 35 years of age. Another demographic characteristic explored in this stakeholder group was the number of years each respondent had been employed by the zoo. In all six zoos, the majority of staff members were employed between 1 and 5 years.

In response to the second and third question set out in 5.3, the statistical themes (components) established by using principal component analysis were not the same as the conceptual themes. However, these components did group according to the industry from which the questions were extrapolated.

Staff members were found to be important influencing factors for the research, conservation, and the commercial success of the zoo. Five key characteristics of a modern zoo as perceived by these staff members results have been extrapolated and they are: (1) staff engagement, (2) conservation towards national and international efforts, (3) animal management standards, (4) Infrastructure for animals, and (5) research programmes. The attributes of each key characteristics that will be discussed in more detail in the next chapter. The study results suggest the importance of understanding the perceptions and attitudes of staff members of zoos in these areas. In order to put the results into context, the next chapter provides select journal extracts from my personal and professional experiences, as well as quotes from the questionnaires completed by the staff members. These will be integrated into the relevant sections in the discussion chapter (Chapter Six).

5.3.7 QUESTION EXCLUDED FROM ANALYSIS

The first question that was removed from any further analysis asked staff members about the number of children living in their household. The reason for its removal was due to the large number of respondents (70.8%) who did not respond to this item. During the fieldtrip, several staff members revealed that although they had children,

none of them were living with them. It is common in some countries for grandparents to raise the children while parents (staff members) are away in a larger city working. The other reason frequently mentioned was that they were worried that they may be 'identified' through a process of elimination.

The second question that was removed from further analysis was the employment status of the staff members. There was an overwhelming number of full-time staff surveyed (77%), as many of the case study sites did not have volunteers. The volunteer programmes in the zoos varied from one site to another. In New Zealand, volunteers were inducted and frequently 'worked' at the zoo. Whereas in other case study sites, there were either no on-going volunteer programmes or situations where volunteers came for only one day to experience what it was like to be a zookeeper. The job descriptions for these volunteers were very different and thus, the use of employment status across this region as an independent factor for further analysis was deemed not suitable.

5.4. CORPORATE SPONSOR STAKEHOLDERS

This section presents the profiles of corporate organisations that sponsor the zoos, as well as reports on the motivations for sponsorship and evaluation of the zoos from a corporate sponsor's point of view. Profiling the corporate sponsors is important in providing some insight into the types of customers that were in a corporate relationship with zoos in this region. This may directly affect the commercial viability of the zoo. In order to establish the profiles of the corporate sponsors, questions regarding the type of ownership, the size of organisation and the number of years the organisation had been in operation were posed to the respondents from each corporate sponsor. Fifteen responses (all zoos were represented) completed the corporate sponsor survey. The following is a description of the demographic characteristics of the corporate sponsors ($n = 15$).

Type of organisation

Corporate sponsors in this study were predominantly privately owned. One of the questions asked was to establish if the corporate sponsor was *privately owned*, *government owned*, *listed on the stock exchange* or *other*. Twelve of the respondents represented privately owned companies and one was government owned. The two respondents that indicated *other* did not elaborate on the type of ownership they represented.

Size of organisation

A majority of the corporate sponsors surveyed were fairly large organisations with nine of the respondents representing large organisations that employed over 250 employees, and one that employed between 51 – 250 people. Four of the organisations were small organisations that employed less than 50 people and one did not indicate the size of their organisation.

Years in operation

There is a relatively even distribution of respondents across the number of years in operation, with those in operation 0 to 25 years constituting 40% of respondents, those operating 26 to 50 years constituting 33%, and those in operation over 50 years, 27%.

Industry sector

The corporate sponsors that responded belonged to a wide range of sectors. The largest industry identified was the service industry (tourism, food and beverage) at 40% ($n = 3$). Other industries included finance, education, motor vehicle, media, and logistics.

Additional sponsorship

All of the organisations also sponsored other organisations in the country. Nine of the corporate sponsors indicated that they sponsored other organisations in activities or areas that included the environment, humanitarian aid, youth, sports, arts, infrastructure, volunteer work, scholarships, research, and music.

Years of sponsorship

The length of zoo sponsorship by corporate sponsors varied considerably, ranging from one year of sponsorship to over 40 years. Three respondents did not indicate how long they had been sponsoring the zoo.

Frequency of use of zoo's facilities

Approximately half of the respondents indicated that they did not use the sponsored zoo's facilities and a third indicated that they used the zoo's facilities between one – three times in a year.

5.4.1 CONCEPTUAL THEMES

Unlike the previous stakeholders' questionnaires, this questionnaire was shorter and only asked the corporate sponsors 16 Likert scale questions. This was due to the limited published research dedicated to exploring corporate sponsors of zoos. Most research on corporate sponsorships exists in the fields of museum studies, sporting and charity events and therefore these themes were formed from this literature. Table 5.19 presents the corporate sponsor responses to the individual statements, which had been posed to the staff members in the areas as listed above. Four or more of the sponsors did not answer these questions (26.7%). Derived from various sources and available literature (Chapter Three), the following topics were explored:

- A. Motivation factors
- B. Satisfaction of relationship
- C. Marketing strategies
- D. Strength of affiliation

Theme A: Motivation factors

Corporate sponsors indicated that they predominantly sponsored the zoo to be seen as a good corporate citizen and some indicated that they sponsored to drive product sales and educate the public about their products and services. A majority of the sponsors indicated that they did not use their relationship with the zoo to network with other businesses or to claim tax-deductible donations.

Theme B: Satisfaction of relationship

A majority of the sponsors indicated that the zoo was worth sponsoring. The only negative responses were regarding the satisfaction of zoo's advertisement of their relationship to the public, and that the benefits from sponsorship did not exceed the direct commercial returns. However, the majority chose not to disclose the latter.

Theme C: Marketing strategies

Nine sponsors used the zoos as part of their marketing strategies to promote each other's brand values. In addition, six sponsors indicated that their target customers were similar to the zoo's typical visitors.

Theme D: Strength of affiliation

A majority of the sponsors encouraged their staff to visit the sponsored zoo. Seven of them felt a strong sense of loyalty to the zoo and encouraged their customers, as well, to visit the zoo.

Table 5.19. The extent to which corporate sponsors agree with the statements regarding their perception, attitudes, opinions, and evaluation — percentage of responses for each statement in corporate sponsors' questionnaires with the distribution of response (Qs: Question number, n = 15; SD: Strongly Disagree, D: Disagree, N: Neither disagree nor agree, A: Agree, SA: Strongly Agree, DK: Don't Know, M: Missing data).

Topics	Qs	Statements	SD	D	N	A	SA	DK	M
A: Motivation factors	10	We sponsor the zoo to be seen as a good corporate citizen	0.0	0.0	20.0	26.7	26.7	0.0	26.7
	11	We sponsor the zoo to network with other businesses	0.0	33.3	13.3	13.3	13.3	0.0	26.7
	12	We sponsor the zoo to drive product sales	6.7	6.7	26.7	20.0	6.7	0.0	33.3
	13	We sponsor the zoo to educate the public about our services and products	0.0	6.7	33.3	33.3	0.0	0.0	26.7
	24	Claiming a tax-deduction influenced our decision to sponsor the zoo	13.3	26.7	13.3	0.0	0.0	13.3	33.3
B: Satisfaction of relationship	14	Our donations to the zoo have improved our organisation's profile	0.0	0.0	33.3	26.7	13.3	0.0	26.7
	19	We are happy with the benefits the zoo is providing in exchange for our sponsorship	0.0	0.0	26.7	33.3	13.3	0.0	26.7
	20	We are satisfied with the way the zoo advertises our relationship to their public	6.7	0.0	20.0	33.3	13.3	0.0	26.7
C: Marketing strategies	25	The benefits from sponsoring the zoo exceeds the direct commercial returns	0.0	13.3	33.3	13.3	0.0	0.0	40.0
	26	All things considered, the zoo is worth sponsoring	0.0	0.0	6.7	40.0	20.0	0.0	33.3
	15	The zoo and our organisation promote each other to increase our brand values	0.0	6.7	6.7	33.3	26.7	0.0	26.7
	16	The zoo's typical visitors are similar to our target customers	6.7	0.0	20.0	26.7	13.3	6.7	26.7
	23	It is important to be recognised by the media for our sponsorship of the zoo	0.0	0.0	26.7	26.7	13.3	6.7	26.7
D: Strength of affiliation	17	We encourage our staff to visit the zoo	0.0	0.0	6.7	33.3	33.3	0.0	26.7
	18	We encourage our customers to visit the zoo	0.0	0.0	13.3	26.7	20.0	6.7	33.3
	21	We have a strong sense of loyalty to the zoo	0.0	0.0	26.7	20.0	26.7	0.0	26.7
	22	When the media praises the zoo, it feels like a compliment to our organisation	0.0	13.3	26.7	20.0	13.3	0.0	26.7

5.4.2 THEMATIC ANALYSIS

Corporate sponsors were asked what they look for in an organisation that has sponsorship potential. The following summarises the list of characteristics that were mentioned.

1. Share similar values
2. Share similar working culture
3. Share similar target customers to boost sales
4. Credible – true to cause
5. Well organised
6. Has a feel good factor
7. Sponsored funds being utilised appropriately

Corporate sponsors also expressed what they expected in return for their support for the zoo. The most common expectation was that the zoo should increase their brand exposure (brand advocacy). In addition to that, the following list outlines the other expectations of sponsors from the zoos.

1. Promotional opportunities
2. Networking opportunities
3. Environmental stewardship
4. Increased sales
5. Ensure sponsored enclosures/animals were well taken care of

More importantly, corporate sponsors were asked to voice their opinions on how well their sponsored zoo was placed to operate successfully into the future. There were four types of positive feedback that corporate sponsors revealed that boosted their confidence in the zoos' future.

1. Significant development and exciting opportunity for the future.
2. Creative and passionate staff.
3. Good maintenance of sponsored enclosures and animals.
4. Trustworthy partnerships with fellow citizens and other external stakeholders.

One sponsor identified an issue with the lack of consistent funding from the national government. This particular corporate sponsor felt that the zoo was at a disadvantage because it was a non-governmental organisation.

5.4.3 CORPORATE SPONSORS: SUMMARY

The results suggest that corporate sponsors were generally satisfied with their current relationship with the zoo. Commercial viability is an important characteristic that an outstanding zoo should possess. Corporate sponsors expect that the relationship with the zoo will increase their brand value as they feel that the sponsored zoo shares similar target customers, a similar working culture and is credible. From this study, it was established that maintaining financial, economic, and social partnerships with corporate stakeholders is essential to mutually benefit both parties. These are important attributes of a key characteristic of a modern zoo in this region: commercial viability.

5.4.4 QUESTION EXCLUSION FROM ANALYSIS

One of the questions asked the corporate sponsors about the value of their annual sponsorship (cash and/or in-kind). The results from this question were disregarded, as there were very few responses within an already small sample population.

5.5. ZOO ASSOCIATE STAKEHOLDERS

Twenty questionnaires were collected to represent this group of stakeholders. These respondents represented three of the six case study sites (Indonesia, Malaysia and Hong Kong, SAR). There was only one multiple-choice question for this group of stakeholders. This group was presumed to be diverse; therefore, open-ended questions were used to explore what their profile might be. There were a number of associates whom I met during the fieldtrip, but these associates did not complete the questionnaire. Despite not having actual questionnaire results from these associates, I will still use some of the information gleaned during my interactions with them to help clarify the results from the questionnaires.

Length of relationship

The average length of relationship that zoos had with their zoo associates was 3.64 years. The shortest relationship was 0.25 years and the longest was 10 years. Three associates had been working with the zoo for less than one year, eleven had between one and five years experience and five had been working with the zoo between six and ten years. One associate did not indicate a response.

Location of project(s)

For the three zoos that these associates represented, the respondents conducted research projects funded with cash and/or in-kind resources in at least seven countries. One respondent indicated that they operated globally and not just in any one country. Out of these seven countries the respondents operated in, three countries were the home countries of the case study sites.

Types of support

More than half of the associates received cash from the zoos supporting their projects. A majority of the associates ($n = 11$) received cash support from the zoos and five received in-kind support, while two received a combination of both cash and in-kind support from the zoos. Two associates did not respond to this question.

5.5.1 CONCEPTUAL THEMES

There is limited research on the relationship between zoo associates and the zoo itself. Typically, these associates conduct research and/or programmes that align with the zoos' research and conservation goals. For examples, Forest and Bird in New Zealand would be considered a zoo associate of Wellington Zoo as they collaborate with them on a conservation project 'Places for Penguins' that include using staff members' time on the project as a form of resource. It would be beneficial to the zoos to understand and recognise the strengths and weaknesses of their relationships with their associates to maintain efficient affiliations. Table 5.20 presents the individual statements posed to the associates in the groups as listed below. The following themes were explored in this research in the hope to establish a basis for future research ($n = 20$):

- A. Application process
- B. Operational relationship
- C. Intrinsic relationship
- D. Miscellaneous

Theme A: Application process

The majority of respondents indicated positive feedback regarding the application process for joint projects with the zoo. 16 of them agreed that the zoo had clear guidelines and found it easy to obtain information for their projects.

Theme B: Operational relationship

Generally speaking, zoo associates were positive about the zoo. Over 80% of them noted that zoo staff were helpful and treated them with respect. In addition, respondents found working with both staff and management to be straightforward. Half of the respondents ($n = 10$) were comfortable discussing problems and successes with the zoos in regard to their projects.

Theme C: Intrinsic relationship

Over 70% of the zoo associates felt that the zoos were allies who recognised their work and were excellent organisations to collaborate with. However, only half indicated that their zoo valued their opinion.

Table 5.20. The extent to which zoo associates agree with the statements regarding their perception, attitudes, opinions, and evaluation – percentage of responses for each statement in zoo associates questionnaires with the distribution of response (Qs: Question number, $n = 20$; SD: Strongly Disagree, D: Disagree, N: Neither disagree nor agree, A: Agree, SA: Strongly Agree, DK: Don't Know, M: Missing data).

Topics	Qs	Statements	SD	D	N	A	SA	DK	M
A: Application process	7	I found it easy to obtain information about receiving project support from the zoo	0.0	0.0	5.0	40.0	40.0	5.0	10.0
	8	Obtaining the zoo's support was a straight-forward process	0.0	0.0	15.0	25.0	45.0	5.0	10.0
	9	The zoo clearly articulated how my project fits into the overall strategy of their organisation	0.0	5.0	15.0	25.0	35.0	10.0	10.0
	10	The zoo has clear guidelines when working with them	0.0	5.0	5.0	45.0	35.0	0.0	10.0
B: Operational relationship	11	The zoo staff has been accessible and helpful	0.0	5.0	0.0	30.0	55.0	0.0	10.0
	12	I am treated with respect by the zoo	0.0	0.0	10.0	15.0	65.0	0.0	10.0
	13	I found working with the zoo's management team was straightforward	0.0	0.0	10.0	25.0	50.0	5.0	10.0
	14	I found working with the zoo's general staff was straightforward	0.0	0.0	5.0	35.0	40.0	10.0	10.0
	17	I am provided with substantive feedback on my reports to the zoo	0.0	5.0	15.0	30.0	30.0	10.0	10.0
	18	I am comfortable discussing both problems and successes with the zoo regarding my project	0.0	0.0	30.0	25.0	25.0	10.0	10.0
C: Intrinsic relationship	15	The zoo feels like an ally, recognising my work	0.0	0.0	10.0	35.0	45.0	0.0	10.0
	16	The zoo deeply cares about my project	0.0	0.0	15.0	45.0	25.0	0.0	15.0
	20	I can go to the zoo staff members for further advice outside my project/s	0.0	0.0	15.0	35.0	20.0	20.0	10.0
D: Miscellaneous	21	My opinions are valued by the zoo's management	0.0	0.0	25.0	25.0	25.0	15.0	10.0
	22	All things considered, the zoo is an excellent organisation with whom to collaborate	0.0	0.0	10.0	15.0	65.0	0.0	10.0
	19	The zoo should contribute a portion of their annual profits to outside conservation projects	0.0	0.0	20.0	25.0	35.0	5.0	15.0

5.5.2 THEMATIC ANALYSIS

The respondents reported various forms of work that they were being sponsored to conduct. These projects ranged from conservation, research, and exchange of animals to education awareness as well as keeper training and exchange programs. The type of support provided by the zoo included monetary grants, technical assistance from staff, animals, and infrastructure support. In return for the zoos' sponsorships, the zoo associates noted a number of benefits the zoo received including the following:

1. Acknowledgements in publications, media, and various reports.
2. Educational materials for zoo programmes.
3. Knowledge about species for habitat conservation, breeding, welfare, and management.
4. Volunteers assisting keepers in enrichment projects.

Zoo associates evaluated the support they received from the zoo and the following were the comments made regarding the areas that the zoos might improve on:

1. Increase collaborations with conservation groups.
2. Improve visitor awareness of the projects that were sponsored.
3. Increase partnerships with academic institutions.
4. Open communication with staff to discuss ideas on sponsored projects.
5. Networking and publicity opportunities with other stakeholders.
6. Integrate knowledge gained through research with visitors' experience.
7. Utilise knowledge gained to further develop staff members.

When zoo associates were asked to express their opinions about how well the zoo that sponsored them was placed to operate successfully into the future, a majority of the respondents agreed that the zoos sponsoring them were well placed to succeed. They elaborated by making the following points:

1. Zoos to emulate outstanding zoos in their approach towards animal welfare, fund-raising and conservation.
2. Increase ties and resources to front-line conservation groups.
3. Zoo to lead conservation activities in the region.
4. Reduce use of animals for commercial purposes to conform to society's pressure about animal welfare.

There were a few comments that showed strong support for the zoos and these included aspirations that the zoos would not only be involved in environmental education, but also serve as genetic banks for endangered species. In addition, zoo associates felt that

some of the sponsoring zoos had good mechanisms in place to successfully support projects. Several comments praised the dedication of staff members in both animal and non-animal departments. These comments indicate the valuable role that staff members have on the on-going success of the research projects.

5.5.3 ZOO ASSOCIATES: SUMMARY

Zoo associates were happy with the application and on-going relationship with the zoo. They found staff members to be helpful. The projects conducted by zoo associates acknowledge the financial and non-financial contributions of the zoo. Results from these projects may be disseminated to the zoo as education material. They felt that zoos could improve the support to them by integrating the knowledge gained through projects to educate visitors and to help develop staff members.

5.6. CONCLUSION

The aim of this chapter was to present the results from the survey instruments used in this research. This chapter sheds light on the profile types of the stakeholders, and is useful for examining the relationship between the zoo and the varying perceptions and expectations of their stakeholders. A summary of key findings was presented at the end of each stakeholder section.

There were two broad findings from this chapter. The first is that there were several key characteristics of the ‘modern zoo’ as determined by the stakeholders and the literature: (1) visitor engagement, (2) contribution to national and international conservation of species and habitat, (3) staff engagement, (4) animal management standards, (5) infrastructure for animals, (6) research programme, and (7) commercial viability. Although these characteristics are in some way similar to those reported in the literature, how they are valued, defined, and prioritized deviates from those reported in the literature. In addition, these characteristics were interrelated and applicable to more than one stakeholder group. It is due to these deviations and complexities that further qualitative data from personal observations and work experiences are essential to provide context to these results.

The second key finding is that there are significant differences in the relationship between the themes and several demographic factors. This suggests that a significant level of diversity is present among the zoos and fill the gap in the literature, where limited research was previously done on zoos in this region.

To further explore how diversity influences stakeholders' perceptions, expectations and attitudes, it is important to include qualitative results from personal observations and work experiences to contextualise the numbers. The next chapter will integrate additional qualitative results, where necessary, to highlight the importance of acknowledging how diverse stakeholders' perceptions, attitudes and expectations are, despite having similar key characteristics of what a 'modern zoo' is when compared to the current literature.

CHAPTER SIX: DISCUSSION

6.1. INTRODUCTION

The previous chapter presented the results from this research, drawn from the questionnaires. Seven key characteristics of the modern zoo, as perceived by the four stakeholders and supported by the literature are: (1) visitor engagement; (2) contribution to national and international conservation of species and habitat; (3) staff engagement; (4) animal management standards; (5) infrastructure for animals; (6) research programme; and (7) commercial viability.

These findings are important in considering how the differences across six zoos can contribute to understanding the Asia-Pacific zoo industry. New Zealand is the representative study site assumed the most likely to have similar results to the zoos in the current literature. The other five study zoos represent the Asian region, not as a singular entity, but rather, as a richly diverse region. This research highlights the fact that while the zoo industry, as a whole, aims to achieve common goals such as conservation, education, and research; all strategies should account for the diversity among each country in the ways these common goals are valued and interpreted.

This discussion integrates the seven identified characteristics and my personal experiences and observations, involving both quantitative and qualitative elements, in an attempt to understand what the findings mean for the modern zoo, particularly in the Asia-Pacific region. A summary of these key characteristics and their attributes as highlighted in both the literature, and in the current study results are found in Table 6.1. Each characteristic and their attributes are presented in a separate section, addressing the varying degrees of success achieved by each of the study zoos. In addition, I have included photos taken during the fieldtrip and from previous overseas trips to Southeast Asia, to support the discussion. Together, these sections highlight the diverse attitudes and perceptions of stakeholders across the region and the responses of the zoos surveyed in this research, and how addressing these differences could improve future management strategies of zoos in the Asia-Pacific region.

Table 6.1. Key characteristics and attributes of the modern zoo as perceived by major stakeholders in the Asia-Pacific region.

KEY CHARACTERISTIC	ATTRIBUTES
6.2 ¹ Visitor engagement	6.2.1 Identify visitors 6.2.2 Respond to visitors' expectations 6.2.3 Adopt communication technology
6.3 Contribution to national and international conservation of species and habitat	6.3.1 Show-case conservation-friendly behaviours 6.3.2 Develop and maintain partnerships
6.4 Staff engagement	6.4.1 Maintain healthy work environment 6.4.2 Supportive and inclusive leadership 6.4.3 Staff development
6.5 Animal management standards	6.5.1 Ethical and sustainable practices
6.6 Infrastructure for animals	6.6.1 Provide naturalistic exhibits for animals
6.7 Research programme	6.7.1 Support research 6.7.2 Promote guidelines and protocols for researchers
6.8 Commercial viability	6.8.1 Financial, economic and social sustainability 6.8.2 Mutually beneficial commercial partnerships

¹ Numbers corresponds to the section headings in this chapter (Discussion chapter)

6.2. VISITOR ENGAGEMENT

A high level of visitor engagement has been identified in the literature as one of the key characteristic of a modern zoo, and this is supported by the research findings. Zoos are traditionally known as a place for recreation and education. They are socially constructed, and culturally consumed (Knowles, 2003; Yasuda, 2013). With increasing criticism regarding captive animals, modern zoos seek to justify and defend their existence and role by delivering environmental education and the promotion of animal conservation (Wagoner and Jensen, 2010; Woods, 2002). It is no longer acceptable for zoos to solely function as an entertainment centre. Visitor engagement is defined here as the level of interaction visitors has within the zoo. It includes, but is not limited to the following: (1) visitor interaction with the signage (graphic displays); and (2) visitor attention to animals and/or any tools used by the zoo to promote conservation and/or educational goals.

As competition for the consumer dollar is high, zoos globally face the challenge of effectively attracting and engaging visitors. As the result of this research and the meta-analysis of the literature, it is necessary to include the following attributes to determine how well the zoos are engaging their visitors: (1) identifying visitors; (2) responding to their expectations; and (3) adopting technology to reach out to this group of stakeholders (Table 6.2). Using examples from the research results, these three aspects of visitor engagement are discussed in this section.

Table 6.2. Summary of literature and research findings: Visitor engagement.

KEY CHARACTERISTIC: VISITOR ENGAGEMENT	
KEY FINDINGS FROM THE LITERATURE	KEY RESEARCH FINDINGS
<i>6.2.1 IDENTIFY VISITORS</i>	
<p>Tribe (2012) elicited an approximate 93% response rate in eight zoos in Australia and the United Kingdom where approximately 64% are female, 77% are domestic visitors, and 68% repeat respondents. Similar results were reported by Moss, Jensen, Gusset, 2014; Pearson, Dorrian and Litchfield, 2013; Trainer, Steele-Inama and Christopher, 2012; and Bronislawski, 2009.</p> <p>The traditional role of zoos (a place to view animals) is changing rapidly as they extend their resources to include biological literacy using entertainment as a delivery vehicle (Brambell, 1993; Coe, 1986; Conway, 1969, 2003; Koebner and Conway, 1994; Linton and Young, 1992; Mann, 1946; Tribe, 2012).</p> <p>Visitors want to see animals displaying natural behaviour interacting with zoo staff members, and having an entertaining experience (Wolf and Tymits, 1980 in Anderson, Kelling, Pressley-Keough, Bloomsmith, and Maple, 2003; Broad and Smith, 2004; Fraser and Sickler, 2009b; Hutchins, Smith, and Allard, 2003; Knowles, 2003; Morgan and Hodgkinson, 1999).</p> <p>Visiting zoos enhances visitors' understanding of wildlife and challenges them to reconsider the roles they could play in wildlife conservation (Adelman et al., 2000; Falk et al., 2007; Reading and Miller, 2007; Swanagan, 2000; Swannie Sigsgaard, 2009).</p>	<p>The highest response rate elicited in this study is 84.2% in Indonesia and the lowest in Thailand at 66.2%. The majority of respondents in Indonesia were males (56%); over 50% of visitors were foreign in Hong Kong; and less than 36% were repeat visitors from all study zoos.</p> <p>Less than 45% of visitors in Malaysia, Philippines, Thailand, and Hong Kong, strongly agreed that the zoo is doing a good job entertaining their visitors (Qs15 in Table 5.3).</p> <p>The diversity of the animal collection at study zoos is also a strong attraction for visitors.</p> <p>Education level of respondents in Hong Kong is the only demographic variable that is significantly correlated with the potential impacts the zoo experience had on visitors (Table 5.8).</p>
<i>6.2.2 RESPOND TO VISITORS' EXPECTATIONS</i>	
<p>Education is enhanced when visitors enjoy high quality displays that immerse them into the natural habitat of the animals. Visitors are encouraged to expand their education of wildlife and habitats (Clayton, Fraser, and Saunders, 2009; Davey, 2006; Davey, 2006; Hutchins and Smith, 2003; Reade and Warren, 1996).</p>	<p>Visitors are generally not interested in engaging with zoo graphic displays. Many displays are outdated; in particular, only 30% of respondents from Thailand indicated that the quality of information displayed at the animal exhibits is good.</p>
<i>6.2.3 ADOPT COMMUNICATION TECHNOLOGY</i>	
<p>Zoos are increasingly utilising technology to improve their networking and outreach capabilities to improve education programmes and increase public concern and interest in wildlife and the environment (Clay, Perdue, Gaalema, Dolins, and Bloomsmith, 2010; Hutchins and Smith, 2003; Klein, 2011; Yocco, Danter, Heimlich, Dunckel, and Myers, 2011).</p>	<p>All study zoos used social media networks such as Facebook and Twitter. 40% of visitors used zoos' social networks. However, most of the zoos' websites are out of date.</p>

6.2.1 IDENTIFY VISITORS

Knowing who visitors are allows study zoos to better develop strategies to improve the quality of interaction between the visitors and the zoo (visitor engagement) as well as improve areas to attract other target groups. To do so accurately, it is important to consider the differences that influence people to visit. In what is currently understood as an increasingly competitive market, visitor satisfaction is a very important aspect in the development of the destination image and in generating repeat visits (Slabbert and Plessis, 2012). However, to determine what satisfies visitors, it is important to first form a well-rounded understanding of the visitor profiles, not only in terms of demographics, but to also understand their reasons for visiting the zoo, as well as their expectations of that visit.

In this research, the majority of respondents in Indonesia were males (56%); over 50% of visitors were foreign in Hong Kong; and less than 36% of respondents were repeat visitors (all study zoos) (Table 5.3). As previously highlighted in Chapter Three (p. 38), it is important to establish if the profile of visitors in Western zoos are similar to those in Asia. The results of the research differ from those gathered in the literature. For example Tribe's (2012) study in eight zoos in Australia and the United Kingdom, returned a 93% response rate, where approximately 64% were females, 77% were domestic visitors and 68% repeat visitors. Similar percentages were also found by the World Association of Zoos and Aquariums in their research of 30 zoos around the world (Moss, et al., 2014).

People primarily visit zoos for recreational reasons and they usually visit the zoo with family and/or friends. To a lesser, but important extent, they acknowledge that a zoo visit is educational (Andereck and Caldwell, 1994; Morgan and Hodgkinson, 1999; Reade and Warren, 1996; Reading and Miller, 2007; Tribe, 2012). Key studies that determine visitors types, characteristics, and their motivations were conducted in Western countries and results are similar to those from this research. Apart from Thailand and Hong Kong study zoos, the most common reason for visiting the zoos in the study region was to spend time with someone (Table 5.5). In Thailand, educational purposes were the most common reason to visit (31%) and visiting the zoo for an event such as a tour programme was the most common reason given by respondents from Hong Kong (11.3%). Although not included in the statistical analysis, the majority of respondents in Thailand were observed to be educators, such as teachers on school trips

while the majority of the visitors in Hong Kong were foreign visitors (Figure 5.1), and the most popular reason for visiting the study zoo in Hong Kong was that the zoo was part of their organised tour itinerary.

Quantitative results in this research suggest that only in Hong Kong is there a positive and significant correlation between the education levels of visitors and the impacts the zoo visit may have on them (Component 3 in Table 5.8). Statistically, no other zoos elicited such results. Many recent studies suggest that zoos do have a positive educational impact on visitors (Falk et al., 2007; Fraser, 2009; Luebke and Matiasek, 2013; Wagoner and Jensen, 2010) but these studies were predominantly conducted in Western zoos. However, from this research, there was no statistically significant correlation calculated in New Zealand, which represented the Western-biased literature. This highlights the support needed for each zoo to explore and establish who their visitors are and how the influence of education levels differs across the regions.

6.2.2 RESPOND TO VISITORS' EXPECTATIONS

Overall, all the study zoos are entertaining their visitors well; over 75% of the visitors report that they are likely to come back and recommend the zoo to others (Table 5.10), suggesting that their expectations for the visit are met. However, less than 45% of visitors to Malaysia, Philippines, Thailand, and Hong Kong, strongly agreed that the zoo is doing a good job entertaining their visitors (Table 5.5). Morgan and Hodgkinson suggest that visitors want to see active animals, interact with zoo staff members and are motivated to visit because of entertainment and recreational factors rather than educational factors (1999). This is consistent with the personal observations made during the field trip where the researcher observed visitors in Hong Kong, Indonesia, Malaysia, the Philippines and Thailand were seen moving on from animal exhibits quickly, without spending much time interacting with the signages or educational stalls set up by staff (where applicable). The statistical data indicated approximately 30% of all visitors strongly agreed that they took the time to read the information displayed at the animal enclosures (Table 5.5).

As education is one of the recognized and accepted roles of zoos, whether a zoo is considered traditional or modern, it is important that all zoos strive to achieve this. However, the implementation strategies should be tailored to the respective visitors. For example, a small zoo that is located away from any major cities may choose to focus on attracting local school groups, particularly children. If this was the case, their strategies

for educating this major group would be vastly different from a large zoo in a metropolitan city with a large number of international visitors. The small zoo may not invest the same resources into signage and only have them in local languages; the large zoo may invest in multilingual signages for all exhibits, particularly if there is a consistent flow of any particular nationality.

The literature argues that education is most effective when a visitor's desire for enjoyment is met. One of the best ways to achieve this is through high quality graphic displays (Reade and Warren, 1996; Davey, 2006). Fraser and Wharton (2007) reported that the average visitor considers the conservation messages advocated by zoo staff members to be one of the most reliable and preferred methods for learning. However, conveying educational messages to visitors can take many forms in zoos. Zoos may use a variety of delivery methods such as graphic displays at animal exhibits, animal presentations, and focus group sessions (Anderson et al., 2003).

Style and content of zoo graphic displays have evolved over time and reflect how zoos have changed and the way they communicate with visitors (Serrell, 1988). The most basic form is the animal identification display at the animal exhibits (Serrell, 1988). The animal exhibits are designed to draw in visitors and engage them with interactive educational displays (Figure 6.1). Most of the animal exhibits in all study zoos have a mix of non-traditional immersive animal displays and conventional displays (Figure 6.1). However, all study zoos are currently in the process of slowly upgrading those conventional displays that focus on the fundamental biological facts of the animals.



Figure 6.1. Left to right: Non-traditional interactive animal displays at the Hamadryas baboons' exhibit (Auckland, New Zealand) and conventional displays at the deer enclosure (Zoo Negara, Malaysia).

Compared to Asian adults, Western adults in the study zoos appeared to be more engaged with graphic displays; more so if children accompanied them. I observed that the majority of the Asian visitors in the Hong Kong, Thailand, Malaysia, and Indonesia study zoos simply glanced over the displays. Only 30% of respondents from Thailand indicated that the quality of information displayed at the animal exhibits is good. There are many instances whereby these visitors simply identified the animals in the exhibit and walked away to the next exhibit. This was particularly true if the animals were not doing anything 'exciting'. In such circumstances, visitors would typically spend less time looking at the displays, suggesting a lack of engagement with the display. Displays are costly to create and a lack of visitor engagement means not only a wasted educational opportunity, but also a waste of the resources required to create these displays.

The learning process in education systems in all the countries of the Asian study zoos is predominantly controlled by the teacher (Townsend and Cheng, 2000); it is formal and seldom encourages students to challenge what is taught. Reflecting on my personal experiences in both Western and the Asian school systems, it was considered rude in the Asian system to argue with the teacher, regardless of how politely it was done. In Western schools, students are encouraged to voice opinions while cultivating intellectual justifications for those opinions. As five out of the six study zoos have more local visitors than foreign (Table 5.3), it is important to acknowledge the learning norms of the customers that form their majority. This could inform study zoo management on

how to better allocate resources and adapt educational programmes to fulfill their role as educators.

6.2.3 ADOPT COMMUNICATION TECHNOLOGY

The literature suggests that today's visitors are usually more well-travelled and environmentally conscious than those of previous decades (Bergin-Seers and Mair, 2009; Gössling, Hall, Peeters, Scott, 2010; Luo and Deng, 2007; Winter and Linke, 2008). These type of visitors would extensively use the Internet during the planning stages of their trip (Buhalis and Law, 2008; Gretzel and Yoo, 2008; Ip, Lee, and Law, 2012; Schmallegger and Carson, 2008). Interestingly though, most of the virtual (online) profiles of the study zoos in this research are poorly utilised by the visitors, with only 29% making use of zoos' social media networks and a slightly higher 40% finding the zoos' website up to date and informative (Table 5.5). In particular, Thailand's visitors who have been to the study zoo before were unlikely to use the zoo's social media networks (Table 5.8). Although this is not a direct reflection of how much effort the study zoos apply to using and maintaining their online profiles, it is indicative that there is room for improvement to attract their visitors via online media in order to keep up with the rapid growth of the use of technology.

Many modern zoos have invested a considerable amount of resources to reach out to their visitors by developing new media to enhance visitors' education and experience, as well as reach the wider community (Clay et al., 2011; Yocco et al., 2011). Since recent times, smartphones now represent a viable and increasingly inexpensive means for zoos to deliver educational and/or recreational content to visitors (McNeal and van't Hooft, 2009). The Smithsonian National Zoo, in the United States, and the Melbourne Zoo, in Australia, and among others, have developed a mobile app that allows visitors and potential visitors to 'visit' the zoo from anywhere in the world. They have provided an additional forum that engages the users to view live camera feeds of endangered species, biological information on selected animals and more importantly, these apps highlight the zoos' conservation programmes (Melbourne Zoo, 2014; Smithsonian National Zoo, 2014). Hong Kong's Ocean Park appeared to be the only zoo that has developed an online application for their visitors to access maps and other perks on smartphones while at the zoo.

Many visitors in the Hong Kong, Malaysia, the Philippines, and Indonesia study zoos were seen using smartphones and it is common to see children accessing such

technology while at the zoo. However, the results from the questionnaires in this research established that a very small percentage (< 20%) of visitors in these countries strongly agreed that they made use of zoos' social media networks. Not many visitors in New Zealand, particularly those in family groups, were observed to be accessing smartphones and these observations aligned with the results in Table 5.5. Due to this evolving habit of using smartphones, all the Asian study zoos should consider investing in developing technology within their parks to capture this niche of visitors.

6.3. CONTRIBUTION TO NATIONAL AND INTERNATIONAL CONSERVATION OF SPECIES AND HABITAT

The zoos' contribution to the national and international conservation of species and habitat is an important characteristic of a modern zoo. Many zoos have demonstrated a stronger commitment towards conservation by making it part of their mission statements and/or strategic direction (Carr and Cohen, 2011). As zoos start to modernise, the potential arises for them to become centres of education as well as of conservation, not just by simply informing visitors of issues, but also by leading a change in perspective. Just as the sense of connection to the animals at the zoo is correlated with interest in protecting the species (Clayton et al., 2014), the sense of connectedness to nature (Kals, Schumacher, and Montada, 1999; Nisbet, Zelenski, and Murphy, 2008; Tam, 2013) is associated with pro-environmental behaviour outside the zoo (Clayton et al., 2014). Two overarching attributes have been identified from this research: (1) showcasing conservation-friendly behavior; and (2) developing and maintaining partnerships. Comparisons of research and literature findings are presented in (Table 6.3).

Table 6.3. Summary of literature and research findings: Contribution to national and international conservation of species and habitat.

KEY CHARACTERISTICS: CONTRIBUTION TO NATIONAL AND INTERNATIONAL CONSERVATION OF SPECIES AND HABITAT

KEY FINDINGS FROM THE LITERATURE

KEY RESEARCH FINDINGS

6.3.1 SHOW-CASE CONSERVATION-FRIENDLY BEHAVIOURS

Dedicated staff members assume the roles of educators by crafting a vision for how society can live in a sustainable and productive relationship with biodiversity (Davidson, Passmore, and Anderson, 2010; Fraser and Wharton, 2007; Patrick, Matthews, Ayers, and Tunnickliffe, 2007).

Many zoos use traditional messages to promote conservation. For example, study zoos in the Philippines, Malaysia, Indonesia, and Thailand repeat a variation of the message: “*Reduce, reuse and recycle*” at their shows.

Despite Auckland Zoo using educational information to challenge visitors to make environmentally friendly purchases from the supermarket, less than 30% of their visitors responded ‘strongly agree’ when asked if the zoo experience positively impacted their values regarding conservation actions.

Increasingly, zoos are the catalysts for engaging the local public in conservation efforts (Fraser and Wharton, 2007; Hutchins, 2003; Kleiman, Thompson, and Baer, 2010).

Auckland Zoo advocates for a reduction in palm-oil consumption and promotes a palm oil free shopping guide.

Community members have well-articulated conservation opinions and values regarding wildlife (Fraser and Wharton, 2007; Bandara and Tisdell, 2003; Barnes, Schier, and Van Rooy, 1999; Czech and Krausman, 1999; Fraser, 2009; Harris, 2008; Kellert, 1994; Streever, Callaghan-Perry, Searles, Stevens, and Svoboda, 1998).

The majority of the visitors in the Asian study zoos are unaware of the amount of waste generated from the production of plastic toys and souvenirs. Retail sales are strictly for profit and disregard opportunities to promote environmental education, sustainability, fair-trade, etc.

6.3.2 DEVELOP AND MAINTAIN PARTNERSHIPS

Increasingly, successful pioneering zoos are becoming role models that inspire others to become more proactive in conservation education (Fraser and Wharton, 2007; Mazur and Clark, 2001; Zimmermann, Hatchwell, Dickie, and West, 2007). There is a need for the zoos globally to come together as one international zoo community with one agenda (Hatchwell, Rubel, Dickie, West and Zimmermann, 2007).

Align with government and private sector organisations to support conservation programmes and projects

Well-regarded zoos share their resources and data with other institutions in order to promote conservation, research, and education (Clark and Brunner, 2002; Conway, 2003; Hutchins and Smith, 2003; Maccarone and Batdorf, 2003).

Work with local and international conservation organisations e.g. IUCN¹, WAZA, etc.

Conservation efforts improve standards and draw a distinction between professionally managed zoos and less successful zoos (Hutchins, 2003; Smith et al., 2007; Zimmermann et al., 2007).

Zoo staff from the UK and Australia believed that zoos should take the lead in wildlife conservation efforts (Tribe, 2012).

Collaborate with local and international zoos on breeding programmes and animal exchanges

Khao Khew Open Zoo in Thailand, under the umbrella group of the Zoological Park Organization of Thailand, is in partnership with Smithsonian National Zoological Park and other zoos from the United States to develop a breeding programme. However, this is not widely advertised in the zoo itself.

Auckland zoo's palm-oil free campaign, in partnership with other zoos, encourages visitors to make tangible, educated decisions regarding grocery products that indirectly contribute to the deforestation of primary forest in Indonesia and Malaysia.

Taman Safari in Indonesia is part of a reintroduction programme for the Sumatran tigers.

Zoo Negara in Malaysia is researching the breeding and reintroduction of milky storks (migratory birds).

Ocean Park in Hong Kong is breeding and reintroducing the Yellow-bibbed lorry (native parrot to the eastern Solomon Islands).

¹ IUCN – International Union for Conservation of Nature; WAZA – World Association of Zoos and Aquariums

6.3.1 SHOW-CASING CONSERVATION-FRIENDLY BEHAVIOURS

According to the literature cited in Table 6.3, dedicated staff members ought to assume the roles as educators of conservation by sharing examples of how visitors can live in a sustainable and productive manner to protect biodiversity, and by advocating conservation values that promote environmental awareness. Zoo staff from the UK and Australia believe that zoos should carry the majority of responsibility for current wildlife conservation (Tribe, 2012).

Visitors in a study by Puan and Zakaria (2007) expected zoos to be proactive in conservation and the majority of those visitors agreed that zoos should educate society about conservation and the protection of threatened animals (Puan and Zakaria, 2007). Zoos provide urban populations with the opportunity to learn about environmental issues such as threats to wildlife and mitigation practices that can promote conservation through small changes in behaviour (Ferne, Phillips, Tribe, Murray, and Cross, 2007; Marino et al., 2010; Reading and Miller, 2007; Smith and Broad, 2008; Stoinski et al., 2002). The World Association of Zoos and Aquariums (2005) recommended in their conservation strategy that zoo institutions should ideally have a suitably qualified member of staff responsible for developing and overseeing educational activities.

Several zoos around the world have led the way in changing and influencing the behaviours of zoo visitors. An example of such a zoo from this research is the Auckland Zoo in New Zealand. It has forged a new movement to proactively influence their visitors regarding sustainable behaviours such as making educated decisions when purchasing products from the supermarket. Auckland Zoo strongly encourages the reduced usage of palm-oil consumption. They promote the use of their palm-oil free shopping guide that lists hundreds of supermarket products that are palm-oil free. In addition, displays at select animal exhibits are used to further promote these messages. Figure 6.2 provides an example of how Auckland Zoo promotes palm-oil free products at the Orangutan exhibits (Auckland Zoo, 2014b).



Figure 6.2. Displays near the Orangutan exhibit informing visitors about the palm-oil free campaign at Auckland Zoo, New Zealand.

There are many other zoos in the ‘Western world’ that are proactive in shaping society’s behaviour through suggesting tangible and practical solutions which their visitors can actively participate in. Despite their diversity, the Asian study zoos in this research were observed to focus more on entertainment and less on conservation lessons. There is a need for zoos in the Asian region to become more proactive in educating their visitors and to reduce using messages about conservation issues that visitors either cannot, or find too troublesome, to integrate into their lives. The appropriate type of educational display and messages could potentially facilitate effective change in visitors’ perception and willingness to make changes for the benefit of wildlife conservation.

The manner in which zoo gift shops and external shop retailers are managed, should reflect the opportunity that these shops have to link visitors to conservation by giving them clear messages and empowering them to make positive choices as consumers (Koh and Wilcove 2007; Swannie Sigsgaard, 2009; Lukas and Ross 2005). It is common for zoo shops to raise money to support the running of the zoo (Swannie Sigsgaard, 2009). Retail managers and zoo management are tightly constrained by financial targets and need to mark-up products for necessary profits. They also aim for a stable product range (Swannie Sigsgaard, 2009). The Philippines, Malaysia, and Thailand study zoos hire out allocated spaces in the zoo to external vendors and hawkers as a form of income. These vendors sell a range of items such as food, beverages, souvenirs, and other animal paraphernalia (such as plush toys), similar to those from most zoos’ gift shops and cafeterias. I observed many visitors in Malaysia, Indonesia, Thailand, and the Philippines, purchasing items from these vendors and gift shops that came in excessive packaging. These packaging can be seen strewn around as

litter throughout the zoos. These observations were more apparent than those in Hong Kong and New Zealand. The Kruskal-Wallis H test indicated that significant differences exist among the zoos for component 3 (motivation for visiting the zoo and the potential impact the experience has on visitors) from Table 5.8. This component showed that visitors who were more likely to expect zoos to contribute to national, and international conservation efforts were likely to expect zoos to promote and showcase conservation friendly behaviours. This further supports my field observations that there is diversity in visitors' expectations in this area.

6.3.2 DEVELOP AND MAINTAIN PARTNERSHIPS

Engaging in inter-institutional co-operation is one of the characteristics of a modern zoo, as suggested by Hutchins and Smith (2003). Zoos can no longer be isolationists in their efforts for conservation and environmental education. Therefore, zoos should aim to be accredited by regional and national zoo associations so that partnerships for their roles of conservation, research, and education may be fulfilled with endorsements from external organisations. The model modern zoo would share resources and information with other institutions to collectively impact conservation, research, and education in a positive manner (Conway, 2003; Hutchins and Smith, 2003), contributing to the collective goal of one international zoo community, one agenda (Hatchwell, Rubel, Dickie, West and Zimmermann, 2007. P.353).

An example is the collaboration between Wellington Zoo, New Zealand; an independent conservation organisation; Forest and Bird, New Zealand and several local governments, community groups and schools. These organisations rallied together and provided suitable nest boxes for wild Little Penguins (*Eudyptula minor*). More importantly, this programme promotes education to the local community to support the animals through simple actions such as responsible dog control in penguin habitats (Forest and Bird, 2012). For these conservation programmes to succeed, zoo management and general staff members have to be committed to the ultimate goal of conserving wildlife and their habitats.

My experience as an Educator in Wellington Zoo, New Zealand provided an insight into how zoos can be fully committed to conservation. Although the education team was not directly involved in any particular research, staff members were encouraged to take a working day to volunteer with Forest and Bird, New Zealand and spend the afternoon setting up nest boxes for the animals. In addition, we took another afternoon to pick up

litter in the local suburb (Figure 6.3). This reinforced the commitment Wellington Zoo has towards conservation and in encouraging staff members to participate.



Figure 6.3. Non-animal zoo staff members volunteering in local conservation efforts (Left) and keeping the local community clean by picking up litter during office hours (Right).

It was clear that some study zoos did more wildlife research than others based on what was evident from the interpretives, zoo websites, yearbooks, and discussions with staff members. Regardless of the diversity of attitudes and perceptions observed and found among staff members in this research, a commonality present in the Asian study zoos was that many staff members were not aware of the conservation collaboration and/or joint research projects their zoo was involved in unless they happened to be directly involved in the project themselves. Thirty-two percent of staff members from Hong Kong indicated that the zoo made them more aware of current issues faced by wildlife and their habitats. This percentage was much lower than those from Indonesia and Malaysia (70.5% and 67.3% respectively).

6.4. STAFF ENGAGEMENT

Zoo staff members are arguably the front line educators for visitors (Andersen, 2003; Coe, 1999; Moss and Esson, 2013; Pattison and Dierking, 2012; Randall, 2011; Weaver, 2012). The quality of staff engagement in the zoo will directly affect its output and efforts in the zoo's goals including conservation, education, research, and entertainment. The study of people, integral to the success of zoos, has not been identified as a research priority in zoos and aquariums (World Association of Zoo and Aquariums, 2005). However, social science and education researchers have focused mainly on visitor studies but not staff members or other stakeholders (World Association of Zoo and Aquariums, 2005). Most of the staff surveys within the zoo

industry focus only on zoo-keeping staff members (Anderson, Maple, and Bloomsmith, 2010; Bunderson and Thompson, 2009; Good, 2009). The research for this thesis gave all staff members, from all different levels of management, the opportunity to be included. A substantial part of the survey data is contextualised using qualitative results, adding to the body of limited literature on zoo staff members as a collective group, rather than only zookeepers.

The three attributes identified from the results, supported by the literature, concerning staff engagement in a modern zoo are (1) maintaining a healthy work environment; (2) supportive and inclusive leadership; and (3) fostering staff development. These attributes were identified from components 2 – 5 (Table 5.16) and the Kruskal-Wallis H test indicated that there were significant differences among the zoos for these components. The attributes are presented in Table 6.4 and further elaborated in the subsequent section.

Table 6.4. Summary of literature and research findings: Staff engagement.

KEY CHARACTERISTICS: STAFF ENGAGEMENT

KEY FINDINGS FROM THE LITERATURE

KEY RESEARCH FINDINGS

6.4.1 HEALTHY WORK ENVIRONMENT

Staff members regarded their work as vocational work, worth a sense of calling (Bunderson and Thompson, 2009).

A large number of staff members from the Philippines, Hong Kong, Thailand, and Indonesia are simply grateful to have a job, irrespective of where they worked. These sentiments did not come through as strongly from the other study zoos.

6.4.2 SUPPORTIVE AND INCLUSIVE LEADERSHIP

The success of past zoos has been typically dependent upon the passion, knowledge, and political acumen of a single charismatic leader (Hutchins and Smith, 2003).

Generally, there is not a high level of engagement reported between senior staff and the majority of zoo staff in New Zealand and Hong Kong. The level of engagement in Indonesia, the Philippines, and Malaysia appear to be higher.

A world-class zoo requires the leader to be able to recruit highly qualified staff and delegate tasks (Hutchins and Smith, 2003).

6.4.3 STAFF DEVELOPMENT

The zoological profession is becoming increasingly diverse, complex, and challenging. In order to accomplish all its goals, zoos need well-trained staff members who understand the complexity of zoos and the associated commercial and social expectations of the public (Hutchins and Smith, 2003; Bunderson and Thompson, 2009).

In Indonesia, Malaysia and Thailand, it appears that staff members with more formal education, are less likely to feel that the zoo valued their professional development (Table 5.17).

Today's zookeepers are usually college educated (Fraser and Wharton, 2007).

Only 3.1% of staff members in Indonesia and 27.9% in the Philippines have a university degree or higher whereas the percentages of each of the other four zoos are over 40%.

6.4.1 HEALTHY WORK ENVIRONMENT

While there is a large amount of research exploring the people working in corporate organisations, schools and hospitals, there is limited published research on zoo staff members. Many staff members in the Asian study zoos expressed that their jobs at the zoo were difficult to find due to a struggling economy and high competition for jobs. This is especially true for the zoos in developing countries and hence it was common for those study zoos found in rural areas to become a source of employment for the local

community. Probably related, completing the survey, for many staff members, was an instruction from their superiors as opposed to them willingly participating in the survey. Many were apprehensive that the results would allow identification of the individuals and they were therefore concerned about the potential consequence of losing their jobs. Despite affirmation from me that all responses were confidential, many of the responses could be considered 'textbook' answers instead of what they might have been willing to share unofficially with me over coffee and/or a meal. These apprehensions do not reflect an ideal healthy work environment. Developing a survey method for future research should consider this reluctance to ensure more accurate answers from respondents.

In all the study zoos, there are dedicated educators. Due to the existence of these positions, many of the other staff members that I encountered in Malaysia, Hong Kong, Thailand, and the Philippines do not appear to consider education, conservation, or research as part of their job description. In my previous employment, the attitude of several zookeepers towards education is not one of priority. They feel that education, conservation, and research are not part of their job, unless otherwise told. An Asian zookeeper was asked for their opinions regarding preserving an animal that was in their care. The translated response was:

...we are not scientists or researchers. We are keepers first, and we do not need to care about science. Conservation and research, you can educate the people in management first, preserving an animal that I used to look after will not make a difference to conservation...*(Employee's comments regarding the use of an animal for education).*

These sentiments are common among many Asian zookeepers that I have met over the past ten years in the industry. Conversely, a zookeeper that I have worked with in a Western country, when asked to address the visitors regarding the conservation research project that he/she was involved with, the response was:

...I am busy but I will make time to speak. I always have time for conservation...the more people know about this project, the better we can work towards saving this species...*(Employee's comments regarding addressing zoo visitors).*

Although zookeeping is a poorly paid profession, they are expected to perform additional complex tasks including captive population management, on top of their

animal husbandry duties, with their wages not being reflective of the breadth of responsibilities expected of them (United States Bureau of Labour Statistic, 2004 in Bunderson and Thompson, 2009). There is evidence to suggest that most staff members encountered in New Zealand and Malaysia study zoos carry on working there because of their passion for wildlife and conservation. However, for the large number of respondents from the Philippines, Hong Kong, Thailand, and Indonesia, they were simply grateful to have a job, irrespective of where they worked.

These contrasting sentiments appear to create conflict in the perceptions when evaluating staff members on a global scale. However, there is the potential (or expectation in some cases) that staff members act as frontline educators, leading education initiatives related to sustainability, conservation ethics, and appreciation for nature (Fraser and Wharton, 2007; Pattison and Dierking, 2012). Therefore, it is important for zoo management to include education and conservation as part of staff members' job profile, inciting a passion for the work and promoting zoo keeping as a worthy profession to undertake. These expectations will subsequently attract new staff members and encourage current ones to achieve the goals of the zoos as a cohesive unit, improving the work environment, consequently creating a healthy work environment.

As described in Chapter Three, most of the current research regarding zoo keeping is from staff members interviewed and surveyed in Western societies (Bunderson and Thompson, 2009; Good, 2009; Fraser and Wharton, 2007). The opportunity to work with wildlife was discovered to be the most common reason to work in the zoo and zookeepers described how dedicated they are to the animals they work with (Gershon, 2015; Bunderson and Thompson, 2009). This reason was true for me as well when I worked in captive animal facilities in Singapore, South Africa, and New Zealand. An excerpt from my personal diary is included at the end of this section to express how I felt working at a zoo.

Although this research did not directly enquire about the reasons staff members have for working in the zoo, it did ask what the most rewarding aspects of the job were for them. With the exception of Hong Kong and Indonesia, the most common reason indicated by staff members was the opportunity to work with, or be close to wildlife (Table 5.18). Interestingly, the only western country, New Zealand, indicated that contributing to conservation was the second most common rewarding aspect of their job. The respondents from the Asian study zoos indicated other reasons such as: (1) interaction

with their colleagues as the primary reason, and (2) the opportunity for development or financial incentives as the second most common rewarding aspect of their job (Table 5.18). The following excerpt is from my personal diary about the relationship between myself and my colleagues, written several years before this research. Despite the hard work and long working hours, I felt a sense of satisfaction in my job and I felt that it was a healthy work environment.

The hours that I have to work are long. Sometimes from 8 am to well past midnight. But at the end of the shift, I sit in the locker room with my colleagues and we still have the energy to recap the day and laugh at the stupid things somebody said or how uncooperative some of the animals were that day. The animals are awesome, but the camaraderie you feel with the team makes all that hard labour worth it. You would expect us to be exhausted and just wanting to hit the sack, but NO, we still want to banter about who had the ‘worst’ story of the day. Our obsession at work is fuelled by each other and it is not healthy, but we are happy so who cares!”

Figure 6.4. An excerpt from my personal diary regarding my opinions and experiences about working alongside my colleagues in a zoo.

6.4.2 SUPPORTIVE AND INCLUSIVE LEADERSHIP

Effective leadership by those in charge is important for a zoo to be successful in meeting the demands of their staff (Smith, 2007). This not only refers to the top level of management but also to middle management, where individuals have constant interaction and communication with other staff members. In this section, direct quotes from the questionnaires are included as another form of qualitative results. Most of the zoos surveyed adopt a top-down approach in their management styles. This is especially true in the Asian zoos. The effect of societal or national culture on staff members’ behaviour and the differences between the Asian and Western cultures are well established and significant (Hofstede, 1998; Trompenaars and Hampden-Turner, 1998). Western influences in New Zealand resulted in the adoption of a participatory leadership style and staff members, despite the organisational hierarchy, appeared to be more collegial with one another.

...The Auckland Zoo is a really well run, supportive friendly environment...(*Employee from Auckland Zoo, New Zealand*).

Despite positive comments from employees in Auckland Zoo, statistically, the percentages reported in the questionnaires regarding staff engagement were not significantly higher when compared to the other Asian study zoos. The labour laws protecting staff members in New Zealand are more effective than those in the Asian countries. This could allow staff members to be more honest as they may not feel as threatened as their Asian counterparts. If so, social-economic factors such as low employment rates, lack of transparency and a lower quality of life in the Asian zoos may influence the results.

The conservative cultural values of the Asian region reflect a strong central leadership style, resulting in low individualism. It is usual for managers from this region to carefully control information and use authoritarian decision styles (Dorfman et al., 1997). Staff members in the Asian study zoos, particularly in the Philippines and Indonesia, were observed to be obedient of authority. Is it common for senior management to make the important decisions and, generally, for staff members of lower hierarchy to make limited or no contribution with regard to how the decisions are made. Further quotes from the questionnaire responses reinforce this type of organisational culture that is dominant in this region:

If the employees follow the orders, the zoo will be successful. But if the employees do not follow orders, it will not be successful (*Employee from Taman Safari, Indonesia*).

...We will defend our boss and what he plan [sic] for the future, because of his opinion, the employee will have to follow (*Employee from Zoobic Safari, The Philippines*).

...The leader must be a true provider and love to work in the zoo business. I cannot tell if KKOZ will be successful or not because things always change (*Employee from Khao Kheow Open Zoo, Thailand*).

...Zoo Negara needs to really work hard towards the welfare of the employees, ...be more down-to-earth... (*Employee from Zoo Negara, Malaysia*).

Staff members tended to follow instructions without question and these observations align with that of Chen (2004) and El Kahal (2001), as well as with my own observations while working in the zoos. Mazur and Clark (2001) suggest that to improve performance in Australian zoos, there should be a “dedicated effort in zoos to

replace highly segregated departments and rigid hierarchies with more participative decision-making process” (Mazur and Clark, 2001, p. 195). Such recommendations may not be appropriate in zoos such as the Philippines and Indonesia as the strong hierarchy appears to be well-received by the staff members; as in this research, the percentages of positive feedback reported by staff members, particularly from Indonesia, are generally higher than the other study zoos.

6.4.3 STAFF DEVELOPMENT

In 1979, Steenburg (cited in Good, 2009) reported that only 12.5% of zoo keepers in the United States possess a bachelor’s degree, but by 2004, Good (2009) reported that 82% of average zookeepers held a bachelor’s degree or higher. In the current research, only a third of staff members surveyed held similar qualifications. Approximately 45% of staff members from Hong Kong, Malaysia, New Zealand and 60% of staff members from Thailand held a university qualification or higher. However, for Indonesia and the Philippines respectively, only 3.1% and 27.9% of staff members held similar qualifications (Table 5.13). It was unusual for zookeepers in Malaysia, Thailand, Indonesia, and the Philippines to be directly involved in research.

In the United States, the zoo industry, particularly zoo-keeping, was a profession dominated by men until the late 1960s. However, women form the majority of zoo personnel in the United States (Molony, Dowding, Baker, Cuthill, and Harris, 2006). The American Association of Zoo Keepers (2005) noted that 72.6% of their keepers are females (Good, 2009; Bunderson and Thompson, 2009). Unlike America, the percentage of female staff members in Indonesia is outnumbered by the males (males = 20.5%). However, there are more female staff members in Hong Kong, New Zealand, the Philippines, and Thailand (Table 5.13). These percentages do not take into account the type of work the respondents are doing. i.e. more staff who worked in the office may have completed the survey than those who work in the field with animals. As the majority of an animal keeper’s day includes hard labour such as cleaning and maintaining the animal exhibits (Good, 2009), this may be a possible reason why the majority of the keepers in Thailand, Indonesia, Malaysia and the Philippines were observed to be predominantly males.

Today’s zoo staff (in western nations) are usually college-educated (Frazer and Wharton, 2007), but as most of the study zoos are located in countries with a developing economy, not all citizens had access to higher education past secondary school. I found

that 42.7% of the staff held secondary school qualifications or lower. Therefore, it is important that these zoos invest in their staff members that currently hold lower qualifications so that these individuals may understand the vision and goals of a modern zoo, as well as become equipped with the skills to implement such goals (Hutchins and Smith, 2003). There were several negative observations and feedback from a handful of zoo staff members regarding how they felt about the development of staff members:

Some positions are assigned incorrectly which lead to a problem that workers are inefficient [*sic*]. They do not work according to the work objectives (*Employee from Khao Kheow Open Zoo, Thailand*).

Staff could be more engaged so that they understand their job is meaningful to help protect the environment with their own efforts (*Employee from Ocean Park, Hong Kong*).

..if management will give more training for staff...with well trained and oriented staff, Zoobic Safari will be the best place to learn...(*Employee from Zoobic Safari, The Philippines*).

As Mazur and Clark (2001) commented, “A zoo’s greatest strength is the dedication, concern and creativity of its staff at all organisational levels” (p. 105). This infers that the longer a staff member has been employed by the zoo, the less likely they are to be positive and eager to engage in the conservational activities of their zoo. This is supported by the statistical results from Malaysia in this research, which show that the longer the staff member was employed, the less positively they regarded the zoo. However, the inverse is true for staff with a higher education (Table 5.17). The lack of incentive and drive to work reported may be a reflection of a lack of motivation and strategies in place or simply insufficient development for educated staff members to be adequately challenged. As modern zoos are expected to increase their portfolios beyond captive animal management, it is important to value the contributions of staff members in this regard. None of the five Asian study zoos included the development of staff members in their respective organisation’s strategic plans and consequently, they appear to value their staff less than Auckland Zoo. Auckland Zoo has specific strategies that directly refers to their staff members (Auckland Zoo, 2014):

...we will be a responsible employer and an effective steward of our resources by:

- Investing in our people
- Caring for our visitors

6.5. ANIMAL MANAGEMENT STANDARDS

The most reputable zoological institutes are involved in one or many partnerships with other institutes and other approved breeding facilities for the exchange of animals. This fosters the preservation of species, reduces the need to procure animals from the wild, and encourages the conservation of endangered species. However, occasionally it is necessary to collect from the wild to maintain the genetic diversity of a particular species. The comparison of literature and research findings regarding the attributes for animal management is found in Table 6.5. The scope of animal husbandry protocols such as the behind-the-scenes practices of animals' diet, feeding technique and animal enrichment is extensive, and more focused on captive animal management studies, and therefore will not be covered in this research.

Table 6.5. Summary of literature and research findings: Animal management standards.

KEY CHARACTERISTICS: ANIMAL MANAGEMENT STANDARDS	
KEY FINDINGS FROM THE LITERATURE	KEY RESEARCH FINDINGS
<i>6.5.1 ETHICAL AND SUSTAINABLE PRACTICES</i>	
Most accredited zoos work collectively to coordinate captive breeding and exchange programmes. This reduces the need for disposing of surplus animals that result from unplanned breeding (Hutchins, 2003; Conway, 2003; Knowles, 2003).	All study zoos except the one in the Philippines are part of collaborative efforts with other accredited institutions for part of their animal collection.
Showcasing an animal collection that is partly procured from illegal and unsustainable harvesting would negatively affect the reputation of the zoo (Dickie, 2009; Lees and Wilcken, 2009)	Most, but not all, of the staff from the Asian study zoos indicated that the animal collections are from legal and sustainable sources ⁹ .

6.5.1 ETHICAL AND SUSTAINABLE PRACTICES

Responsible management of the animal collection as part of conservation efforts may be one of the most important challenges a zoo can undertake to 'walk-the-talk' as a conservation role model and leader for its visitors. Animal management standards may also include how the animals are exhibited and housed. This will be further elaborated on in the next section 6.6 (Infrastructure for animals). Zoos can advocate ethical practices through how they treat their animals. It is similar to the observations made by Chen (2004) and El-Kahal (2001), these conservative cultural values in the Asian region

⁹ Due to the sensitive nature of these results, specific names of zoos would not be revealed.

result in low individualism in the majority of the Asian study zoos. My experience is described in the following journal extract.

Over 100 small birds were purchased from a private breeder to fill an aviary for visitors to hand-feed as part of the zoo experience. The journey took several hours through heavily congested traffic. In the middle of this journey, staff members transporting the birds had to stop in for a meeting with management. The birds were left in cages with no access to food, water, or appropriate perches to rest in the heat of the vehicle with no ventilation. Over a third of the birds were dead upon arrival at the zoo site. When I asked a staff member about it, his response implied that these are cheap birds and easy to find (replaceable). It was difficult to not get angry at the situation and not to direct my anger at the staff member. But as far as he was concerned, he was to take care of whatever animals that were left alive and to generate a profit for the zoo by promoting the bird feeding experience or he might lose his job. As far as this person was concerned, the birds that died were someone else's responsibility. I found out later that the staff members in the vehicle were not animal keepers, so they did not feel that it was their responsibility either.

Figure 6.5. An experience I encountered regarding ethical and sustainable practices of animal management when travelling in Southeast Asia.

As in my excerpt above, the definition of animal welfare may be perceived differently; staff members did not rectify an undesirable situation as they may have felt that it was not their place to do so. This attitude may reflect how strong the hierarchy is in this particular Asian zoo.

For zoos to distinguish themselves from roadside circus acts, the means by which they obtain and sustain the animal population are under constant scrutiny. As most of the animals being show-cased in this region are found in the Asian region, I found that zoos here need to work towards showcasing these animals proudly and avoid treating them as commodities. This practice would inadvertently strengthen regional standards and therefore draw a distinction between professionally managed zoos and roadside animal attractions (Hutchins, 2003), a common sight in the Southeast Asia region (Figure 6.6).



Figure 6.6 Photo-taking opportunities with endangered species such as leopards and Asian elephants found on roadsides in popular tourist areas in Thailand (O'Connor and Reyes, 2011).

Not all staff members from the Asian study zoos were confident that animals in the zoo collection were obtained ethically, but no one was willing to openly elaborate on this topic as doing so could have jeopardised their employment. This was not a major concern in New Zealand, as the legislations and level of transparency appeared to exceed those in many of the Asian study countries. Many simply did not feel that it was their place to question the practices. Promoting illegal and unsustainable animal collection will hinder the positive impressions expected from zoos, but in some cases, neither visitors nor general staff members know how to approach the subject. The definition and perception of animal breeding and ethics is simply different from how I understand it. The following quotes are from responses from the staff questionnaires:

We have breed [sic] so many animals this year. Many of them are endangered species! That's conservation (*Employee from Zoobic Safari, The Philippines*).

The animals get food, water and a place to sleep. That's a good life! I have to work or I don't have money to buy food for my family (*Employee from Khao Kheow Open Zoo, Thailand*).

It is difficult to suggest that providing the basics for animals is not the same as practicing good animal management when many staff members have other issues that take precedence, such as job security. This is especially true for staff members without a higher education or without specialised qualifications in zoology or conservation.

6.6. INFRASTRUCTURE FOR ANIMALS

This section focuses on the physical aspects of the zoo, in particular animal exhibits that would improve animal welfare and visitors' engagement. A modern zoo can be described as aesthetically beautiful, with many amenities made available to visitors. Animal exhibits/enclosures would be seen as lush and spacious. The relationships between all the key characteristics in this chapter are complex and dynamic. Many of these overlap and therefore complicated to discuss in a sterile fashion. This section focuses on the physical aspects of the zoo, in particular animal exhibits that would improve visitors' engagement. Infrastructure for animals is an important aspect of a modern zoo and related key findings from the literature and research findings are presented in Table 6.6, comparing the attributes to provide naturalistic animal exhibits and satisfying visitor amenities. Examples of some exhibits and holding pens encountered during this research will be compared and discussed in this section.

Table 6.6. Summary of literature and research findings: Infrastructure for animals.

KEY CHARACTERISTIC: INFRASTRUCTURE FOR ANIMALS	
KEY FINDINGS FROM THE LITERATURE	KEY RESEARCH FINDINGS
<i>6.6.1 NATURALISTIC ANIMAL EXHIBITS</i>	
There have been improvements in exhibit designs that cater to the behavioural and psychological needs of the animals in accredited and professionally operated zoos (Grazian, 2012; Hutchins, 2003; Seidensticker and Doherty, 1996).	I observed that most animals are housed in naturalistic enclosures. However, a few enclosures in the Philippines study zoo do not cater for the physical and psychological welfare of the animals.

6.6.1 NATURALISTIC ANIMAL EXHIBITS

Zoos are constantly challenged to design animal exhibits/enclosures that resemble the enclosed animals' natural environment as well as ensuring the exhibit caters to the behavioural and psychological needs of the animals (Grazian, 2012; Hutchins, 2003; Seidensticker and Doherty, 1996; Shettel-Neuber, 1988). Part of this challenge is to ensure that this enclosure also provides a good viewing and educational platform that engages visitors with the animals and the information displayed (Shettel-Neuber, 1988). Whether the exhibit is meant for public viewing or behind the scenes, the conditions in which the animals are kept should be ethically appropriate, and provide social and physical space and furnishing to enable animals to express natural behaviours

(Anderson et al., 2003; Fernandez et al., 2009; Hanson, 2002; Manubay et al., 2002; Shettel-Neuber, 1988).

Animal rights activists have long rallied against cages that confine animals in unacceptable conditions. A small number of enclosures encountered during this research were not suitable for animals. For example, failures in the animal management process were discovered to be the primary reason for excess animals in the collection. As previously discussed, surplus animals are commonly the result of unplanned breeding. Zoos have a limited capacity to house animals and it is the zoo managers' responsibility to ensure that a suitable collection plan is made based on their available resources. In a situation where there is insufficient space, it is still essential for the animals to be kept in appropriate environments and not left in unsuitable cages (Figure 6.7).



Figure 6.7. Permanent housing conditions for surplus and non-display animals that are hidden from the view of the public.

Most of the public exhibits in this research were found to be naturalistic. However, some did not have the appropriate furnishing for the particular species. Providing a naturalistic exhibit does not necessarily mean the exhibit is appropriate for the enclosed animals (Figure 6.8). The exhibit on the left of Figure 6.8 has a strong water feature that is appropriate, as Asian small clawed otters live in freshwater wetland systems (Koepfli and Wayne, 2003). However, the small still-water pond featured in the right exhibit will not adequately allow these animals to express their natural behaviours such as diving.



Figure 6.8. Asian small-clawed otter exhibits at two zoos. Both may be considered natural but only the exhibit on the left is suitable for the animal. Exhibition on the left allows the otters to express natural behaviours such as diving as it contains a deep body of water, whereas the exhibit on the right does not.

Many staff members in three Asian study zoos (Malaysia, the Philippines and Thailand) mentioned that many animals are placed in the exhibits as an after-thought, and that exhibits are not purpose built for a specific species. For example, differences in how staff members perceive the suitability of an exhibit for an animal may stem from their perceptions of animal welfare and/or sense of responsibility. In the excerpt presented in Figure 6.5, the staff member did not feel that it was his responsibility to make changes to the situation that could have saved the lives of those small birds. By doing so, he may step on someone's 'toes', and potentially creating conflict in the work environment. This prioritises workplace harmony over animal welfare. The design of the exhibits/enclosures are not only important for meeting the needs of the animals, but to engage visitors to easily view and learn more about the animals show-cased. For example in Figure 6.9, animals that live in the canopy of trees do not usually walk on the ground and they move by swinging from one tree to another.



Figure 6.9. Viewing platform in the Singapore Zoo's Treetops Trail, where visitors look for siamangs in the canopies of trees (A siamang is an arboreal species of ape).

6.7. RESEARCH PROGRAMMES

Involvement in research is one of the widely accepted roles and functions of a modern zoo. Wildlife research in zoos has broadened its field to encompass socio-economic research (Ryder and Feistner, 1995). My research findings are consistent with the literature, which highlights the importance of engaging general staff members to promote and foster similar goals and further commit to the zoos' obligations as a conservation, research, and education facility. The related key findings from the literature and research findings for this section are presented in Table 6.7.

Table 6.7. Summary of literature and research findings: Research programmes.

KEY CHARACTERISTIC: RESEARCH PROGRAMMES

KEY FINDINGS FROM THE LITERATURE	KEY RESEARCH FINDINGS
<i>SUPPORT RESEARCH</i>	
Typically, zoo-based researchers focus on wildlife, habitat, and captive animal management and exclude socio-economic research (Fernandez and Timberlake, 2008; Hutchins and Smith, 2003; Mason, 2000; Rabb and Saunders, 2005; Ryder and Feistner, 1995). The latter is becoming increasingly important as a contribution to sustainable management strategies. Zoos, as tourist attractions, appear to be remarkably under-researched Mason (2000).	Despite all participating zoos welcoming this research, the consensus is that many staff members did not value traditional wildlife-based studies. All study zoos contributed towards <i>in situ</i> ¹⁰ and/or <i>ex situ</i> wildlife-based research.
<i>PROMOTE GUIDELINES AND PROTOCOLS FOR RESEARCHERS</i>	
Without formal research programmes that encourage visiting scientists, zoos are not considered ‘world-class’. Increasingly, zoos are formalising their research portfolios by aligning them with the rigour of scientific research programmes (Hutchins and Smith, 2003).	
Zoological Parks of New South Wales, Australia developed performance indicators aimed at measuring the effectiveness of their zoo’s contribution to original research and dissemination of knowledge (Bartos and Kelly, 1998).	External scientists (zoo associates) reported that developing a relationship with the zoos is relatively easy.

6.7.1 SUPPORT RESEARCH

Research is considered as one of the zoos’ four core functions. Many theorists in this area argue that it is important that zoos continue to improve and expand their research portfolio (for example, Anderson, Maple, and Bloomsmit, 2010; Beri, Tranent, and Abelson, 2010; Fraser and Sickler, 2009; World Association of Zoo and Aquariums, 2005; Zimmermann et al., 2007). Zimmerman et al (2007) commented that ever-decreasing wildlife resources augmented zoos as a cultural and scientific amenity. This research found that most of the study zoos are involved in *in situ* wildlife research. For example, Taman Safari in Indonesia is actively involved in the conservation programme for Sumatran and Javan rhinoceroses and Zoo Negara in Malaysia is actively breeding and releasing Milk Storks (*Mycteria cinerea*). However, there was scant research on Asian zoos in the social sciences and education literature. These fields are well-placed to research the socioeconomic status of people and thus to establish how to better

¹⁰ *in situ* conservation refers to conservation efforts focused on the natural habitat or original place. *ex situ* conservation refers to conservation efforts focused outside the natural habitat or original place.

develop strategies that may positively influence society in their respective sector. For example, understanding how the socioeconomic status of a local community can be affected by tourism. As discussed in this chapter, differences in perception of each country have an impact on many of the key characteristics of zoos, and research is no exception to this.

The majority of the research conducted in zoos are conducted in North America, Europe or Australia with limited representations from South America, Africa and Asia (Hosey, Melfi, and Pankhurst, 2013; Magle, Hunt, Vernon, and Crooks, 2012). Figure 6.10 depicts that the current types and focus of research as reported by the World Association of Zoos and Aquaria (2005) surround wildlife biology, captive animal management, ecology, and conservation biology. Although, the social science research of visitor studies is becoming more common, Zimmerman et al. (2007) suggest that zoos should revisit their research priorities and update their portfolio to include more sociological research. This topic, including conservation objectives, is paramount to establishing how well zoos are doing to impact wildlife conservation as an industry. One example of a zoo that conducts programmes such as the Bushmeat Research Programme is the London Zoo. This programme is interdisciplinary, taking into account the food security and livelihoods of people who use bushmeat (ZSL Institute of Zoology, n.d.). These community-engagement research projects have proved to be invaluable as they improve the long-term sustainability of resources and ultimately fight extinction.

Topic	Anatomy and morphology	Bio-geography	Ecology	Education	Ethology	Genetics	Nutrition	Physiology	Population biology	Social science	Systematics and taxonomy	Veterinary medicine
Ageing	X		X		X	X	X	X	X			X
Animal welfare	X		X		X		X	X				X
Behaviour			X		X	X	X	X				X
Biomaterial banking		X				X			X		X	X
Biotechnology	X					X	X	X				X
Contraception	X				X			X				X
Dietary studies	X		X		X	X	X	X	X		X	X
Disease	X	X	X		X	X	X	X				X
Domestication	X		X		X	X	X	X	X			
Environmental enrichment	X		X		X		X	X				
Husbandry	X		X		X	X	X	X	X			X
Identification	X				X	X		X			X	
Life history	X	X	X		X	X	X	X	X			X
Population management		X	X		X	X		X	X		X	X
Reproduction	X		X		X	X	X	X	X			X
Taxonomy	X	X			X	X		X			X	
Visitor studies				X	X					X		

Figure 6.10. Current range of research disciplines in zoos (World Association of Zoo and Aquariums, 2005).

Zoos in the Asia-Pacific region, like any others, will need to effectively engage the people in their society (staff members, corporate sponsors and visitors) and encourage them to foster similar values. The relationship between the research, education, and conservation roles of zoos are complex and relational. Future programmes should consider these factors. In general, all zoos, in particular the Asian zoos from this research, will need to understand their target audiences and establish how they can connect with them. Relying on a Western framework may not be as effective for their context, rather should conduct research, suited to local specific cultural and societal requirements. In addition, zoo management are encouraged to promote non-scientific research topics (For example, social topics that explore staff member's perceptions, and community involvement in a particular conservation effort) to the general zoo staff to encourage them to value these disciplines, as staff members serve as core mediums to achieve the goals of the zoo.

Hutchins and Smith (2003) recommended that *world-class* zoo research would integrate all aspects of the zoo business into their research and use quantitative methods to evaluate the effectiveness of their marketing programmes. This recommendation reflects how qualitative methods may be currently under-utilized in zoo research. Thus, Zimmerman et al. (2007) suggests combining research using an adaptive management framework that integrates different disciplines' research for improved performance. It is important to consider the cultural differences within the organisation and society when

planning a management plan for research and development. This framework employs flexible strategies and management plans to adapt to newly attained results. These new results could be collected by reviewing information from more than one source. For example, if there is a wildlife rehabilitation programme being instituted near a community, zoos should consider surveying the community's perceptions of the project and assess how this programme may affect them. The community may be surveyed over a given period and the strategies for the rehabilitation programme may be adjusted to accommodate the community's perceptions.

A clear example of this application is the Zoo Biodiversity Action Plan for conserving native wildlife in and around zoological gardens (Hambly and Marshall, 2014). The following figure depicts the continuous process of how an adaptive management framework may be applied. This framework includes consulting stakeholders as part of their knowledge assessment and includes annual assessment surveys that also include stakeholder engagement.

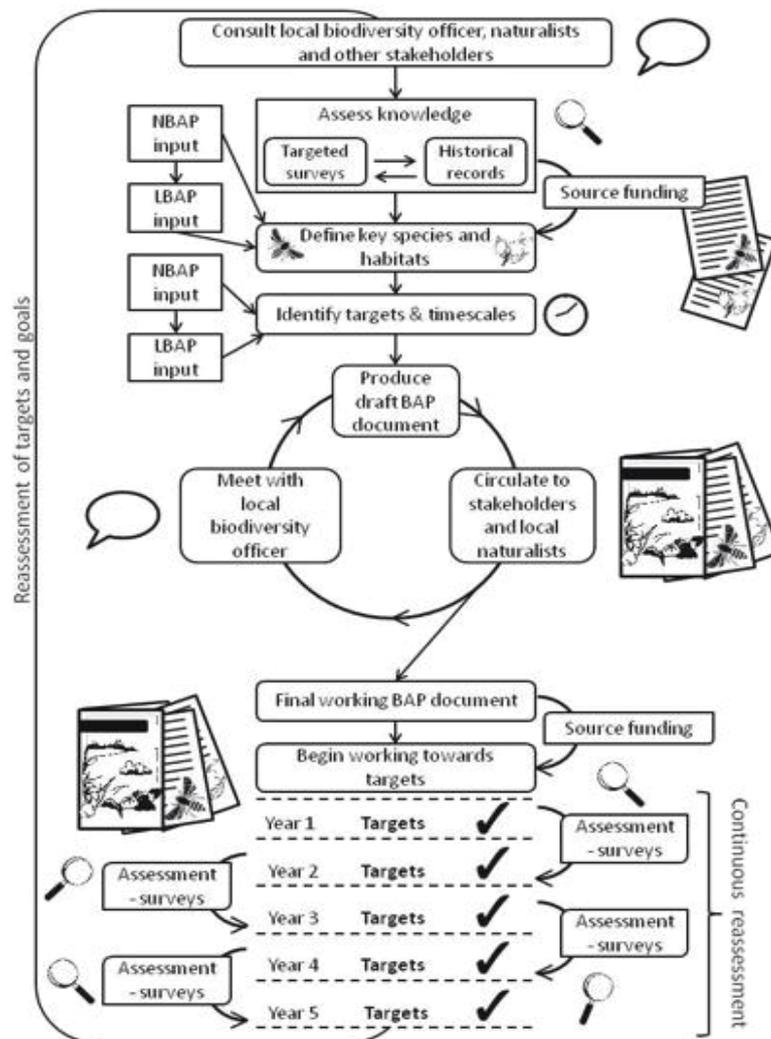


Figure 6.11. An example of applied adaptive management framework with recommended steps for creating and evaluating a five year Zoo Biodiversity Action Plan (Hambly and Marshall, 2014, p. 3).

6.7.2 PROMOTE GUIDELINES AND PROTOCOLS FOR RESEARCHERS

Formal research programmes are important for zoos to evaluate research proposals and develop protocols for visiting researchers (Hutchins and Smith, 2003). These programmes are encouraged to include the zoo's mission statement as a guideline for all potential researchers, setting the tone and direction that zoo management wants to proceed. Establishing clear guidelines and protocols may also indicate that zoos have considered and prioritised research topics into their goals, cementing their commitment to research and establishing partnerships with external researchers. This study revealed positive feedback regarding the application process for their research (Table 5.20).

In addition to this, it is important to note that survey questions regarding mutual feedback between zoo associates and the zoos, and communication matters did not score

as positively when compared to all other aspects of the surveys for all zoos (See Qs 17, 18, 20 and 21 in Table 5.20). Other feedback from the survey also indicated that zoos could improve on being more open in communication with staff and to use knowledge gained to further develop staff. As previously discussed in 6.4.3, it is important to foster on-going development for staff members. Well-established guidelines, that include zoos' mission statements, will give staff members clear directives and allow them to better engage researchers. In addition, this would be an ideal opportunity to develop staff members with lower educational levels and encourage them to contribute in non-academic ways such as the practical aspects of data collection.

6.8. COMMERCIAL VIABILITY

Zoological institutes rely heavily on door sales to sustain the businesses. As the cost of conservation and research is high, it is paramount that zoos adopt strategies to reduce financial pressure. Table 6.8 presents the summary from the literature and research findings on the two different aspects of the commercial viability of zoos: (1) maintaining financial, economic, and social sustainability: and (2) encouraging mutually beneficial partnerships. This section will discuss how and why these two aspects are important characteristics of a modern zoo, as determined from the literature and the results from this research.

Table 6.8. Summary of literature and research findings: Commercial viability.

KEY CHARACTERISTIC: COMMERCIAL VIABILITY

KEY FINDINGS FROM THE LITERATURE	KEY RESEARCH FINDINGS
<i>FINANCIAL, ECONOMIC AND SOCIAL SUSTAINABILITY</i>	
Without adopting business-like operations such as innovative marketing strategies, zoos would struggle to maintain and attract new financial donors to fund their core goals of quality animal care, conservation science and education (Freiheit, 1998; Hutchins and Ballentine, 2001; Beattie, 1994 in Hutchins and Smith, 2003).	Despite the financial advantages of establishing corporate relationships with external organisations, not all zoos are open to such partnerships.
In a survey of 200 wealthy donors to accredited zoos in North America, only one in five thought that the recipient institutions managed their resources in a business-like fashion (Hutchins and Smith, 2003).	For zoos that have corporate sponsors, most provided positive feedback regarding their relationships with the zoo.
<i>MUTUALLY BENEFICIAL PARTNERSHIPS</i>	
It is important to establish the motivations and expectations of current and potential corporate sponsors to ensure financial sustainability (Agle, Mitchell, and Sonnenfeld, 1999; Baughn and McIntosh, 2007; Beggs, 2004).	All the corporate sponsors surveyed are not open about their motivations for sponsorships.

6.8.1 FINANCIAL, ECONOMIC AND SOCIAL SUSTAINABILITY

There is mounting pressure on zoos to increase support for *in situ* conservation through public education, scientific research, professional training and direct support of protected areas (Balmford, Leader-Williams, and Green, 1995; Conway, 1995a,b in Hutchin, 2003). Highlighting conservation efforts are approaches that zoos employ as a strategy to remain accepted by addressing what they perceive as the demands of society. Such efforts range from increasing the captive population of endangered species to working in partnership with external organisations on research topics surrounding conservation and most commonly, acting as ambassadors for environmental issues. All these efforts require a considerable amount of monetary and in-kind resources. As the cost of conservation and research is high, it is paramount that zoos adopt strategies to reduce the financial pressure.

Although revenue generation is an important factor for management, consideration must be given to the ease of access for all socio-economic and demographic groups (Been, Visscher, and Goudriaan, 2002; Lampi and Orth, 2009). Despite previous studies regarding visitors' expectations, few have reported on the 'dollar-for-value' aspect of

the experience. Two Asian study zoos (Malaysia and Indonesia) had different pricing schemes for local residents (or local citizens of the country) and foreign visitors. Proof of residency is usually required before discounted fees are granted. Interestingly, almost half (49.62%) of the overseas respondents agreed or strongly agreed that local visitors should be entitled to discounted fees.

As most tourists expect and tend to have paid high travelling costs, they may perceive the value of the entrance fee differently from a local visitor and thus may be more accepting of an entry charge (Armstrong, 2009). Consumers are generally happy for selected groups such as the elderly, disabled and/or students to enjoy a discount (Armstrong, 2009). The other study zoos have no special pricing schemes for foreign visitors but do have discounted rates for students, senior citizens, family groups and/or birthday specials. Been et al. (2009) mentioned that regular visitors are more likely to continue visiting sites, irrespective of the entrance fees charged. However, this may not be true for communities that are not financially or economically strong.

6.8.2 MUTUALLY BENEFICIAL PARTNERSHIPS

Zoo income from visitors is seasonal and mostly influenced by the weather as most zoos have exhibits that are outdoors (Rees, 2011). It is therefore important for zoos to generate income from a wide range of sources. As previously discussed in section 6.8.1, all zoos are under financial pressure to successfully pursue their functions of education, research, and conservation. Many zoos have established partnerships with commercial vendors that fund exhibits, buildings, events, etc. These commercial vendors are also known as corporate sponsors. In order to successfully attract and retain such partnerships, it is important to identify the reasons that corporate sponsors may have for donating money (Agle et al., 1999; Baughn and McIntosh, 2007; Beggs, 2004).

In this research, corporate sponsors identified the following motivating factors: (1) to be seen as a good corporate citizen; and (2) to educate the public about their services and products. Generally, these factors for sponsoring zoos are similar to those described in section 3.4.3: namely, awareness and image building of the corporate brand. In addition, this study identified certain characteristics that corporate sponsors looked for in their sponsored organisation. These characteristics include a similar working culture, values, and customers. Additionally, respondents mentioned that zoos should be credible, and true to the cause that they are advocating. This supports findings from the literature that

organisations with a strong sense of responsibility towards nature and the ecosystem may be keen to contribute resources for the development of the zoo (Bonal et al., 2012).

There are a few studies regarding corporate sponsors of zoos, particularly in the Asia-Pacific region. To address this gap, this study explored how satisfied current sponsors are and what other areas zoos could focus on to improve their relationship and attract new sponsors. Surveyed sponsors were generally satisfied with their current partnership with the zoo and indicated several expectations they have of the zoo as presented in the Results chapter.

As a collective group of stakeholders, they are not overtly keen to reveal their reasons for sponsoring the zoos. However, based on the results, it appears that motivation factors for corporate sponsorship in Western societies are similar to those in this research. Further studies will have to be undertaken to specifically focus on this important group of stakeholders in order to better understand how zoos in this region can attract more sponsors for stronger financial sustainability.

Another important partnership that is frequently overlooked is the one between zoos and national and local tourism agencies. As previously mentioned in section 6.2.3, visitors are increasingly using the Internet to plan their holidays. Using as an example of Thailand, there are several negative reviews found on websites such as tripadvisor® regarding poor animal welfare and management practices for several wildlife facilities. The common consensus is that most zoos in Thailand are exploiting animals for profit and not contributing to conservation despite using conservation and education as a marketing tool. Visitors have expressed their disappointment online and these negative comments are to the detriment of zoos such as Khao Kheow Open Zoo, where they do have genuine partnerships such as the one for the clouded leopards. In addition, there is a lack of presence in the local tourists flyers for Khao Kheow Open Zoo that are frequently distributed in the region as compared to the other wildlife facilities. There is no existing framework that national and local tourism agencies may use to advertise and differentiate between the good and bad zoos in many countries in the Asia-Pacific region. Perpetuating this practice will further compound the misrepresentation of good zoos in this region.

6.9. CONCLUSION

This aim of this chapter was to discuss the differences in values and attitudes of stakeholders in the Asia-Pacific region by highlighting the responses from the zoo surveys in this research. This chapter emphasized the importance of acknowledging the diversity of stakeholder perceptions, expectations, and attitudes. It addresses how these differences impact the understanding of the roles and function of zoos in the region by integrating qualitative data, gathered from combination of observations and work experiences, with the primary data that was presented in the previous chapter.

The seven key characteristics of a modern zoo as perceived by stakeholders in this research are namely; (1) visitor engagement; (2) contribution to national and international conservation of species and habitat; (3) staff engagement; (4) animal management standards; (5) infrastructure for animals; (6) research programme; and (5) commercial viability. Although these characteristics and attributes are similar to those reported in the literature, the manner in which they are prioritized, implemented, and perceived differ. In this regard, the next chapter provides high level conclusions regarding the implications of this research for the zoo industry and conservation efforts, as well as recommendations and considerations that zoos should consider when planning future strategies.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

The Asia-Pacific region is home to over three billion people and is a diverse region where culture, the socio-political landscape, and governance differ widely. However, they all face the challenges that come with global warming and climate change. Given the current trends, it may be no exaggeration to say that if we were able to look back in 100 years from now, we would be witnesses to a calamitous collapse of biodiversity and wondering why we did not do more to protect wildlife and their habitats (Hancocks, 2012). Despite this, the living conditions of animals in many zoos have not changed greatly and we still witness the stereotypic pacing of nondomestic creatures that are confined to their enclosures. Hatchwell et al., (2007, p. 354) suggested that the zoo community must come together if they want the public to view each zoo as a vehicle for conservation – one international zoo community, one agenda.

The advent of the Anthropocene accentuates the transformation of ecosystems on a global scale (Myers et al., 2013). This study responds to these concerns by assessing the role and function of 21st century zoos in general and the Asia-Pacific zoos in particular. The data were drawn from the literature, survey responses, a research diary of field observations, and personal work experiences in the sector and have led to the identification of a number of characteristics that can be grouped under two key research categories and these are presented into Table 7.1 namely, broad global challenges and regional and local challenges. The latter comprises of animal welfare and ethics, zoo visitors, zoos operations and maintenance, and research and technology. The table also includes recommendations that are offered in response to the research findings.

Generally, the relative collaborations, consistency, and level of participation that exist amongst Western zoos would be extremely difficult to replicate in the Asia-Pacific zoos. The results showed that there are many statistically significant differences amongst the Asia-Pacific zoos practices, visitor satisfaction, and stakeholder participation. These differences will make it extremely difficult to coordinate activities at a regional level and to give them a single voice that would enable them to be a part of one international zoo community with a single agenda. However, these differences reflect the cultural norms and mores, which need to be celebrated and integrated into future development strategies.

Table 7.1. Key research findings and recommendations for the Asia-Pacific zoos.

KEY RESEARCH CATEGORIES	KEY RESEARCH FINDINGS	RECOMMENDATIONS
BROAD GLOBAL CHALLENGES	<p>One international zoo community with one agenda with one voice</p>	<p>Wealthier conservation-committed zoos need to pair with their counterparts in developing countries to unite their efforts for more direct wildlife conservation that considers the diversity in the respective countries.</p>
<p>Due to the global challenges set out above, there is a growing call for a unified response by zoos to respond collectively to global challenges. Any success of coming together needs to recognise the diversity of cultural norms and values.</p> <p>Zoo visitors in the wealthier countries contribute directly towards conservation projects through donations and are challenged to consider their personal impact on the environment. Zoo visitors in developing countries generally have less disposable income, but are challenged to contribute in non-pecuniary ways towards local initiatives to save species.</p> <p>The challenge for most zoos is that, even as they participate in conservation, education, and science projects, they cannot lose focus of the need to attract visitors whose entrance fees form the bedrock of zoos. This is becoming increasingly challenging as the entertainment industry competes for the same dollar. The need to serve two masters can be an Achilles heel to endeavours to change the brand or direction of a zoo with conservation and research ambitions.</p>	<p>Zoos need to regularly revisit and align their goals and objectives with sustainable conservation efforts. Additionally, zoos should consider proactively establishing relationships with tourism agencies to promote their conservation efforts as a marketing tool to attract visitors.</p>	
<p>Generally, cooperation between national and local tourism agencies and zoos in the Asia-Pacific region is poor. Misrepresentation and poor communication amongst the Asia-Pacific zoos confuse the public and harm the image of zoos in the region. The tourism industry comes under fire from zoo visitors in some countries as they bear the brunt of frustrated zoo visitors. Visitors buy admission tickets expecting to be exposed to genuine conservation experience but, all too frequently, they are simply buying a ticket to view poorly managed animals that are exploited to maximize profits. The losers here are the animals, visitors, the reputation of the country and zoos doing a good job.</p>	<p>Generally, cooperation between national and local tourism agencies and zoos in the Asia-Pacific region is poor. Misrepresentation and poor communication amongst the Asia-Pacific zoos confuse the public and harm the image of zoos in the region. The tourism industry comes under fire from zoo visitors in some countries as they bear the brunt of frustrated zoo visitors. Visitors buy admission tickets expecting to be exposed to genuine conservation experience but, all too frequently, they are simply buying a ticket to view poorly managed animals that are exploited to maximize profits. The losers here are the animals, visitors, the reputation of the country and zoos doing a good job.</p>	

Many zoos do not promote ethically sourced products in their retail gift stores. Zoos, attract some 600 million visitors annually in both developing and developed countries and have the potential to both educate the general public about wildlife conservation issues and act as platforms to promote behavioural change on a massive scale. However, the superordinate role or mission of zoos is not agreed upon, let alone factored into concrete actions on a global scale.

Zoos should consider using their retail products as another opportunity to promote environmentally friendly practices such as supporting fair trade and sustainable products.

REGIONAL AND LOCAL CHALLENGES

ZOO OPERATIONS AND MAINTENANCE

Generally, zoo professionals need better training in order to align their responsibilities to the zoos' expectations

Zoo professionals are in a unique position to play a supportive role in wildlife conservation through public interactions.

Regardless of which department they work in, zoo staff members require a common conservation vision that aligns with the zoo's conservation goals.

Generally, zoo employees are uninspired and lack of passion for conservation, and as a result, they present a poor image of the zoo. There is a lack of reported information regarding the motivation and expectations of zoo staff members.

There is low level of engagement between senior and majority of zoo staff.

General zoo staff members are dependent upon senior staff for all decision-making.

In order to become a role model for the wider zoo and local community, zoo managers need a committed team that actively contributes to a common goal through individual expertise and personal actions.

Conduct regular survey of staff members to track satisfaction, motivations, and expectations to develop tools to incite passion and inspiration for conservation.

Using the information from staff surveys to develop tools and implement programmes to improve capacity among staff members.

KEY RESEARCH CATEGORIES

KEY RESEARCH FINDINGS

RECOMMENDATIONS

Non-accountability in zoo management impact upon the welfare of zoos and their wider conservation initiatives

Non-accountability for decisions made by senior management can lead to the institutionalisation of poor management practices.
The lack of transparency is a national issue in most of the Asia-Pacific countries and appears to permeate zoos management.

An external watchdog should be considered to monitor the exchange and purchases of animals.

Questions have been raised concerning the legality of animal exchanges and purchases.

Apart from the legal issues, non-accountability and lack of transparency have downstream ramifications for animal welfare; the conservation of animals and habitats at source and; the status and reputation of offending zoos in the local and international community.

Zoo policies and legislation

Zoo policies and legislation needs to be reviewed regularly to keep instep with the changing global concerns. Zoo plans and practices are non transparent and are frequently not available to the public. This allows unaccountability to go unchecked.

Allow public access to policies for better transparency in their management of the zoo, particularly animal and financial matters.

Currently, zoos do not appear to be a major stakeholder at influencing national policies and legislations regarding wildlife conservation.

ANIMAL WELFARE AND ETHICS

Animal welfare standards vary widely

While an exceptional modern zoo prioritises animal welfare, zoos in the Asia-Pacific appear to have a different perception of what animal welfare entails.

Engage and educate staff members on the minimum scientifically acceptable interpretation of suitable animal welfare requirements.

The way in which animal welfare is understood and practiced is highly variable.

Zoo infrastructure needs to be fit for

Current animal exhibits compromise animal welfare, as visitor needs appear to

Design all exhibits based on the minimum animal

purpose

outweigh animal needs.

Enclosures in most zoos appear to be too small to support sustainable populations of many of the larger animals.

welfare principles that accommodate the physiological and physical needs of the animals, and consider the usage of other stakeholders to inform the design of animal exhibits and visitor amenities.

Animal collection planning that benefits international and national zoo communities

International and national zoo communities benefit from animal collection planning from individual zoos.

Zoos need to evolve their collection according to the scientific requirements of animal welfare and wildlife conservation.

Smaller and local species can better promote biodiversity awareness and promote more direct examples of interdependence and complexities between wildlife conservation and the challenges faced in developing nations.

ZOO VISITORS

Communication and engagement

Effective communication of conservation messages should reflect the diverse interpretation of human-environment relationships and culturally informed pedagogies.

Use of zoos' strengths to promote environmental advocacy through tangible actions to that visitors can adopt that directly affects conservation efforts.

There is strong competition for consumer dollars in the tourism industry. Some of the substitutes for entertainment include theme parks with rides, virtual reality programmes, etc. The zoos' strengths are authenticity (real animals, real people, real stories, real experiences), various levels of engagement (programmes and zoo graphic displays), and customisation (websites and social media).

Western zoos have had some success in educating the public with respect to their awareness or understanding of wildlife conservation issues as a result of their visits. The Asia-Pacific zoos have been less successful.

Very little visitor data are collected and little research is undertaken.

Conduct regular visitor surveys to track demographic changes and consumers' demands.

Zoo visitors should be intellectually and emotionally inspired by their visit to zoos. This is often not the case.

Develop more rigorous approach to inspiring zoo visitors to care about wildlife conservation.

KEY RESEARCH CATEGORIES**KEY RESEARCH FINDINGS****RECOMMENDATIONS**

Zoos are not paying close attention to the pedagogy of visitors. This is particularly true for local visitors in developing nations. Understanding these processes would help them engage and appreciate how wildlife conservation and their daily actions are interconnected.

Zoos should consider utilizing current pedagogical research that takes cultural differences in to consideration as well as recognizing and mitigating the conflicting requirements of animal, visitors and staff members when designing zoo graphics and not simply conforming or copying those reported in Western zoos.

RESEARCH AND TECHNOLOGY

Zoo conservation and research portfolio

Research briefs are generally narrow and do not reflect the complexities of the zoo-community-conservation milieu.

Zoos to expand their portfolio and skills by drawing upon the work of scientists with broader and more holistic view of the environment. Examples include environmental anthropology, geology, ecology, economics, pedagogy, environmental and natural resource management to provide a wider appreciation and clear direction for zoos' conservation and research efforts.

There is a lack of multidisciplinary approaches towards urgent conservation issues.

Evolution of technology

New technologies are evolving and are becoming increasingly accessible

Zoos need to consider exploring how their stakeholders are using technology and to design technological interfaces that specifically engage visitors in conservation education.

The advancement of technology is a key player of the future of zoos. There is diverse access and usage across of technology across zoo stakeholders.

Communication technology, in particular, has lead to improved and fast information sharing and engagement via social media.

Digital and virtual communications creates forums for people to engage before, during, and after a zoo visit.

7.1.1 BROAD GLOBAL ISSUES

The zoo community faces global challenges; the challenge for zoos to become a cohesive zoo community with one agenda that respond directly to these challenges. With the growing issues surrounding climate change, the depletion of wildlife and natural habitats is getting worse. As the population continues to grow, there are conflicting pressures on natural resources from the demand for food and water that hinders conservation efforts. Without the ability to manage and provide humans with their basic needs, we have little chance to resolve the conflict that is placed on the environment from these anthropogenic pressures. With limited amount of natural habitats left globally, the porosity of park borders endangers its inhabitants through unregulated consumption of wildlife. These exogenous factors are affecting upon the survival of zoos, as without wildlife, the purpose of zoos is moot. These issues need to be addressed, not only by scientists and governments, but also zoo leaders around the world.

Due to the global challenges, this is the time for zoos to collectively respond as a united front for conservation. Zoos attract some 600 million visitors annually in both developing and developed countries and have the potential to educate the general public about wildlife conservation issues and act as platforms to promote behavioural change on a massive scale, such as promoting ethically purchased products in their retail stores. However, the overall role or mission of zoos is not agreed upon, let alone factored into practical actions on a global scale. It is a constant effort for modern zoos to balance the need to attract visitors and stay true to their conservation and education values and goals. Zoos commonly attract local visitors; wealthier and technologically endowed zoos in developed countries have more opportunities to target their local visitors, for financial resources to go towards conservation funding. Whereas, visitors in developing countries may directly influence conservation at a community level, as these places are usually where many endangered animals are found. Thus, allowing potential partnerships between two different zoos, each have access to different types of resources, that would make a direct impact to conservation efforts.

For the global zoo community to collaborate effectively, it is important to partners with national and local tourism agencies. These agencies are the frontline for visitors and it is all too common, in developing countries, for visitors to frequently be promised that their entrance fees go towards conservation but are disappointed by the advertisements

and promotions from profit-driven zoos that do not allocate resources to genuine conservation efforts – the preservation of species is not equal to conservation of the species. This means that breeding many lions and tigers in zoos is not necessarily a conservation effort as their genetic diversity may not be valuable to ensure the long-term survival of the species.

In addition, an improved zoo reputation may attract more corporate sponsors. When it comes to the arrangements with the private sector businesses, their requirements of a business relationship are exposure of their product. Businesses would not want to be associated with a zoo that has a questionable reputation. Many Asia-Pacific zoos are confronted with the survival of their organisation so their planning arises from short-term goals. Partnerships with corporate businesses are important and contribute to long-term financial strategies that zoos would benefit.

7.1.2 REGIONAL AND LOCAL ISSUES

Zoo operation and maintenance

Generally speaking, zoo staff members are in a unique position to promote wildlife conservation and education through public interactions. Regardless of which department they work in, all zoo professionals require a common conservation vision that aligns with the zoo's conservation goals. Due to the lack of passion and commitment towards a singular vision, staff members poorly represent the zoo's genuine efforts in conservation and education. Along with poor engagement between senior and general staff, there is a dependence on senior staff members for all decisions and segregation among the employees. The barriers for such organisational culture impedes on achieving the conservation goals of the zoo. There is variation among zoos due to the difference in available resources. It is important to recognise that not all zoos in the Asia-Pacific are doing a poor job. Several zoos in this region are engaging their staff members and they are passionate about conservation. It appears that there is a sense of pride and ownership over their jobs and recognition; every position has a part to play in the zoo's overall goal of conservation and education.

For the employees to come together, strong leadership within management is very important. Non-accountability in most zoo management in the Asia-Pacific region has detrimental effects on zoos and their wider conservation initiatives. The lack of transparency in zoo management and policies appear to be an accept practice in many zoos. This raises questions about how the zoo is operated; where the money goes; and

importantly, how is the animal collection sustained? Perhaps the lack of transparency is the reason why staff and members of the public question the legality of animal transactions and this makes it difficult for external audits to be done on zoos. The downstream ramifications include tarnishing the zoo community's reputation and the efforts for conservation.

Animal welfare and ethics

Animal activists, the public, and zoos have been and still are debating the justification of the existence of zoos due to questionable animal welfare standards and the ethics of having animals in captivity, in particular, large animals. In general, animal welfare standards in the Asia-Pacific zoos are questionable, but part of this may be due to the different perceptions of what animal welfare entails. As discussed in section 6.5.1, there is diversity in how animal welfare is defined and perceived across the zoos. These differences affect how animal welfare is consequently understood and practiced. Current collaborations such as regional studbook keepers for specific species are important but the requirement for zoos to be part of this program is not incentivised sufficiently.

Currently, many animal exhibits in the Asia-Pacific zoos compromise animal welfare. Visitors expect to see the animals at the zoo and exhibit designers struggle to balance that expectation with the welfare needs of the animals. More often than none, visitors' needs outweigh what the animals' needs during the design stage. Furthermore, exhibit designers have the additional challenge of space restrictions that most zoos face. Most zoos do not have the physical space to sustain large populations of animals or even large animals.

The international and national zoo communities would benefit from better animal collection planning from individual zoos. Smaller and local species may be better at promoting biodiversity awareness and direct examples of the interdependence among species, more importantly, highlight the complexities between wildlife conservation and the challenges faced in developing nations. For example, instead of displaying an Asian elephant, zoos can display other Asian species such as small reptiles, invertebrates and small mammals found in the same ecosystem that are affected by threats to the loss of elephants from poaching and conflict between elephants and farmers.

Zoo visitors

Zoos face strong competition for consumer dollars in the tourism industry. Some of the substitutes for entertainment include theme parks with rides, virtual reality programmes, etc. The zoos' unique position in the tourism industry is that they provide experiences with real animals through different interfaces for engagement; authenticity is the strength of zoos. A large part of the entertainment is that zoos are expected to educate their visitors to the understanding of wildlife conservation issues. In general, Western zoos have had some success, whilst the Asia-Pacific zoos have been less successful.

Zoos visitors should be intellectually and emotionally inspired by their visit to zoos, taking what they have learnt and apply tangible actions in their personal lives to contribute directly to the wildlife conservation. This is often not the case. Research and data regarding the effectiveness of zoo visits, visitors' expectations and needs are seldom collected systematically for review. Zoos in this region often do not pay close attention to the pedagogy of visitors. This is particularly true for zoos in developing nations. Understanding these processes would help them engage and appreciate how wildlife conservation and their daily actions are interconnected. However, this does not imply that there are all zoos in this region have been unsuccessful. It does imply that having a few successful individual zoos is not enough to resolve the challenges that the region and the world are facing.

Research and technology

Proceeding into the future, current narrow zoo conservation and research portfolios require review. Research briefs need to be expanded to reflect the complexities of the zoo-community-conservation milieu, as there is a lack of multidisciplinary approaches towards urgent global, regional, and local conservation issues.

It is evident that the advancement of technology is a key player in the future of 21st century zoos. In this research, the access and usage technology across zoo visitors is diverse. Digital and virtual communications create forums for people to engage before, during, and after a zoo visit. Communication technology, in particular, has led to improved and fast information sharing and engagement via social media but these are under utilized in the Asia-Pacific region.

7.2. RECOMMENDATIONS

This section provides the recommendations from this research that respond to the topics previously discussed and listed in the same order: broad global challenges animal welfare and ethics, zoo visitors, zoos operations and maintenance, and research and technology. In order for zoos to have a unified worldwide voice for the environment, wealthier conservation-committed zoos need to consider establishing partnerships with their counterparts in developing countries with less financial resources to combine their efforts for more directed and sustainable conservation. Additionally, zoos need to proactively form partnerships with tourism agencies, using genuine conservation efforts as a marketing tool to attract visitors.

A united and committed team of employees, which actively contributed to a common goal through their individual expertise and personal actions, are pivotal for the zoo to become a role model for the wider zoo and local committee. In order to develop and instill passion for conservation and education, zoo management should consider exploring employees' motivations and expectations to create frameworks and tools to encourage employees to align their goals with those of the zoos. For zoos to be successful in the Asia-Pacific region, cultural identity and diversity need to be explored to understand how they can be incorporated to create a suitable environment for cohesive global collaboration efforts. Relying on the current western-bias literature may not always be suitable due to the differences in socioeconomic factors, management styles, attitudes and perceptions towards wildlife and conservation.. Barriers to the prevention of creating a cohesive zoo need to be identified so that diversity can be celebrated and used as strengths for reforming the zoo.

Non-accountability and the lack of transparency are complex and sensitive issues. What may be considered lack of transparency in some management may be perceived as privacy in others. However delicate these issues are, zoo leaders should not shy away from this dialogue. The entrenchment of such practices is detrimental to conservation efforts and partnerships, as stakeholders' confidence in programmes will be affected. An external watchdog, independent from zoos, may be considered as an option to monitor management practices such as animal exchanges, purchases and accountability of financial resources in conservation and education projects. Furthermore, zoo policies regarding such matters should be made available to the public, as it is their dollars, in part, influences the sustainability of these plans. These collaborations require the

support of governments to ensure the appropriate incentives are given for participating zoos, and the appropriate penalties are enforced for offending zoos.

In order to address the various perceptions and understanding of animal welfare standards, it is important that all zoo staff members are educated on the minimum acceptable interpretation of the requirements. Staff members need to be engaged with the reasons and consequences of poor animal welfare and ethic practices. To do so successfully, it is important to explore why and how current perceptions and understanding persist despite international pressure and coverage over this matter. An underlying reason may be that staff members face welfare issues from socio-economic uncertainties, particularly in developing countries. If human welfare cannot be protected, animals in these countries stand little chance to be championed by the people who are responsible for them.

Suitable animal exhibit designs are essential and part of practicing appropriate animal welfare standards. Referring back to Figure 3.1 on p. 47, the majority of zoos in the Asia-Pacific region lie between the 20th century and 21st century descriptions of the linear evolution of captive wildlife facilities. These minimum requirements should be drawn from scientific evidence and principles that accommodate the physiological and physical needs of the animals. However, it is important to consider the usage from other stakeholders to inform the design of animal exhibits and visitor amenities. Furthermore, zoos need to evolve their animal collection according to what is best for wildlife conservation efforts by not compromising animal welfare standards.

It is important for zoos to capitalise on their strengths, using the authenticity of the experience to promote environmental advocacy and providing tangible actions to visitors to adopt. These actions should directly impact upon conservation efforts locally and internationally. For zoos to be able to successfully influence their visitors to change their behavior, they first need to know who their visitors are by conducting regular surveys to track demographic changes and consumers' demands over time. In addition, zoos need to consider utilizing current pedagogical research that takes cultural differences in to consideration as well as recognizing and mitigating the conflicting requirements of animal, visitors and staff members when designing zoo graphics and programmes that inspire visitors to care about wildlife. It is important that zoos do not simply conforming or copying those reported in the literature, especially if they attract very different types of visitors.

For zoos to expand their current research to reflect the complexities of the zoo-community-conservation milieu, they need to broaden their research and conservation portfolio by taking on multidisciplinary approaches towards urgent global, regional, and local conservation issues. To do so effectively, zoos need to draw upon the work of scientists such as environmental anthropologists, ecologists, sociologists, natural resource managers, and experts in the field of pedagogy. These experts provide a wider appreciation and clear direction for zoos' conservation and research efforts. To keep in step with advancing technologies, zoos need to consider how their stakeholders are utilising technology. This would inform the design of interfaces that specifically engage visitors and other stakeholders in conservation education.

7.3. FUTURE RESEARCH

This research showed that there are significant differences in the manner in which zoo stakeholders in the Asia-Pacific operate and perceive the roles and functions of zoos. The lack of understanding of zoos in the Asia-Pacific has consequently led to a common misunderstanding that they should simply track what has been recommended in the literature. However, the differences that stem from environmental, social, and cultural norms are seldom considered. The ramifications of this have led to conservation efforts that are rarely united and usually short-term. There are four areas of future research recommended to bridge these differences for a unified zoo community. The knowledge from these four areas will advise prospective strategies for improved global partnerships.

- Every country, zoo, and community face different barriers for effective conservation and education efforts. This is true at local, regional, and international levels. Research is needed to identify these barriers so they can be mitigated for zoos to become a united front for conservation and education efforts.
- Globally, the ignorance and indifference of the plight of wildlife issues are reflected in the legal systems in many countries. Despite the severity of the earth's precarious state, the penalties for damaging wildlife and habitats are contradictory to how we value them. Further research needs to develop frameworks and strategies that mitigate the contrast between the diversity of how wildlife is valued and the deterrence required.

- The shortage of wildlife and habitats is an issue that recognises no international borders. The response for these challenges falls on the shoulders of world leaders. Some countries and zoos have wildlife resources but not the financial resources to save them, while some wealthier countries and zoos have the reverse. It is in the global zoo community's interest that a model and framework of mutually successful partnerships be developed and replicated for a cohesive effort in conservation.
- There is a lack of integrated expertise among zoo employees. Further research is required to explore how with multidisciplinary backgrounds of employees and scientists may collaborate toward a shared goal. In some zoos, there is a need to include experts in anthropology and sociology while others may require an educationalists or natural resource managers. Therefore, it is important that there are concentrated effort in identifying the various expertise needed for zoos, particularly in developing countries, to account for the diverse environmental, societal and cultural norms that may be potential barriers to, or platforms for, successful conservation efforts.

7.4. CONCLUSION

The aim of this research was to examine the role and functions of zoos in the Asia-Pacific region and analyse their value to society and wildlife in the 21st century in order to inform future development strategies. The ability to quantify and survey the value and importance of zoos provides an enhanced understanding of customers' and other stakeholders' demands as well as allowing the zoo to adjust its strategy to optimise directed efforts in wildlife and habitat conservation. The observations gathered during the fieldwork as well as first-hand experience from working at several zoos, provided valuable information to contextualise statistical results. This research highlighted the importance of recognising and moderating the differences in education background, cultural and societal norms within the Asia-Pacific region for a cohesive international zoo community. It is important that any future research regarding the roles and function of zoos need to incorporate the diversity that extends beyond the zoo and inform how competing demands of stakeholders could provide insights to improve zoos' potential for effective conservation and education.

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APPENDIX A: MATRIX FRAMEWORK FOR THE META-ANALYSIS OF LITERATURE THAT INFORMED THE SURVEY INSTRUMENTS FOR THIS RESEARCH.

Reference from literature	Key observations that informed my study	Page no.	Stakeholder questions for the survey instrument, informed by the literature review	Stakeholder type	Survey instrument themes
Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.	There is a great inequality between the rich and the poor; people depend on the natural environment economically and culturally;	59	The entrance fee for an adult is reasonable	Visitor	Evaluation of zoo
Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.	There is a great inequality between the rich and the poor; people depend on the natural environment economically and culturally;	59	The entrance fee for a child is reasonable	Visitor	Evaluation of zoo
Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.	There is a great inequality between the rich and the poor; people depend on the natural environment economically and culturally;	59	If the entry fee was lower, I would come more often	Visitor	Expectations of visitors
Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.	There is a great inequality between the rich and the poor; people depend on the natural environment economically and culturally;	59	The zoo should give discounted entrance fees to residents of [local city]	Visitor	Expectations of visitors
Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.	The operational definition adopted in the article is that environmental education is a holistic approach to the learning process, whereby individuals and community acquire the knowledge, attitudes, skills, values and motivation to improve the quality of environment and attain an ecologically and socially sustainable future	59	I would be interested in volunteering for conservation projects conducted by the zoo	Visitor	Potential impacts of zoo experience

<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>The operational definition adopted in the article is that environmental education is a holistic approach to the learning process, whereby individuals and community acquire the knowledge, attitudes, skills, values and motivation to improve the quality of environment and attain an ecologically and socially sustainable future</p>	<p>59</p> <p>The zoo has inspired me to do more n my private like for the benefit of wildlife</p> <p>Visitor</p> <p>Potential impacts of zoo experience</p>
<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>EE (Environmental Education) is found in all forms of education (formal, non-formal and informal education) in the region</p>	<p>62</p> <p>Visitor</p>
<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>Teaching materials have been developed locally and disseminated. Also, a variety of innovative methods of teaching and learning are being practiced.</p>	<p>62</p> <p>Visitor</p>
<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>The trend shows that there has been a shift from incorporating environmental matters only in physical science courses towards including environmental matters in social science, liberal arts and humanities courses as well. In addition to physical science courses, environmental concerns can now be found in courses such as in Moral Education, Hygiene, Religion and Civic Education. Nevertheless, environmental themes have been dominant in the physical science courses only.</p>	<p>63, 64</p> <p>Visitor</p>
<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>Some countries have placed more emphasis on formal education because they envision that children will help educate their parents and can more easily influence their parents' actions. In turn, these parents will have a greater impact on environmental resources. This approach has been quite successful in some Pacific countries. However, there is less emphasis on non-formal education. In order to make environmental education successful, all types of education, both formal and non-formal, should be utilized.</p>	<p>64</p> <p>Visitor</p>

<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>These attempts include holding preservice, in-service, on-the-job and professional programs and forming of environmental educator associations as forums for environmental educators to share and exchange their knowledge, expertise and experiences.</p>	<p>64</p>	<p>Staff member</p>
<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>In many countries, NGOs are initiating demonstration projects. These projects have been successful in changing people's attitudes through real life experiences involving local people and generating income for local enterprises. The media have also been successful in raising public awareness by using local and modern media and by training journalists on environmental journalism and investigative journalism</p>	<p>73</p>	<p>I frequently hear the zoo mentioned on T.V, radio and magazines Visitor Behaviour of visitors</p>
<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>Although environmental themes have been integrated into the formal education system, most of the EE initiatives come first from the sectoral ministries such as Environment, Fisheries, Agriculture, Forestry or Natural Resources, and not from the Ministries of Education.</p>	<p>74</p>	<p>Visitor</p>
<p>Abe, O., & Bhandari, B. (1999). An overview of environmental education in the Asia and Pacific region. Presented at the International Conference on Environmental Education in the Asia-Pacific Region.</p>	<p>All the countries report a lack of coordination amongst responsible agencies in the region. Because of this, the agencies either duplicate activities or compete for resources. When the situation degrades further, mutual mud-slinging becomes a common phenomenon resulting in no action or delayed action. Several ministries adopt individual policies and procedures to pursue their own mandates without any Environmental Education in the Asia-Pacific Region Summer 2000 collective action or vision</p>	<p>74, 75</p>	<p>Research associates</p>

Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i> , 43(1), 33–61.	Visitors in this study clearly absorbed the fundamental conservation message at the NAIB	33	The zoo does a good job on educating the public regarding conservation issues	Visitor	Evaluation of zoo
Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i> , 43(1), 33–61.	Visitors in this study clearly absorbed the fundamental conservation message at the NAIB	33	I took the time to read the information displayed at the animal enclosures	Visitor	Behaviour of visitors
Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i> , 43(1), 33–61.	... All visitors go to aquariums with a desire to satisfy their curiosity and fulfil their needs for fun and intellectual stimulation. Similar motivations are at work when individuals choose to watch an educational television show or seek information on the Internet	35	I usually come to the zoo to learn about the animals	Visitor	Motivation for visitation
Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i> , 43(1), 33–61.	... All visitors go to aquariums with a desire to satisfy their curiosity and fulfil their needs for fun and intellectual stimulation. Similar motivations are at work when individuals choose to watch an educational television show or seek information on the Internet	35	I usually come to the zoo because of their range of animals	Visitor	Motivation for visitation
Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i> , 43(1), 33–61.	... All visitors go to aquariums with a desire to satisfy their curiosity and fulfil their needs for fun and intellectual stimulation. Similar motivations are at work when individuals choose to watch an educational television show or seek information on the Internet	35	Watching a wildlife documentary is no substitute for my experiences at the zoo	Visitor	Evaluation of experience
Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i> , 43(1), 33–61.	Entry interview data establish 'baseline' information, which could then be compared to visitors' experiences, understanding and attitudes after their visit. ... Researchers also recorded visitors' gender, social group composition, approximate age, and race/ethnicity through visual assessment.	37	Demographic questions	Visitor	

<p>Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i>, 43(1), 33–61.</p>	<p>Demographic results from this study: Majority were Caucasians, possess a college degree and are accompanied with at least one other adult. One inf four visitors were with families and most in small groups of two to three people. Most have not visited in the past 12 months.</p>	<p>40 and 41</p> <p>Demographic questions</p> <p>Visitor</p>	
<p>Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i>, 43(1), 33–61.</p>	<p>Visitors also expressed a strong belief in the negative impact people are having on the world around them, both locally and globally.</p>	<p>43</p> <p>Visitor</p>	
<p>Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i>, 43(1), 33–61.</p>	<p>12% of visitors perceived that the NAIB was trying to foster and nurture a general feeling of respect and appreciation for the environment</p>	<p>45</p> <p>Visitor</p> <p>The zoo does a good job on educating the public regarding conservation issues</p>	<p>Evaluation of zoo</p>
<p>Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i>, 43(1), 33–61.</p>	<p>7% mentioned that the main message at the aquarium was to show the incredible diversity of life on earth</p>	<p>45</p> <p>Visitor</p> <p>I usually visit a zoo because of their range of animals</p>	<p>Motivation for visitation</p>
<p>Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i>, 43(1), 33–61.</p>	<p>Most visitors not only perceived a strong message presented throughout the aquarium.</p>	<p>46</p> <p>Visitor</p> <p>The zoo does a good job on educating the public regarding conservation issues</p>	<p>Evaluation of zoo</p>
<p>Adelman, L. M., Falk, J. H., & James, S. (2000). Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behavior, and knowledge. <i>Curator: The Museum Journal</i>, 43(1), 33–61.</p>	<p>25% of the visitors specifically mentioned that the NAIB visit had inspired or motivated them to visit other zoos, museums, and parks.</p>	<p>48</p> <p>Visitor</p> <p>I would be interested in volunteering for conservation projects conducted by the zoo</p>	<p>Potential impacts of zoo experience</p>
<p>Agle, B. R., Mitchell, R. K., & Sonnenfeld, J. A. (1999). Who matters to CEOs? An investigation of stakeholder attributes and salience, corporate performance, and CEO values. <i>Academy of Management Journal</i>, 507–525.</p>	<p>Freeman's definition of a stakeholder as "any group or individual who can affect or is affected by the achievement of the organisation's objectives"...offers an extremely wide field of possibilities as to who or what really is a stakeholder.</p>	<p>508</p>	

<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>The zoo should be active in improving national conservation efforts</p>	<p>Visitor</p>	<p>Expectations of visitors</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>The zoo should be active in improving international conservation efforts</p>	<p>Visitor</p>	<p>Expectations of visitors</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>My visit to the zoo made me keen to find more about the threats faced in the wild</p>	<p>Visitor</p>	<p>Potential impacts of zoo experience</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>The zoo has inspired me to do more in my private life for the benefit of wildlife</p>	<p>Visitor</p>	<p>Potential impacts of zoo experience</p>

<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>I enjoy finding out more about wildlife in their habitat at the zoo</p>	<p>Visitor</p>	<p>Evaluation of experience</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>The zoo does a good job on educating the public regarding conservation issues</p>	<p>Visitor</p>	<p>Evaluation of zoo</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>The animals are housed in a natural setting</p>	<p>Visitor</p>	<p>Evaluation of zoo</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>The zoo has made me appreciate that nature is worthy of protection</p>	<p>Staff member</p>	<p>Personal conservation attitudes</p>

<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>The zoo works and collaborates effectively with other stakeholders for research and education</p>	<p>Staff member</p>	<p>Evaluation of stakeholder relationship</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The objectives of SEAZA (South East Asian Zoos Association) are to strengthen in-situ conservation and management plans, to increase captive breeding through research, to improve standards of nonhuman animal welfare, to provide better recreational learning experiences for zoo visitors, to educate public about the importance of wildlife conservation, and to provide tourism in Southeast Asia.</p>	<p>189</p>	<p>The zoo exceeds the standards for animal welfare stipulated by regional associations</p>	<p>Staff member</p>	<p>Evaluation of animal management</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>SEAZA is the only zoo association in the world that does not discriminate against poor zoos or favor rich zoos. Opinions from zoo managers, conservationists, and animal rights activists are held in equal regard.</p>	<p>190</p>			
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The most potentially controversial ethical issues facing the zoos today are the acquisition of animals for captive breeding programs; the disposal of surplus animals; basic animal care and husbandry; and the use of animals for research, education, and recreation (Hutchins & Fascione, 1991)</p>	<p>190</p>	<p>Most of the animals in the zoo come from legal sustainable sources</p>	<p>Staff member</p>	<p>Evaluation of animal management</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The most potentially controversial ethical issues facing the zoos today are the acquisition of animals for captive breeding programs; the disposal of surplus animals; basic animal care and husbandry; and the use of animals for research, education, and recreation (Hutchins & Fascione, 1991)</p>	<p>190</p>	<p>Animal breeding is well managed at the zoo</p>	<p>Staff member</p>	<p>Evaluation of animal management</p>

<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The most potentially controversial ethical issues facing the zoos today are the acquisition of animals for captive breeding programs; the disposal of surplus animals; basic animal care and husbandry; and the use of animals for research, education, and recreation (Hutchins & Fascione, 1991)</p>	<p>190</p>	<p>It doesn't matter to me where the zoo sources their animals</p>	<p>Visitor</p>	<p>Expectations of visitors</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The most potentially controversial ethical issues facing the zoos today are the acquisition of animals for captive breeding programs; the disposal of surplus animals; basic animal care and husbandry; and the use of animals for research, education, and recreation (Hutchins & Fascione, 1991)</p>	<p>190</p>	<p>Most of the enclosures are well designed for animal welfare purposes</p>	<p>Staff member</p>	<p>Evaluation of animal management</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>The most potentially controversial ethical issues facing the zoos today are the acquisition of animals for captive breeding programs; the disposal of surplus animals; basic animal care and husbandry; and the use of animals for research, education, and recreation (Hutchins & Fascione, 1991)</p>	<p>190</p>	<p>The zoo exceeds the standards for animal welfare stipulated by regional associations</p>	<p>Staff member</p>	<p>Evaluation of animal management</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>In an ideal exhibit, animals should have access to sufficient food and drinking water, shelter against inclement weather conditions, clean enclosure for reduction of the spread of infectious diseases, and responsible staff for care while they are in distress; finally, animals displayed should exhibit normal behavior. The exhibit for mammals should be as large as possible with adequate environmental and behavioral enrichment devices following internationally accepted minimum husbandry and welfare standards (AZA, 1997)</p>	<p>190-191</p>	<p>The animals are housed in a natural setting</p>	<p>Visitor</p>	<p>Evaluation of zoo</p>

<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>Asia Pacific is home to 58% of the world's population but covers a mere 23% of total land area (Agoramoorthy & Hsu, 2001a). Poverty is most rampant in the region's biological hotspots. With natural habitats fast vanishing, zoos play an increasingly crucial role in promoting conservation awareness in a bid to reverse the tide of destruction. Unfortunately, most zoos in our region are poor and often struggle just to meet the bottom line. Rich Western zoos should take on a more prominent role to assist and adopt zoos in Southeast Asia to alleviate animal suffering, upgrade welfare standards, and ultimately to promote ex-situ and in-situ conservation of highly endangered species</p>	<p>192</p> <p>Background information for Asia-Pacific: reasons why this region is important in the study of zoos.</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>Comments from western authorities are held in particular high regard, a possible spillover of the colonization mentality. In the name of wildlife conservation and animal rights, nongovernmental organizations in the West have raised millions of dollars each year. The shortcomings of the conservation and animal welfare situations in less-developed countries often are exploited to achieve this. Ironically, most of the money raised is used to cover operational overheads such as luxuries, offices, huge staff salaries, and business-class tour-of-duty expenses instead of directly benefitting the animal welfare cause to relieve animal sufferings in zoos</p>	<p>192</p> <p>Differences between zoos in Asia and the West.</p>
<p>Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i>, 7(3), 189–195.</p>	<p>SEAZA however has followed this tradition of seeing the western influence as a positive force driving the elevation of welfare standards in the region</p>	<p>192</p>

Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i> , 7(3), 189–195.	To conduct zoo evaluations in the culturally sensitive Southeast Asian countries is a complex task. To present evidence of animal suffering in subminimal conditions in a polite and cordial manner without being openly offensive is not easy	193
Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i> , 7(3), 189–195.	I have been amazed at how open our Asian zoo communities are to constructive criticism on welfare and ethical standards, despite the pressing economic, social, and political hardships that they face	193
Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i> , 7(3), 189–195.	...ideologically irreconcilable trio of zoo managers, conservationists, and animal rights activists who are the major stakeholders to the world's wildlife diversity. More often than not, the focus of each group is to pinpoint and condemn the inadequacies of the other in a process that often results in hostile conflicts in an ultimate regress in terms of alleviating animal suffering	194
Agoramoorthy, G. (2004). Ethics and welfare in Southeast Asian zoos. <i>Journal of Applied Animal Welfare Science</i> , 7(3), 189–195.	A paradigm shift from the traditional top-down approach to the bottom-up approach may be necessary if we are to make practical advances to the alleviation of the animal suffering	194
Andreck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research</i> , 33(2), 40–46.	Differences in motives and satisfaction levels between segments did occur often. Also, many studies found that travel characteristics of trips, whether the visitor was a first time or repeat visitor, intention to visit again, expenditures, and time when the trip was planned distinguished between market segments	40
	Management style of the zoos. Take note of how staff members regard their superiors.	Staff member
	I usually come to the zoo to see specific animals	Visitor
		Motivation for visitation

<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i>(2), 40–46.</p>	<p>Differences in motives and satisfaction levels between segments did occur often. Also, many studies found that travel characteristics of trips, whether the visitor was a first time or repeat visitor, intention to visit again, expenditures, and time when the trip was planned distinguished between market segments</p>	<p>40</p>	<p>I usually come to the zoo to learn about the animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i>(2), 40–46.</p>	<p>Differences in motives and satisfaction levels between segments did occur often. Also, many studies found that travel characteristics of trips, whether the visitor was a first time or repeat visitor, intention to visit again, expenditures, and time when the trip was planned distinguished between market segments</p>	<p>40</p>	<p>I usually come to the zoo to spend a day with family</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i>(2), 40–46.</p>	<p>Differences in motives and satisfaction levels between segments did occur often. Also, many studies found that travel characteristics of trips, whether the visitor was a first time or repeat visitor, intention to visit again, expenditures, and time when the trip was planned distinguished between market segments</p>	<p>40</p>	<p>I usually come to the zoo to spend a day out with friends</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i>(2), 40–46.</p>	<p>Differences in motives and satisfaction levels between segments did occur often. Also, many studies found that travel characteristics of trips, whether the visitor was a first time or repeat visitor, intention to visit again, expenditures, and time when the trip was planned distinguished between market segments</p>	<p>40</p>	<p>I usually come to the zoo because of their range of animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i>(2), 40–46.</p>	<p>Visitation motives were measured before visitors entered the zoo. Four factors, or scales, were identified as motives for visiting the zoo: (1) recreation and novelty, (2) general education of others, (3) specific educational reasons, and (4) photographing the animals and plants. The primary motive for visiting the zoo seemed to be recreational and educational in nature</p>	<p>41</p>	<p>I usually come to the zoo to see specific animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>

<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research</i>, 33(2), 40–46.</p>	<p>Visitation motives were measured before visitors entered the zoo. Four factors, or scales, were identified as motives for visiting the zoo: (1) recreation and novelty, (2) general education of others, (3) specific educational reasons, and (4) photographing the animals and plants. The primary motive for visiting the zoo seemed to be recreational and educational in nature</p>	<p>41</p> <p>I usually come to the zoo to learn about the animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research</i>, 33(2), 40–46.</p>	<p>Visitation motives were measured before visitors entered the zoo. Four factors, or scales, were identified as motives for visiting the zoo: (1) recreation and novelty, (2) general education of others, (3) specific educational reasons, and (4) photographing the animals and plants. The primary motive for visiting the zoo seemed to be recreational and educational in nature</p>	<p>41</p> <p>I usually come to the zoo to spend a day with family</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research</i>, 33(2), 40–46.</p>	<p>Visitation motives were measured before visitors entered the zoo. Four factors, or scales, were identified as motives for visiting the zoo: (1) recreation and novelty, (2) general education of others, (3) specific educational reasons, and (4) photographing the animals and plants. The primary motive for visiting the zoo seemed to be recreational and educational in nature</p>	<p>41</p> <p>I usually come to the zoo to spend a day out with friends</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research</i>, 33(2), 40–46.</p>	<p>Visitation motives were measured before visitors entered the zoo. Four factors, or scales, were identified as motives for visiting the zoo: (1) recreation and novelty, (2) general education of others, (3) specific educational reasons, and (4) photographing the animals and plants. The primary motive for visiting the zoo seemed to be recreational and educational in nature</p>	<p>41</p> <p>I usually come to the zoo because of their range of animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>

Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i> (2), 40–46.	Demographics may describe measurable aspects of individuals, but provide little on which to base marketing strategy decisions.	44	I usually come to the zoo to see specific animals	Visitor	Motivation for visitation
Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i> (2), 40–46.	Most visitors went to the zoo for recreation purposes to get away and do something different and to learn about animals. Thus, a fun and learning theme may be appropriate for all promotional materials with submessages directed to the target market.	45	I usually come to the zoo to learn about the animals	Visitor	Motivation for visitation
Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i> (2), 40–46.	Most visitors went to the zoo for recreation purposes to get away and do something different and to learn about animals. Thus, a fun and learning theme may be appropriate for all promotional materials with submessages directed to the target market.	45	I usually come to the zoo to spend a day with family	Visitor	Motivation for visitation
Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i> (2), 40–46.	Most visitors went to the zoo for recreation purposes to get away and do something different and to learn about animals. Thus, a fun and learning theme may be appropriate for all promotional materials with submessages directed to the target market.	45	I usually come to the zoo to spend a day out with friends	Visitor	Motivation for visitation
Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research, 33</i> (2), 40–46.	Most visitors went to the zoo for recreation purposes to get away and do something different and to learn about animals. Thus, a fun and learning theme may be appropriate for all promotional materials with submessages directed to the target market.	45	I usually come to the zoo because of their range of animals	Visitor	Motivation for visitation

Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research</i> , 33(2), 40–46.	Visitors to the zoo were, in general, very satisfied with their visits. The satisfaction item with which visitors were most pleased was the recreation facet of the visit. The second strong satisfaction item was educational aspects of the visit.	45	I enjoy finding out more about wildlife in their habitat at the zoo	Visitor	Evaluation of experience
Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research</i> , 33(2), 40–46.	Visitors to the zoo were, in general, very satisfied with their visits. The satisfaction item with which visitors were most pleased was the recreation facet of the visit. The second strong satisfaction item was educational aspects of the visit.	45	I enjoyed the zoo's activities and presentations	Visitor	Evaluation of experience
Andereck, K. L., & Caldwell, L. L. (1994). Variable selection in tourism market segmentation models. <i>Journal of Travel Research</i> , 33(2), 40–46.	Visitors to the zoo were, in general, very satisfied with their visits. The satisfaction item with which visitors were most pleased was the recreation facet of the visit. The second strong satisfaction item was educational aspects of the visit.	45	Based on the experience I had today, I would be willing to pay a higher entrance fee	Visitor	Evaluation of experience
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	Zoo education now encompasses all visitors. The education department is often consulted on the design of new exhibits because enclosures need to provide an environment which is not only beneficial for the animals but also interesting and thought-provoking for visitors.	75	My visit to the zoo made me keen to find more about the threats faced in the wild	Visitor	Potential impacts of zoo experience
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	Zoo education now encompasses all visitors. The education department is often consulted on the design of new exhibits because enclosures need to provide an environment which is not only beneficial for the animals but also interesting and thought-provoking for visitors.	75	The zoo has inspired me to do more in my private life for the benefit of wildlife	Visitor	Potential impacts of zoo experience
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	School programmes are still essential but in many zoos, the education department now plays an important role in both educating all visitor groups.	75	I took the time to read the information displayed at the animal enclosures	Visitor	Behaviour of visitors

Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	School programmes are still essential but in many zoos, the education department now plays an important role in both educating all visitor groups.	75	The quality of the information displayed at most of the animal enclosures is good	Visitor	Evaluation of zoo
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	As far as possible exhibits are designed to imitate the natural habitat of the species, which will enable the animals to express natural behaviours within the zoo environment.	75	Most of the enclosures are well designed for animal welfare purposes	Staff member	Evaluation of animal management
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	As far as possible exhibits are designed to imitate the natural habitat of the species, which will enable the animals to express natural behaviours within the zoo environment.	75	Most of the animals in the zoo come from legal sustainable sources	Staff member	Evaluation of animal management
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	As far as possible exhibits are designed to imitate the natural habitat of the species, which will enable the animals to express natural behaviours within the zoo environment.	75	Animal breeding is well managed at the zoo	Staff member	Evaluation of animal management
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	As far as possible exhibits are designed to imitate the natural habitat of the species, which will enable the animals to express natural behaviours within the zoo environment.	75	The zoo exceeds the standards for animal welfare stipulated by regional associations	Staff member	Evaluation of animal management
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	Enclosure design is important to attract the attention of the visitors and stimulate them to read the signage	75	The quality of the information displayed at most of the animal enclosures is good	Visitor	Evaluation of zoo
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	In modern zoos the animals express more natural behaviour than 10-15 years ago and, consequently, the value of the zoo as a place to learn as increased enormously.	76	My visit to the zoo made me keen to find more about the threats faced in the wild	Visitor	Potential impacts of zoo experience

Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	In modern zoos the animals express more natural behaviour than 10-15 years ago and, consequently, the value of the zoo as a place to learn as increased enormously.	76	The zoo has inspired me to do more in my private life for the benefit of wildlife	Visitor	Potential impacts of zoo experience
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	In modern zoos the animals express more natural behaviour than 10-15 years ago and, consequently, the value of the zoo as a place to learn as increased enormously.	76	I enjoy finding out more about wildlife in their habitat at the zoo	Visitor	Evaluation of experience
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	In modern zoos the animals express more natural behaviour than 10-15 years ago and, consequently, the value of the zoo as a place to learn as increased enormously.	76	The zoo does a good job on educating the public regarding conservation issues	Visitor	Evaluation of zoo
Andersen, L. (2003). Zoo education: From formal school programmes to exhibit design and interpretation. <i>International Zoo Yearbook</i> , 38(1), 75–81.	In modern zoos the animals express more natural behaviour than 10-15 years ago and, consequently, the value of the zoo as a place to learn as increased enormously.	76	It appears to me that the zoo does a good job entertaining their visitors	Visitor	Evaluation of zoo
Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsmith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i> , 35(6), 826–841.	Existing information suggests that zoo visitors want to see active animals, and they want to interact with keepers, guides, and interpreters (Broad, 1996; Wolf & Tymitz, 1980); and they are motivated to visit because of entertainment or recreational reasons over educational and other reasons (Morgan & Hodgkinson,	827	I usually come to the zoo to see specific animals	Visitor	Motivation for visitation

<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsmith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>Existing information suggests that zoo visitors want to see active animals, and they want to interact with keepers, guides, and interpreters (Broad, 1996; Wolf&Tymitz, 1980); and they are motivated to visit because of entertainment or recreational reasons over educational and other reasons (Morgan & Hodgkinson,</p>	<p>827</p>	<p>I usually come to the zoo to learn about the animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsmith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>Existing information suggests that zoo visitors want to see active animals, and they want to interact with keepers, guides, and interpreters (Broad, 1996; Wolf&Tymitz, 1980); and they are motivated to visit because of entertainment or recreational reasons over educational and other reasons (Morgan & Hodgkinson,</p>	<p>827</p>	<p>I usually come to the zoo to spend a day with family</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsmith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>Existing information suggests that zoo visitors want to see active animals, and they want to interact with keepers, guides, and interpreters (Broad, 1996; Wolf&Tymitz, 1980); and they are motivated to visit because of entertainment or recreational reasons over educational and other reasons (Morgan & Hodgkinson,</p>	<p>827</p>	<p>I usually come to the zoo to spend a day out with friends</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsmith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>Existing information suggests that zoo visitors want to see active animals, and they want to interact with keepers, guides, and interpreters (Broad, 1996; Wolf&Tymitz, 1980); and they are motivated to visit because of entertainment or recreational reasons over educational and other reasons (Morgan & Hodgkinson,</p>	<p>827</p>	<p>I usually come to the zoo because of their range of animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>

<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsmith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>Modern zoos may attempt to enhance the zoo visitor's experience in other ways. Public or on-exhibit animal-training sessions, naturalist talks/oral interpretation, and animal demonstrations may effectively capture attention and engage the zoo visitor such that the four goals of the modern zoo are pursued. These active environmental enhancements may be the keys to combining recreation and education thus providing a context for learning in the form of entertainment.</p>	828	<p>I enjoyed the zoo's activities and presentations</p>	Visitor	<p>Evaluation of experience</p>
<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsmith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>Modern zoos may attempt to enhance the zoo visitor's experience in other ways. Public or on-exhibit animal-training sessions, naturalist talks/oral interpretation, and animal demonstrations may effectively capture attention and engage the zoo visitor such that the four goals of the modern zoo are pursued. These active environmental enhancements may be the keys to combining recreation and education thus providing a context for learning in the form of entertainment.</p>	828	<p>It appears to me that the zoo does a good job entertaining their visitors</p>	Visitor	<p>Evaluation of zoo</p>
<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsmith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>The questionnaire consisted of the following 11 statements: (a) My experience at Zoo Atlanta has been enjoyable; (b) my experience at Zoo Atlanta has been educational; (c) I received great value for the cost of my visit to Zoo Atlanta; (d) the otter exhibit is interesting; (e) the otter exhibit is appropriate in size for the animals; (f) the qualifications of the animal care staff at Zoo Atlanta are advanced; (g) animal training is an important component of a zoo animal's life; (h) I am interested in viewing animal training; (i) the otters are happy in this exhibit; (j) otters are intelligent animals; and (k) an otter would make a good pet.</p>	830			

<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsomith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>To analyze the data, we used descriptive statistics, factor analysis, and multivariate analysis of variance</p>	<p>833</p>	<p>Evaluation of experience</p>
<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsomith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>The knowledge level of the visitor must also be formally evaluated so that useful, interesting, and relevant information is available in interpretive programs of this type (Ben-Ari, 2000; Roggenbuck et al., 1990; Stoinski, Ogden, Gold, & Maple, 2001).</p>	<p>839</p>	<p>Evaluation of experience</p>
<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsomith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>With the shift in the zoo paradigm extending the goals of the zoo to include not only recreation but also education, conservation, and research, zoos need to take advantage of every opportunity to educate visitors. Based on the results of the present study, zoos can use public animal-training sessions and public training sessions with interpretation to increase educational and recreational benefits and visitor perceptions of the zoo.</p>	<p>839</p>	<p>Evaluation of experience</p>
<p>Anderson, U. S., Kelling, A. S., Pressley-Keough, R., Bloomsomith, M. A., & Maple, T. L. (2003). Enhancing the zoo visitor's experience by public animal training and oral interpretation at an otter exhibit. <i>Environment and Behavior</i>, 35(6), 826–841.</p>	<p>With the shift in the zoo paradigm extending the goals of the zoo to include not only recreation but also education, conservation, and research, zoos need to take advantage of every opportunity to educate visitors. Based on the results of the present study, zoos can use public animal-training sessions and public training sessions with interpretation to increase educational and recreational benefits and visitor perceptions of the zoo.</p>	<p>839</p>	<p>Evaluation of experience</p>

<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology</i>, 29(6), 663–675.</p>	<p>The majority of those surveyed conducted behavioral research, conducted research only in a captive setting, held curatorial positions, had their salaries supported by their institutions' operating budget, and considered themselves part of a successful scientific program. About 30% of those we surveyed possessed a doctoral research degree in comparison to 55% possessing lesser level degrees—19% with master's, 34% with bachelor's, and 2% with other degree</p>	<p>663</p>	<p>Staff demographic questions</p>	<p>Staff member</p>	
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology</i>, 29(6), 663–675.</p>	<p>A survey by Thompson [2002] indicated that 44% of the research coordinators at accredited institutions of the Association of Zoos and Aquariums (AZA) reported that their institution had a formal research program, then three years later, 62% of research coordinators reported that their institution had a formal research program [Lukas et al., 2005].</p>	<p>664</p>	<p>I feel that conservation projects conducted by the zoo is worth doing</p>	<p>Staff member</p>	<p>Evaluation of zoo operational aspects</p>
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology</i>, 29(6), 663–675.</p>	<p>A survey by Thompson [2002] indicated that 44% of the research coordinators at accredited institutions of the Association of Zoos and Aquariums (AZA) reported that their institution had a formal research program, then three years later, 62% of research coordinators reported that their institution had a formal research program [Lukas et al., 2005].</p>	<p>664</p>	<p>The zoo clearly articulated how my project fits into the overall strategy of their organisation</p>	<p>Research associates</p>	<p>Application process</p>
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology</i>, 29(6), 663–675.</p>	<p>If the science emerging from zoos and aquariums fails to meet the traditional rigors of science, then zoos and aquariums will never be fully acknowledged as credible scientific institutions by the public and scientific community</p>	<p>667</p>	<p>The primary focus of the zoo is to entertain their visitors</p>	<p>Staff member</p>	
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology</i>, 29(6), 663–675.</p>	<p>If the science emerging from zoos and aquariums fails to meet the traditional rigors of science, then zoos and aquariums will never be fully acknowledged as credible scientific institutions by the public and scientific community</p>	<p>667</p>	<p>Regardless of the impact on the animals, the zoo is determined to turn a profit.</p>	<p>Staff member</p>	

<p>We recognize that it is possible to hire well-trained individuals who do not possess doctoral research degrees if they have participated in research, written a scientific thesis at the bachelor's or master's level, and received advanced training in quantitative methods, but training and experience at the doctoral-level is clearly needed to advance research productivity in zoos and aquariums. In general, doctoral-level research training indicates a deeper understanding of scientific issues and approaches and a readiness to become a productive research leader.</p>		<p>Staff demographic questions</p>	<p>Staff member</p>
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology, 29</i>(6), 663–675.</p>	<p>667</p>		
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology, 29</i>(6), 663–675.</p>	<p>668</p>	<p>The primary focus of the zoo is to entertain their visitors</p>	<p>Staff member</p>
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology, 29</i>(6), 663–675.</p>	<p>669</p>	<p>The zoo should contribute a portion of their annual profits to outside conservation projects</p>	<p>Research associates</p>
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology, 29</i>(6), 663–675.</p>	<p>669</p>	<p>Nevertheless, external grant money should be pursued by zoos and aquariums to help reduce the dependency of zoo science on the operating budget. In addition, zoos and aquariums should actively pursue support from private foundations and personal gifts and establish dedicated endowments for scientific personnel such as the endowed curatorial positions that many larger zoos and aquariums have established [Maple, 2006].</p>	<p>Staff member</p>

Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology, 29</i> (6), 663–675.	Four factors—“support of the zoo director,” “staff with effort dedicated to conducting scientific programs,” “well-defined and supported research objectives,” and “strategic plans that include research”—were rated the most high and included within the 10 most important factors by a large majority of professionals.	670	Training for staff members is an important priority for the zoo	Intrinsic factors of job satisfaction	Staff member
Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology, 29</i> (6), 663–675.	“Support of the zoo director” was rated the most critical feature of a successful scientific program (M54.8) and 83% of those we surveyed included it within their 10 most important factors. Second, it appears that “staff with effort dedicated to conducting scientific programs” is another critical factor for success, as this factor received the second highest rating (M54.7) and 62% of surveyed professionals included it within the 10 most important factors.	670			
Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology, 29</i> (6), 663–675.	“Well-defined and supported research objectives” and “strategic plans that include research” received the next two highest ratings (Ms54.5) as factors critical to a successful scientific program and they were included within the list of top 10 factors considered most important to successful scientific programs by 51 and 47% of those we surveyed, respectively.	670			
Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology, 29</i> (6), 663–675.	Zoos and aquariums have the potential to make significant contributions to our knowledge about, and understanding of, the biology, behavior, conservation, and care of wild animals, but to maximize this potential they must develop strategic, well-defined, and supported research agendas	670			

<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology</i>, 29(6), 663–675.</p>	<p>Given that zoos and aquariums are limited in the amount of money that can be devoted to research activities, it is important to identify those factors perceived to be essential to successful research programs by those that are tasked with coordinating and conducting research.</p>	672
<p>Anderson, U. S., Maple, T. L., & Bloomsmith, M. A. (2010). Factors facilitating research: A survey of zoo and aquarium professionals. <i>Zoo Biology</i>, 29(6), 663–675.</p>	<p>More research is conducted and coordinated by curators and managers than dedicated scientific staff, which suggests that science is still not a priority for many zoos and aquariums</p>	673
<p>Balmford, A., Leader-Williams, N., & Green, M. J.B. (1995). Parks or arks: Where to conserve threatened mammals? <i>Biodiversity and Conservation</i>, 4, 595 – 607.</p>	<p>Faced with seemingly inexorable habitat loss, ineffective protection and even wars in many of the areas set aside for their conservation, long-term prospects for wild populations of many large vertebrates seem bleak. Theoretical considerations simply reinforce this gloomy picture.</p>	595
<p>Balmford, A., Leader-Williams, N., & Green, M. J.B. (1995). Parks or arks: Where to conserve threatened mammals? <i>Biodiversity and Conservation</i>, 4, 595 – 607.</p>	<p>One of the most forcefully advocated approaches for addressing this problem is widespread ex situ conservation, whereby sizeable populations of threatened species (particularly large mammals) are established and maintained in captivity until eventual reintroduction becomes possible (Conway, 1980, 1986; Seal, 1986; SoulC et al., 1986;Flesness and Foose. 1990).</p>	596
<p>Balmford, A., Leader-Williams, N., & Green, M. J.B. (1995). Parks or arks: Where to conserve threatened mammals? <i>Biodiversity and Conservation</i>, 4, 595 – 607.</p>	<p>First, zoos will continue to invest significant, internally-generated resources in the captive breeding of threatened species. The overall validity of this enterprise is not necessarily compromised by the points raised here. Instead, we merely argue that captive breeding should be much more selective than at present.</p>	601

Balmford, A., Leader-Williams, N., & Green, M. J.B. (1995). Parks or arks: Where to conserve threatened mammals? <i>Biodiversity and Conservation</i> , 4, 595 – 607.	In addition to their potential impact through captive breeding, with a combined attendance in excess of half a billion visitors each year, the world's zoos also have enormous potential to promote conservation through public education (IUDZGICBSG.1993).	602
Balmford, A., Leader-Williams, N., & Green, M. J.B. (1995). Parks or arks: Where to conserve threatened mammals? <i>Biodiversity and Conservation</i> , 4, 595 – 607.	Zoos offer many people their first and sometimes only direct experience of a wide range of living animals. By educating their public, zoos can therefore play a vital role in raising awareness of conservation issues	602
Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as bench-marks for progress. <i>International Zoo Yearbook</i> , 36(1), 143–157.	The key operational areas identified are conservation, education, research, environment, business operations and commercial aspects. Identifying the desired outcomes in these areas has made it possible to create key performance indicators.	143
Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as bench-marks for progress. <i>International Zoo Yearbook</i> , 36(1), 143–157.	Kelly et al. (1989), in a review of the commercial performance of Taronga Zoo, established criteria that linked commercial outcomes with other aspects of customer satisfaction. These criteria described the following hierarchy: (1) an awareness of, and decision to obtain, the product or service being provided; (2) a satisfactory level of use of the product/service; (3) user satisfaction with the product and service; (4) desirable financial performance for-profit.	144
Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as bench-marks for progress. <i>International Zoo Yearbook</i> , 36(1), 143–157.	Industries in many sectors now strive towards, reach or set standards of international best practice, which has led to increasing competitiveness.	145
Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as bench-marks for progress. <i>International Zoo Yearbook</i> , 36(1), 143–157.	It is now generally accepted that customers (visitors) are the focus of business demand. High-quality services and products are essential for an organization to remain viable and competition has created a more discerning and fickle customer (Walsh, unpubl.).	145

<p>Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as benchmark marks for progress. <i>International Zoo Yearbook</i>, 36(1), 143–157.</p>	<p>Benchmark marks can help zoos to maximize their education and conservation activities and by encouraging them to focus on performance and stay up-to-date with new technology, information and processes, benchmark marks can also assist in the improvement of individual institutions and the zoo industry as a whole (Smith et al., unpubl.).</p>	145	Staff members	Extrinsic factors of job satisfaction
<p>MANAGEMENT OF HUMAN RESOURCES</p>				
<p>Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as benchmark marks for progress. <i>International Zoo Yearbook</i>, 36(1), 143–157.</p>	<p>Labour down time (sick and workers' compensation)...The umbrella key performance indicator of labour down time (sick and workers' compensation days measured per employee per annum) provides a useful overall indicator of employee health within an organization.</p>	146	I feel safe working near the animals at the zoo	Extrinsic factors of job satisfaction
<p>Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as benchmark marks for progress. <i>International Zoo Yearbook</i>, 36(1), 143–157.</p>	<p>Waste-water discharge quality An essential element of environmental management systems involves compliance with all regulatory authorities for, for example, clean air emissions and quality of wastewater discharge.</p>	147		
<p>Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as benchmark marks for progress. <i>International Zoo Yearbook</i>, 36(1), 143–157.</p>	<p>Performance measurement and accounting systems must be developed to make transparent the real (tangible and intangible) costs and benefits of sound environmental practices.</p>	147		
<p>Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as benchmark marks for progress. <i>International Zoo Yearbook</i>, 36(1), 143–157.</p>	<p>A suggested benchmark would be that 25% of an animal collection should be involved in active ex situ captive-breeding programmes</p>	150	I feel that conservation projects conducted by the zoo is worth doing	Evaluation of zoo operational aspects

<p>Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as bench-marks for progress. <i>International Zoo Yearbook</i>, 36(1), 143–157.</p>	<p>It is strongly recommended that the international zoo community now works towards developing an agreed set of international key performance indicators, using the templates developed by the Zoological Parks Board as a guide, which can be modified to suit individual, national or regional requirements. Perhaps an initial approach might involve the development and adoption of agreed key performance indicators for each conservation region, for example, for North America, Europe, South-east Asia and Australasia.</p>	<p>151-152</p>
<p>Bartos, J., & Kelly, J. (1998). Towards best practice in the zoo industry: Developing key performance indicators as bench-marks for progress. <i>International Zoo Yearbook</i>, 36(1), 143–157.</p>	<p>A summary of measurable contributions by zoos in the areas of education, conservation, research and tourism is of critical importance in demonstrating the contribution of these institutions to the whole community.</p>	<p>153</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Customer service is compromised by missed stops during orientation periods</p>	<p>30</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Intrinsic Job Satisfaction Factors. Herzberg (Herzberg et al., 1959; Herzberg, 1966) termed these as motivating factors that centered on achievement, recognition, responsibility, advancement, growth, and the work itself. Although their absence was not necessarily dissatisfying, when present, they could be a motivational force (Herzberg et al., 1959; Herzberg, 1966).</p>	<p>30 Staff member</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Extrinsic Job Satisfaction Factors. The hygiene factors are supervision, working conditions, co-workers, pay, policies and procedures, job security, status, and personal life (Herzberg et al., 1959; Herzberg, 1966). They are not necessarily satisfying, but their absence could cause dissatisfaction.</p>	<p>30 Staff member</p>

<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Supervision. Herzberg (Herzberg et al., 1959; Herzberg, 1966) associated this factor with an employee's general attitude about his/her relationship with an immediate supervisor. Negative perceptions in this category have been shown to have a substantial influence on lower job satisfaction, commitment, and the intent to quit (Mardanov & Heischmidt, 2009; Mardanov, Sterrett, & Baker, 2007). A positive supervisor-employee relationship influences the quality of two-way communication, trust, and performance while increasing job satisfaction, organizational commitment, and lower intentions to quit (Harris, Harris & Eplion, 2007).</p>	<p>30</p> <p>My supervisor encourages me to come up with new ideas at work</p>	<p>Staff member</p>	<p>Extrinsic factors of job satisfaction</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Supervision. Herzberg (Herzberg et al., 1959; Herzberg, 1966) associated this factor with an employee's general attitude about his/her relationship with an immediate supervisor. Negative perceptions in this category have been shown to have a substantial influence on lower job satisfaction, commitment, and the intent to quit (Mardanov & Heischmidt, 2009; Mardanov, Sterrett, & Baker, 2007). A positive supervisor-employee relationship influences the quality of two-way communication, trust, and performance while increasing job satisfaction, organizational commitment, and lower intentions to quit (Harris, Harris & Eplion, 2007).</p>	<p>30</p> <p>I feel comfortable providing feedback to management</p>	<p>Staff member</p>	<p>Extrinsic factors of job satisfaction</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Work Conditions. This item concerns the physical work atmosphere including space, lighting, ventilation, and equipment (Herzberg et al., 1959; Herzberg, 1966). In a study of industrial and office workers conducted by Lee in 2006, job satisfaction was found to be positively related to individual flexibility, personal control of the immediate work environment, social interaction, privacy, and few distractions or disruptions</p>	<p>30</p> <p>I feel safe working near the animals at the zoo</p>	<p>Staff member</p>	<p>Extrinsic factors of job satisfaction</p>

<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Work Conditions. This item concerns the physical work atmosphere including space, lighting, ventilation, and equipment (Herzberg et al., 1959; Herzberg, 1966). In a study of industrial and office workers conducted by Lee in 2006, job satisfaction was found to be positively related to individual flexibility, personal control of the immediate work environment, social interaction, privacy, and few distractions or disruptions</p>	<p>30</p>	<p>There are sufficient resources to care for the animals at the zoo</p>	<p>Staff member</p>	<p>Extrinsic factors of job satisfaction</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Co-Workers. The quality of interpersonal relationships between co-workers at all levels influences the good feelings and positive support associated with job satisfaction (Harris, Winkowski, & Engdahl, 2007). This includes coaching, helping with assignments, and giving instruction. A positive relationship has been found to contribute to motivation and mediate against stress (Shirey, 2004).</p>	<p>30</p>	<p>The work atmosphere is excellent at the zoo</p>	<p>Staff member</p>	<p>Extrinsic factors of job satisfaction</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Pay. Research has shown that compensation does not have a long-term motivational effect (Furnham, 2006). Nor does it necessarily increase productivity. However, Furnham found that if pay does not meet expectations or there is disparity, motivation and performance is negatively affected</p>	<p>31</p>	<p>My salary at the zoo is competitive for the job I do</p>	<p>Staff member</p>	<p>Extrinsic factors of job satisfaction</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Responsibility. This factor pertains to control over one's work or that of others (Herzberg et al., 1959; Herzberg, 1966). A meta-analysis by Dole and Schroeder (2001) found that job satisfaction increased and the intent to quit decreased as levels of authority over the job grew. This finding corroborates Herzberg's conclusion</p>	<p>33</p>		<p>Staff member</p>	

<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Recognition. According to Herzberg (Herzberg et al., 1959; Herzberg, 1966), this factor is related to positive or negative feedback about an accomplishment. Recognition is an effective means of motivation and a signal from supervision to employees that they are valued for their contributions (Richardson, 2003). Unfortunately, this well-established concept is all too often underutilized by leaders (Nelson, 2002). Indeed, Nelson found that even non-monetary recognition results in higher levels of motivation. In addition, constructive reinforcement also promotes individual growth and development (Jackson, 2001).</p>	<p>33</p> <p>I feel that my opinions are highly valued by zoo management</p> <p>Staff member</p>	<p>Intrinsic factors of job satisfaction</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Advancement. Herzberg (Herzberg et al., 1959; Herzberg, 1966) found that this factor relates to an employee's attitude following a change in position or status. The positive relationship between organizational support for this factor and improved job satisfaction along with a lower degree of intent to quit was found in a study by Jawahar and Hemmasi (2006).</p>	<p>33</p> <p>Training for staff members is an important priority for the zoo</p> <p>Staff member</p>	<p>Intrinsic factors of job satisfaction</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Growth. While advancement pertains to an actual change, growth is about the potential for advancement in the future (Herzberg et al., 1959; Herzberg, 1966). The positive relationship between this factor and job satisfaction was found in a study conducted by Stein and Craft in 2007. This growth can take the form of vertical or horizontal mobility, developmental opportunities, or acquisition of skills (Carmeli, Shalom, & Weisberg, 2007).</p>	<p>33</p> <p>The zoo has provided me with excellent training to do my job</p> <p>Staff member</p>	<p>Intrinsic factors of job satisfaction</p>

<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>The Work. This aspect of Herzberg's (Herzberg et al., 1959; Herzberg, 1966) theory concerns personal employee attitudes about the job requirements and assigned tasks (Freed, 2003). This includes complexity and scope of work. Research reveals that employee perceptions of their work have a direct influence on job satisfaction (Freed, 2003; Wong, Hui, & Law, 1998). Thus, job design is an important consideration in the elevation of motivational levels among workers.</p>	<p>34</p> <p>I thoroughly enjoy the job that I am doing</p> <p>Staff member</p> <p>Intrinsic factors of job satisfaction</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>More recently, Udechukwu (2007) applied the theory to a correctional setting and found support for Herzberg and the greater influence of intrinsic factors, in particular. However, he concluded that both intrinsic and extrinsic factors were important and each one could influence job satisfaction.</p>	<p>36 – 37</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Job satisfaction is a construct that describes “how people feel about their jobs and different aspects of their jobs” (Spector, 1997, p. 2). Edwin Locke (1976) called it the “positive emotional state resulting from the appraisal of one’s job or job experiences” (p.1300; Glisson & Durick, 1988). No one theory can cover the full spectrum of job satisfaction aspects (Chou & Robert, 2008).</p>	<p>38</p>
<p>Baylor, K. M. (2010). <i>The influence of intrinsic and extrinsic job satisfaction factors and affective commitment on the intention to quit for occupations characterized by high voluntary attrition</i> (Doctoral dissertation), Nova Southeastern University.</p>	<p>Demographics. In addition to responding to the questionnaires, participants were asked to complete a form asking for certain demographic data. More specifically, they were asked for general information such as gender, age, tenure, job classification, and education level.</p>	
<p>Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.</p>	<p>A majority of the literature available about corporate sponsorship focuses on the procedure of establishing and evaluating sponsorship programs.</p>	<p>2</p>

Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	Sponsorship is the “cash and/or in-kind fee paid to a property—typically in sports, arts, or causes—in return for access to the exploitable commercial potential associated with that property” (B-1).	3	Corporate sponsor	We sponsor the zoo to be seen as a good corporate citizen	Motivation factors
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	O’Hagan and Harvey divide corporate motivation for sponsorship into four distinct categories – promotion of self image/name, enhanced supply-chain cohesion, rent-seeking opportunity, and the provision of non-monetary benefits for managers/owners	4	Corporate sponsor	We sponsor the zoo to educate the public about our services and products	Motivation factors
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	O’Hagan and Harvey divide corporate motivation for sponsorship into four distinct categories – promotion of self image/name, enhanced supply-chain cohesion, rent-seeking opportunity, and the provision of non-monetary benefits for managers/owners	4	Corporate sponsor	We sponsor the zoo to drive product sales	Motivation factors
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	This finding suggests that “the promotion of the firm is a key motivation behind giving to the arts”	5	Corporate sponsor	The authors also conclude based on this finding that there is a level of altruism involved when companies these types of relationships.	Marketing strategies
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	They also contend that sponsorship is one of the most effective tools that a corporation can use to reach its predetermined target market(s).	6	Corporate sponsor	We are satisfied with the way the zoo advertises our relationship to their public	Satisfaction of relationship

Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	Increasing and/or maintaining brand loyalty is an important objective in most business strategies.	18	It is important to be recognised by the media for our sponsorship of the zoo	Corporate sponsor	Marketing strategies
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	Increasing and/or maintaining brand loyalty is an important objective in most business strategies.	18	We have a strong sense of loyalty to the zoo	Corporate sponsor	Strength of affiliation
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	Since showcasing community goodwill is rated as an important objective by almost half of the respondents, it implies that companies realize that the promotion of goodwill is also good business.	20	Our donations to the zoo have improved our organisation's profile	Corporate sponsor	Satisfaction of relationship
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	"Employees and other brand partners can receive emotional benefits that result from pride in being associated with the sponsorships, as well as the link between the sponsorship and their own lifestyle and values"	21	We have a strong sense of loyalty to the zoo	Corporate sponsor	Strength of affiliation
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	"Employees and other brand partners can receive emotional benefits that result from pride in being associated with the sponsorships, as well as the link between the sponsorship and their own lifestyle and values"	21	When the media praises the zoo, it feels like a compliment to our organisation	Corporate sponsor	Strength of affiliation
Beggs, J. C. (2004). <i>Understanding corporate motivations and trends in sponsorship</i> (Masters of Science). Drexel University, Philadelphia.	In addition to sponsorship benefits, properties also provide a host of valuable services to their corporate sponsors, many of which centers on research, reporting, and promoting.	24	The benefits from sponsoring the zoo exceeds the direct commercial returns	Corporate sponsor	Satisfaction of relationship
Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i> , 9(2), 109–119.	A key role of a regional zoo and/or aquarium association is to advocate on behalf of its membership, particularly to governments where it aims to exert influence to shape legislation and policy	192			

<p>Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i>, 9(2), 109–119.</p>	<p>It is significant that zoos maintain the second highest level of annual visitation compared with other cultural activities, such as libraries, museums and art galleries, even though zoo visits come at a cost and general admission to libraries, museums and art galleries is widely free. This is a strong indicator of the value that consumers attribute to zoos.</p>	194
<p>Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i>, 9(2), 109–119.</p>	<p>Consumer surveys indicate that the value that consumers place on zoos and the benefits they provide (like education and conservation) are typically greater than what consumers pay for admissions.</p>	194
<p>Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i>, 9(2), 109–119.</p>	<p>An analysis of general surveys conducted by zoos show a particularly high level of consumer satisfaction with zoo education. These consumer surveys (from six organizations) suggest that learning about the animals themselves has overtaken the pure novelty or entertainment value of zoos as one of the principal reasons why people visit.</p>	194
<p>Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i>, 9(2), 109–119.</p>	<p>Recent independent studies confirm this and demonstrate that 76% of the international tourists are interested or very interested in experiencing (mainly iconic) native wildlife and of these more than half preferred to visit either a zoo or wildlife park, rather than take a tour in the wild (Prideaux & Coghlan, 2006).</p>	194
<p>Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i>, 9(2), 109–119.</p>	<p>The significant value that the international community places on conservation is reflected by the commitment of the vast majority of nations in the world to key international treaties regulating the conservation of biological diversity (CBD, 1992) and the import and export of endangered species (CITES, 1975), as well as the widespread membership of the International Union for Conservation of Nature (IUCN).</p>	195

<p>Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i>, 9(2), 109–119.</p>	<p>While in an ideal world captive breeding would not be necessary, in dealing with the reality of the degradation of natural ecosystems, it is an essential component to support species recovery and reintroduction programmes.</p>	<p>196</p>	<p>The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild</p>	<p>Staff member</p>	<p>Assessment of zoo's wider values</p>
<p>Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i>, 9(2), 109–119.</p>	<p>Zoos are well placed to educate and focus the public on conservation and raise funds for in situ activities</p>	<p>196</p>	<p>Visitor</p>		
<p>Bergin-Seers, S., & Mair, J. (2009). Emerging green tourists in Australia: Their behaviours and attitudes. <i>Tourism and Hospitality Research</i>, 9(2), 109–119.</p>	<p>One of the clearest methods developed to assess the contribution of zoos to conservation suggests that conservation projects undertaken by zoos should be measured according to the (1) importance of the project to conserving wild species or their habitats, (2) the scale of the project and (3) the impact of the project (Mace et al., 2007).</p>	<p>196</p>			
<p>Berkes, P., & Nyerges, M. (2004). Business elements in sport: Factors affecting sport sponsorship decision-making process. In <i>the 12th European Association of Sport Management European Sport Management Congress Proceedings</i> (pp. 171–174). Retrieved from http://easim.net/download/2004/aa04500400ef05c82fe0888d85a0f564.pdf</p>	<p>Van Heerden (2001) identified four broad categories of sponsorship objectives and five categories of measurement tools: corporate objective (e.g., corporate image building), product/brand/service-related objective (e.g., increase target market awareness), sales objective (increase long-run sales), media coverage (e.g., media coverage during the event), hospitality (e.g., entertain current customers).</p>	<p>171</p>	<p>We sponsor the zoo to be seen as a good corporate citizen</p>	<p>Corporate sponsor</p>	<p>Motivation factors</p>
<p>Berkes, P., & Nyerges, M. (2004). Business elements in sport: Factors affecting sport sponsorship decision-making process. In <i>the 12th European Association of Sport Management European Sport Management Congress Proceedings</i> (pp. 171–174). Retrieved from http://easim.net/download/2004/aa04500400ef05c82fe0888d85a0f564.pdf</p>	<p>Van Heerden (2001) identified four broad categories of sponsorship objectives and five categories of measurement tools: corporate objective (e.g., corporate image building), product/brand/service-related objective (e.g., increase target market awareness), sales objective (increase long-run sales), media coverage (e.g., media coverage during the event), hospitality (e.g., entertain current customers).</p>	<p>171</p>	<p>We sponsor the zoo to educate the public about our services and products</p>	<p>Corporate sponsor</p>	<p>Motivation factors</p>

<p>Berkes, P., & Nyerges, M. (2004). Business elements in sport: Factors affecting sport sponsorship decision-making process. In <i>the 12th European Association of Sport Management European Sport Management Congress Proceedings</i> (pp. 171–174). Retrieved from http://easmm.net/download/2004/aa04500400ef05c82fe0888d85a0f564.pdf</p>	<p>Van Heerden (2001) identified four broad categories of sponsorship objectives and five categories of measurement tools: corporate objective (e.g., corporate image building), product/brand/service-related objective (e.g., increase target market awareness), sales objective (increase long-run sales), media coverage (e.g., media coverage during the event), hospitality (e.g., entertain current customers).</p>	<p>171</p>	<p>Corporate sponsor</p>	<p>Motivation factors</p>
<p>Berkes, P., & Nyerges, M. (2004). Business elements in sport: Factors affecting sport sponsorship decision-making process. In <i>the 12th European Association of Sport Management European Sport Management Congress Proceedings</i> (pp. 171–174). Retrieved from http://easmm.net/download/2004/aa04500400ef05c82fe0888d85a0f564.pdf</p>	<p>As Cornwell (1995) stated, the two benefits most often cited as coming from sponsorship are: (a) brand, product and company awareness and (b) brand, product and company image building.</p>	<p>171</p>	<p>Corporate sponsor</p>	<p>Motivation factors</p>
<p>Berkes, P., & Nyerges, M. (2004). Business elements in sport: Factors affecting sport sponsorship decision-making process. In <i>the 12th European Association of Sport Management European Sport Management Congress Proceedings</i> (pp. 171–174). Retrieved from http://easmm.net/download/2004/aa04500400ef05c82fe0888d85a0f564.pdf</p>	<p>As Cornwell (1995) stated, the two benefits most often cited as coming from sponsorship are: (a) brand, product and company awareness and (b) brand, product and company image building.</p>	<p>171</p>	<p>Corporate sponsor</p>	<p>Motivation factors</p>
<p>Berkes, P., & Nyerges, M. (2004). Business elements in sport: Factors affecting sport sponsorship decision-making process. In <i>the 12th European Association of Sport Management European Sport Management Congress Proceedings</i> (pp. 171–174). Retrieved from http://easmm.net/download/2004/aa04500400ef05c82fe0888d85a0f564.pdf</p>	<p>As Cornwell (1995) stated, the two benefits most often cited as coming from sponsorship are: (a) brand, product and company awareness and (b) brand, product and company image building.</p>	<p>171</p>	<p>Corporate sponsor</p>	<p>Motivation factors</p>
<p>Breadworth, A., & Bryman, A. (2001). The wild animal in late modernity: The case of the Disneyization of zoos. <i>Tourist Studies</i>, 10(1), 83 – 104.</p>	<p>...zoos have been undergoing considerable change in western societies, partly in response to shifts in attitudes to the display of captive animals.</p>	<p>84</p>		

Broad, S., & Smith, L. (2004). Who educates the public about conservation issues? Examining the role of zoos and the media. In Frost, Warwick, Croy, Glen, Beeton, & See (Eds.), <i>International Tourism and Media Conference</i> (pp. 15–23). Melbourne: Tourism Research Unit, Monash University.	...that media and in particular, television and documentaries are an important source of information on threats to animals and / or their habitats. However, we suggest that media and zoos as sources of information should be considered as complementary, rather than one making the other redundant.	15
Broad, S., & Smith, L. (2004). Who educates the public about conservation issues? Examining the role of zoos and the media. In Frost, Warwick, Croy, Glen, Beeton, & See (Eds.), <i>International Tourism and Media Conference</i> (pp. 15–23). Melbourne: Tourism Research Unit, Monash University.	Indeed, there are claims that zoos have become “educationally redundant” (Margodt, 2000:106), given the role of other public communication avenues such as television, newspapers and radio.	15
Broad, S., & Smith, L. (2004). Who educates the public about conservation issues? Examining the role of zoos and the media. In Frost, Warwick, Croy, Glen, Beeton, & See (Eds.), <i>International Tourism and Media Conference</i> (pp. 15–23). Melbourne: Tourism Research Unit, Monash University.	...it is generally accepted that education is one of the key roles of the modern zoo.	15
Broad, S., & Smith, L. (2004). Who educates the public about conservation issues? Examining the role of zoos and the media. In Frost, Warwick, Croy, Glen, Beeton, & See (Eds.), <i>International Tourism and Media Conference</i> (pp. 15–23). Melbourne: Tourism Research Unit, Monash University.	The importance of general zoo education and the more specific educational objective of fostering environmentally responsible behaviour is evidenced by the extent to which the zoo community has embraced this objective at an international, national, and organisational level.	16
Broad, S., & Smith, L. (2004). Who educates the public about conservation issues? Examining the role of zoos and the media. In Frost, Warwick, Croy, Glen, Beeton, & See (Eds.), <i>International Tourism and Media Conference</i> (pp. 15–23). Melbourne: Tourism Research Unit, Monash University.	However, despite some authors arguing that zoos have, or have the potential to play, a significant role in relation to public education (Kellert, 1987; Maple, 1995; Hancocks, 1995a) and zoos stating that they have a strong focus on education, some people believe zoos have not demonstrated their success in achieving their aims (Sommer, 1972; Jamieson, 1995; Ollason, 1993; Mazur, 2001; Balmford, Leader-Williams, Mace, Manica, Walter, West, Zimmerman, 2004).	17

<p>Broad, S., & Smith, L. (2004). Who educates the public about conservation issues? Examining the role of zoos and the media. In Frost, Warwick, Croy, Glen, Beeton, & See (Eds.), <i>International Tourism and Media Conference</i> (pp. 15–23). Melbourne: Tourism Research Unit, Monash University.</p>	<p>Even some zoo visitors have shown support for claims that zoos may be redundant, as Shackley (1996) found in an empirical study, that 21% of zoo visitors felt that television and radio wildlife programmes do make visits to the zoo redundant.</p>	<p>17</p>	<p>I frequently hear the zoo mentioned on T.V, radio and magazines</p>	<p>Visitor</p>	<p>Behaviour of visitors</p>
<p>Broad, S., & Smith, L. (2004). Who educates the public about conservation issues? Examining the role of zoos and the media. In Frost, Warwick, Croy, Glen, Beeton, & See (Eds.), <i>International Tourism and Media Conference</i> (pp. 15–23). Melbourne: Tourism Research Unit, Monash University.</p>	<p>Instead of zoos being considered educationally redundant or ineffective, an alternative view is that their may be a symbiotic relationship between wildlife documentaries and zoos.</p>	<p>21</p>	<p>Watching a wildlife documentary is no substitute for my experiences at the zoo</p>	<p>Visitor</p>	<p>Evaluation of experience</p>
<p>Broad, S., & Smith, L. (2004). Who educates the public about conservation issues? Examining the role of zoos and the media. In Frost, Warwick, Croy, Glen, Beeton, & See (Eds.), <i>International Tourism and Media Conference</i> (pp. 15–23). Melbourne: Tourism Research Unit, Monash University.</p>	<p>In a world where there is ever increasing pressure on wildlife and their habitats, providing and reinforcing information pertaining to threats could be considered vital to their survival. If providing this information through multiple avenues can reach a wider audience, then all mechanisms should be considered valid. However, to be most educationally beneficial, it would be ideal for zoos and the media to join forces and cooperate in this campaign.</p>	<p>21</p>			
<p>Bruni, C. M., Fraser, J., & Schultz, P. W. (2008). The value of zoo experiences for connecting people with nature. <i>Visitor Studies</i>, 11(2), 139–150.</p>	<p>Zoos aspire to bring people closer to nature through visitor education and by creating environments that immerse visitors into naturalistic surroundings. Yet to date, the psychological and behavioral consequences of these attempts have not been well documented through empirical study.</p>	<p>139</p>			
<p>Bruni, C. M., Fraser, J., & Schultz, P. W. (2008). The value of zoo experiences for connecting people with nature. <i>Visitor Studies</i>, 11(2), 139–150.</p>	<p>Past research has suggested that animals are known to elicit emotional responses in zoo visitors (Myers, Saunders, & Brjulin, 2004). Clayton, Fraser, and Saunders (in press) found that conversations of zoo visitors provided evidence that visitors have a feeling of connection to the animals themselves.</p>	<p>139</p>			

<p>Bruni, C. M., Fraser, J., & Schultz, P. W. (2008). The value of zoo experiences for connecting people with nature. <i>Visitor Studies, 11</i>(2), 139–150.</p>	<p>These results suggest that zoo experiences can promote an increase in connectedness with nature, but that the effect occurs primarily at the implicit level and may not be apparent to visitors at the time. This study replicates the findings presented by Schultz and Tabanico (2007) regarding zoo visitors' connections with nature at the San Diego Wild Animal Park and confirms that spending time in a zoo setting increases a visitor's implicit connectedness with nature, irrespective of the scale of zoo or display concept.</p>	140
<p>Bruni, C. M., Fraser, J., & Schultz, P. W. (2008). The value of zoo experiences for connecting people with nature. <i>Visitor Studies, 11</i>(2), 139–150.</p>	<p>As zoos have changed over the years to target explicit learning outcomes using innovative interpretive strategies, visitors continue to report that their primary purpose for visiting zoos is to be with animals rather than any explicit desire to engage in learning (Wildlife Conservation Society, unpublished internal report).</p>	140
<p>Bunderson, J. S., & Thompson, J. A. (2009). The call of the wild: Zookeepers, callings, and the double-edged sword of deeply meaningful work. <i>Administrative Science Quarterly, 54</i>(1), 32–57.</p>	<p>Most zoos offer few opportunities for hierarchical advancement beyond head keeper, a team leader who adds some supervisory responsibilities to animal care duties in exchange for a small pay increase.</p>	36
<p>Bunderson, J. S., & Thompson, J. A. (2009). The call of the wild: Zookeepers, callings, and the double-edged sword of deeply meaningful work. <i>Administrative Science Quarterly, 54</i>(1), 32–57.</p>	<p>In spite of the apparent lack of economic and status or advancement incentives associated with zookeeping, many people are so eager to work in the profession that they volunteer for months or years before securing a position.</p>	36
<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals, 24</i>(2), 175–189.</p>	<p>The data were gathered via a content and semiotic analysis of the websites of 54 zoos spread throughout the world. The results indicate that the image zoos present to the public whilst incorporating a strong conservation message lacks depth.</p>	175

<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>...it is suggested that zoos need to present their conservation credentials in more detail and ensure the entertainment message does not adversely affect transmission of the conservation or education one whilst at the same time continuing to attract sufficient visitors to ensure the economic viability of zoos. In addition, it is recognized that changing public perceptions of zoos requires these institutions to act together rather than independently when determining the overarching theme of the “zoo.”</p>	175
<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>An integral component of conservation efforts in the modern zoo is the conducting of research on animals (Jamieson 1985; World Association of Zoos and Aquariums 2005). Furthermore, conservation encompasses captive breeding programs of endangered species to ensure their survival and/or for release into natural habitats and protection/rejuvenation of such environments (Puan and Zakaria 2007).</p>	176
<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>The potential of learning experiences in zoos is related, according to educational theorists, to the fact they are offered in an informal and unstructured manner rather than a structured traditional schoolroom setting (Reade and Waran 1996).</p>	177
<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>...it has been suggested that where active educational opportunities that facilitate interaction—be it physical and/or emotional—with animals are offered, a successful transfer of conservation messages to visitors is more likely to occur than where only passive educational experiences are offered via animal viewing and notice boards.</p>	177

<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>Active learning opportunities may be facilitated by, amongst other things, the provision of animal demonstrations, volunteer or animal handler talks, touch tables, direct contact by visitors with animals, and multimedia factual information (Swanagan 2000; World Association of Zoos and Aquariums 2005; Lindemann-Matthies and Kamer 2006; Ballantyne et al. 2007; Smith and Broad 2008).</p>	<p>177</p>
<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>The key to the success of the transfer of conservation messages rests with the informal learning environment of the zoo that enables individuals to freely choose what and how to learn—a process that has been called “free-choice learning” (Falk 2005). The modern zoo is, therefore, portrayed to the public as being a site of education, research, and conservation.</p>	<p>177</p>
<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>One of the most problematic issues that zoos have faced in recent years is that alongside the desire to see zoos as sites of conservation, research, and education is the reality of the need to ensure they gain the financial income to allow them to keep operating (Dibb 1995). The most common source of income has traditionally been the paying visitor (Turley 1998; Davey 2007; Hosey 2008).</p>	<p>177</p>
<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>Consequently, zoos must recognize that visitors want to be entertained, and failing to provide this will undermine zoos’ gate receipts as people decide to undertake their leisure experiences elsewhere (Tomas, Crompton and Scott 2003).</p>	<p>178</p>
<p>Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i>, 24(2), 175–189.</p>	<p>Entertaining visitors is arguably necessary to ensure effective learning experiences, especially when these are aimed at children and people who feel they are visiting zoos as part of a leisure experience. Indeed, Puan and Zakaria (2007, p. 232) state “It is undeniable that effective education can only be gained if the desire of visitors for enjoyment is met.”</p>	<p>179</p> <p>It appears to me that the zoo does a good job entertaining their visitors</p> <p>Visitor</p> <p>Evaluation of zoo</p>

Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i> , 24(2), 175–189.	It is clear that the modern zoo must perform four roles in order to be seen to be socially acceptable and to be economically viable. These roles are conservation, education, research, and entertainment (Jamieson 1985; Reade and Waran 1996; Turtley 1998; Fernandez et al. 2009)	180
Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i> , 24(2), 175–189.	Recognizing the multiple roles of zoos in contemporary society, the aim of this paper is to assess the image that zoos are currently portraying to the general public, to see how the different roles are advertised and whether they sit comfortably alongside one another	185
Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i> , 24(2), 175–189.	Whilst there may be a significant difference between the image portrayed to the public and the reality of what occurs within zoos, it is the image of zoos, not the reality of what they do, that is vital if the public are to be convinced of the need for the continued existence and support of zoos, especially in an era of increased concern about animal rights	186
Carr, N., & Cohen, S. (2011). The public face of zoos: Images of entertainment, education and conservation. <i>Anthrozoos: A Multidisciplinary Journal of The Interactions of People and Animals</i> , 24(2), 175–189.	In addition, there is a need to identify the nature of the material presented on zoo websites where languages other than English are utilized.	187
Clark, T. W., & Brunner, R. D. (2002). Making partnerships work in endangered species conservation: A introduction to the decision process. <i>Endangered Species Update</i> , 19(4), 74–80.	The trend in endangered species programs is toward more and larger partnerships. Habitat Conservation Plans (HCPs), called for under the Endangered Species Act (ESA), are just one form of partnership. About 50 HCPs are underway and hundreds more are under discussion (Bob Baum 1996, personal communication).	1

Clark, T. W., & Brunner, R. D. (2002). Making partnerships work in endangered species conservation: A introduction to the decision process. <i>Endangered Species Update, 19</i> (4), 74–80.	Politics are inevitable because people develop and pursue different policies that reflect their own interests. Yet, in many instances, like endangered species restoration, people must reconcile policy differences to secure a common interest	2	
Clark, T. W., & Brunner, R. D. (2002). Making partnerships work in endangered species conservation: A introduction to the decision process. <i>Endangered Species Update, 19</i> (4), 74–80.	The combined assets of government, conservation groups, business, and public involvement are a powerful tool to address these challenges. For partnerships to be effective, considerable attention must be given to the decision making process.	2	
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology, 28</i> , 377 – 397.	Research has only begun to examine the effectiveness of zoos in place-based learning, and there has been much debate about how such informal learning is defined and measured.	377	
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology, 28</i> , 377 – 397.	In addition, Kellert [1996] reports that zoo visitors demonstrate a higher level of humanistic attitudes afforded to nonhuman animals than do nonvisitors, meaning that they are more likely to express emotional bonds to animals similar to those extended to humans. Thus, zoos provide distinctive exhibits to an audience that is not only large and diverse but that is also probably predisposed to value and care about animals.	378	
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology, 28</i> , 377 – 397.	Visitor surveys fairly consistently indicate that what people are primarily seeking when they visit the zoo is a “good day out,” an opportunity to enjoy themselves as part of a social group, and the chance to provide interesting information to their children [Morgan and Hodgkinson, 1999; Reade and Waran, 1996; Turley, 2001].	379	I usually come to the zoo to spend a day out with friends Visitor Motivation for visitation

<p>Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i>, 28, 377 – 397.</p>	<p>Visitor surveys fairly consistently indicate that what people are primarily seeking when they visit the zoo is a “good day out,” an opportunity to enjoy themselves as part of a social group, and the chance to provide interesting information to their children [Morgan and Hodgkinson, 1999; Reade and Waran, 1996; Turley, 2001].</p>	<p>379</p>	<p>I usually come to the zoo to spend a day with family</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i>, 28, 377 – 397.</p>	<p>In the case of zoos, it may be that conservation-learning outcomes are a consequence of having highly pleasurable engaging experiences with others</p>	<p>380</p>	<p>The zoo does a good job on educating the public regarding conservation issues</p>	<p>Visitor</p>	<p>Evaluation of zoo</p>
<p>Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i>, 28, 377 – 397.</p>	<p>In the case of zoos, it may be that conservation-learning outcomes are a consequence of having highly pleasurable engaging experiences with others</p>	<p>380</p>	<p>It appears to me that the zoo does a good job entertaining their visitors</p>	<p>Visitor</p>	<p>Evaluation of zoo</p>
<p>Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i>, 28, 377 – 397.</p>	<p>In the case of zoos, it may be that conservation-learning outcomes are a consequence of having highly pleasurable engaging experiences with others</p>	<p>380</p>	<p>I enjoy finding out more about wildlife in their habitat at the zoo</p>	<p>Visitor</p>	<p>Evaluation of experience</p>
<p>Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i>, 28, 377 – 397.</p>	<p>People who came to learn about animals were more likely to say that they wanted to know more about the animal and the species as opposed to for entertainment or for a social outing.</p>	<p>383</p>	<p>I usually come to the zoo to learn about the animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i>, 28, 377 – 397.</p>	<p>People were more inclined to claim a concern for the animal and for the species when (1) they stated that they had learned something and wanted to learn more, (2) they reported a sense of connection to the animal, and (3) their motivations for visiting the zoo were associated with the desire to learn rather than the desire for entertainment</p>	<p>384</p>			

Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	...only 27% of visitors (n=513) were observed to look at the exhibit signs and interpretive material.	389
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	This analysis revealed that a substantial proportion of visitors made statements reflecting curiosity, a positive response to the animals, or some connection between humans and the animals.	389
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	A relatively small percentage of people were observed reading exhibit signs located near the animals; whether or not a visitor did so appeared to depend both on the animal's capacity to provoke curiosity and on what the research team believed were the relative ease of accessibility of the exhibit signs in comparison with the animal viewing area.	391
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	The observations confirm that visitors make substantially more positive than negative comments about the animals they observe	391
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	The descriptive statements illustrate that zoo animals are used to facilitate social interaction, particularly among family units. This is consistent with previous findings indicating that the zoo is seen as an important place for people to take their children and with the goal that many zoo visitors have of enabling learning by others	391
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	Although people recognize the zoo as a place for education, our data validate claims by other authors that zoo visitors are motivated more by the desire to enjoy themselves with their families than to pursue an educational outcome. This suggests that zoo visitors are receptive to the opportunities for learning afforded by the zoo, but only insofar as it fits within their goals for enjoyment in a social setting.	393

Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	The studies reported here demonstrate that this personal learning process was evident in the overheard conversations, was consistent with the view of a zoo's purpose, and was considered to be entertaining, pleasurable, and satisfying.	393
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	Our findings about leisure entertainment as an enjoyable learning experience were partly anticipated in Woods' [2002] study that sought to understand the impact of zoo experiences on individual perceptions of animals. Woods identified that the perception of learning was an attribute uniquely associated with visiting zoos and not with visiting wild settings.	394
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	Even if people come to the zoo in part to learn about animals and about conservation needs, they are primarily coming to have a good time and to have social interactions; because it makes them feel good and because they value the opportunity to interact with nonhuman animals	394
Clayton, S., Fraser, J., & Saunders, C.D. (2009). Zoo experiences: Conversations, connections, and concern for animals. <i>Zoo Biology</i> , 28, 377 – 397.	Enjoyment is not incompatible with learning. As appears from the result presented here, the animals stimulate curiosity and cognitive engagement.	395
Clayton, S., Luebke, J., Saunders, C., Matiasek, J. and Grajal, A. Connecting to nature at the zoo: Implications for responding to climate change. <i>Environmental Education Research</i> , 20, 460-475.	The critical issue of climate change has not evoked a correspondingly serious response among the general public. One barrier to public concern may be that the issue of global environmental change seems remote and abstract, of little personal relevance	460
Clayton, S., Luebke, J., Saunders, C., Matiasek, J. and Grajal, A. Connecting to nature at the zoo: Implications for responding to climate change. <i>Environmental Education Research</i> , 20, 460-475.	Zoos also provide a social context in which environmental information may be disseminated without being associated with the political left or right.	461

<p>Clayton, S., Luebke, J., Saunders, C., Matiasek, J. and Grajal, A. Connecting to nature at the zoo: Implications for responding to climate change. <i>Environmental Education Research</i>, 20, 460-475.</p>	<p>Research has repeatedly found that a perception of animals as similar to humans is positively correlated with interest in protecting that animal or species (Allen et al. 2002; Clayton, Fraser, and Burgess 2011; Clayton, Fraser, and Saunders 2009; Sevilano, Aragonés, and Schultz 2007).</p>	<p>461</p>	<p>Potential impacts of zoo experience</p>
<p>Clayton, S., Luebke, J., Saunders, C., Matiasek, J. and Grajal, A. Connecting to nature at the zoo: Implications for responding to climate change. <i>Environmental Education Research</i>, 20, 460-475.</p>	<p>Overall, research suggests that a sense of connection to nature may be associated with greater thought about, and interest in, environmental problems as well as a stronger sense of responsibility for acting.</p>	<p>461</p>	<p>Visitor</p>
<p>Clayton, S., Luebke, J., Saunders, C., Matiasek, J. and Grajal, A. Connecting to nature at the zoo: Implications for responding to climate change. <i>Environmental Education Research</i>, 20, 460-475.</p>	<p>Zoos and aquariums, as conservation organizations, have begun to address the issue of climate change (e.g. Grajal, Goldman, and Marks 2012). As institutions that attract a large and diverse audience, they have the opportunity to educate people about the causes and effects of climate change, and the behaviors that may mitigate it.</p>	<p>463</p>	<p>The zoo has inspired me to do more in my private life for the benefit of wildlife</p>
<p>Clayton, S., Luebke, J., Saunders, C., Matiasek, J. and Grajal, A. Connecting to nature at the zoo: Implications for responding to climate change. <i>Environmental Education Research</i>, 20, 460-475.</p>	<p>Beyond this, people respond to the zoo visit in different ways; those who respond with a stronger sense of connection or similarity to the animals have a higher level of environmental concern and behavioral propensity. That sense of connection, we argue, makes the issue of climate change personally relevant. Zoos can build upon these findings to design exhibits and visitor experiences that encourage the feeling of connection (e.g. Routman, Ogden, and Winsten 2010).</p>	<p>472</p>	<p>Visitor</p>
<p>Clayton, S., Luebke, J., Saunders, C., Matiasek, J. and Grajal, A. Connecting to nature at the zoo: Implications for responding to climate change. <i>Environmental Education Research</i>, 20, 460-475.</p>	<p>In thinking about educational possibilities, it is relevant to note that people who felt that their friends shared their opinions were more likely to endorse the existence of climate change and taking action to address it.</p>	<p>472</p>	<p>Potential impacts of zoo experience</p>

<p>Clayton, S., Luebke, J., Saunders, C., Matiassek, J. and Grajal, A. Connecting to nature at the zoo: Implications for responding to climate change. <i>Environmental Education Research</i>, 20, 460-475.</p>	<p>The study adds to our existing understanding of the importance of a sense of connection, by emphasizing the way in which a context that incorporates emotionally rich experiences with animals as well as supportive social interactions may have the ability to strengthen that sense of connection. It also enhances our understanding of the possible role of zoos in delivering a proenvironmental message by capitalizing on people's tendency to feel a connection to the animals.</p>	<p>472</p>	<p>Visitor</p>	<p>Potential impacts of zoo experience</p>
<p>Conway, W. G. (2003). The role of zoos in the 21st century. <i>International Zoo Yearbook</i>, 38, 7-13.</p>	<p>Proactive conservation organizations</p>	<p>8</p>	<p>The zoo has inspired me to do more in my private life for the benefit of wildlife</p>	<p>Visitor</p>
<p>Conway, W. G. (2003). The role of zoos in the 21st century. <i>International Zoo Yearbook</i>, 38, 7-13.</p>	<p>Proactive conservation organizations</p>	<p>8</p>	<p>The zoo is actively involved with international and national conservation programmes</p>	<p>Staff member</p>
<p>Conway, W. G. (2003). The role of zoos in the 21st century. <i>International Zoo Yearbook</i>, 38, 7-13.</p>	<p>Target conservation education on law makers and government authorities regarding global extinction crisis</p>	<p>9</p>	<p>The zoo works effectively with the government to influence environmental legislation</p>	<p>Staff member</p>
<p>Conway, W. G. (2003). The role of zoos in the 21st century. <i>International Zoo Yearbook</i>, 38, 7-13.</p>	<p>Target conservation education on law makers and government authorities regarding global extinction crisis</p>	<p>9</p>	<p>The zoo's assistance to developing countries to conserve wildlife is effective</p>	<p>Staff member</p>
<p>Conway, W. G. (2003). The role of zoos in the 21st century. <i>International Zoo Yearbook</i>, 38, 7-13.</p>	<p>Target conservation education on law makers and government authorities regarding global extinction crisis</p>	<p>9</p>	<p>The zoo is actively involved with international and national conservation programmes</p>	<p>Staff member</p>

Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Target conservation education on law makers and government authorities regarding global extinction crisis	9	The zoo is working towards creating more reserves in unprotected areas	Staff member	Assessment of zoo's wider values
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Target conservation education on law makers and government authorities regarding global extinction crisis	9	The zoo makes an effort to reintroduced zoo-bred endangered animals into the wild	Staff member	Assessment of zoo's wider values
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Target conservation education on law makers and government authorities regarding global extinction crisis	9	The zoo is a main supporter of conservation projects in the region	Staff member	Assessment of zoo's wider values
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Contribute financial support to in situ wildlife conservation programmes, research, education or training	9	The zoo's assistance to developing countries to conserve wildlife is effective	Staff member	Evaluation of stakeholder relationship
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Contribute financial support to in situ wildlife conservation programmes, research, education or training	9	Regardless of the impact on the animals, the zoo is determined to turn a profit	Staff member	Evaluation of zoo operational aspects
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Contribute financial support to in situ wildlife conservation programmes, research, education or training	9	The zoo is a main supporter of conservation projects in the region	Staff member	Assessment of zoo's wider values
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Contribute financial support to in situ wildlife conservation programmes, research, education or training	9	The zoo has provided me with excellent training to do my job	Staff member	Intrinsic factors of job satisfaction
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Contribute financial support to in situ wildlife conservation programmes, research, education or training	9	There are sufficient resources to care for animals at the zoo	Staff member	Intrinsic factors of job satisfaction

Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Contribute financial support to in situ wildlife conservation programmes, research, education or training	9	The zoo has effective partnerships with universities to encourage scientific research	Staff member	Evaluation of stakeholder relationship
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Contribute financial support to in situ wildlife conservation programmes, research, education or training	9	The zoo collaborates effectively with schools to develop educational activities	Staff member	Evaluation of stakeholder relationship
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Potential to become the primary non-governmental direct-action conservation organizations	9	I would like the zoo to create reserves in unprotected environments	Visitor	Expectations of visitors
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Potential to become the primary non-governmental direct-action conservation organizations	9	I would be interested in volunteering for conservation projects conducted by the zoo	Visitor	Potential impacts of zoo experience
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Potential to become the primary non-governmental direct-action conservation organizations	9	The zoo is actively involved with international and national conservation programmes	Staff member	Evaluation of zoo operational aspects
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Potential to become the primary non-governmental direct-action conservation organizations	9	The zoo is a main supporter of conservation projects in the region	Staff member	Assessment of zoo's wider values
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Work to sustain smaller than usually viable wildlife populations in reserves and parks	10	The zoo collaborates effectively with other zoos to sustain animal collections for the future	Staff member	Evaluation of stakeholder relationship
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Work to sustain smaller than usually viable wildlife populations in reserves and parks	10	Animal breeding is well managed at the zoo	Staff member	Evaluation of animal management

Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Creating zoo reserve in unprotected habitats through zoo coalition	12	I would like the zoo to create reserves in unprotected environments	Visitor	Expectations of visitors
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Creating zoo reserve in unprotected habitats through zoo coalition	12	The zoo is working towards creating more reserves in unprotected areas	Staff member	Assessment of zoo's wider values
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Helping zoos in the developing world	12	The zoo is working towards creating more reserves in unprotected areas	Staff member	Assessment of zoo's wider values
Conway, W. G. (2003). The role of zoos in the 21 st century. <i>International Zoo Yearbook</i> , 38, 7–13.	Helping zoos in the developing world	12	I would like the zoo to create reserves in unprotected environments	Visitor	Expectations of visitors
Critley, G. (2011). Visitor expectations and visit satisfaction at zoos. In Frost, W (Ed.), <i>Zoos and Tourism: Conservation, education, entertainment</i> , 189-203. Ontario, Canada: Channel View Publications	The key findings of Tian-Cole et al (2002) included: - Visitors' intended future behaviour as influenced by quality of performance, quality of experience, overall service quality and overall satisfaction. - Quality of performance (on service attributes grouped as domains or factors) had the strongest total effect on behavioural intentions - Overall satisfaction had the second strongest effect on behavioural intentions	180			
Critley, G. (2011). Visitor expectations and visit satisfaction at zoos. In Frost, W (Ed.), <i>Zoos and Tourism: Conservation, education, entertainment</i> , 189-203. Ontario, Canada: Channel View Publications	That many zoo visits by adults are not primarily about education and conservation is evident in the range of activities visitors engage in during zoo visits.	182			

<p>Dickie, L.A., Bonner, J.P., and West, C. (2007). In situ and ex situ conservation: Blurring the boundaries between zoos and the wild. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). Zoos in the 21st century: Catalysts for conservation? 37-50. Cambridge, London: Cambridge University Press.</p>	<p>All zoo staff (regardless of the department they work in) need to be stakeholders in a common conservation vision that stretches from the urban zoo to field sites around the zoo. When a zoo has a committed staff, motivated by a common goal and fulfilling their part of the conservation jigsaw, bringing with them individual expertise strengths in cooperation with colleagues, and building a strong support base via their visitors and partners, then that zoo has truly become an integrated force of conservation.</p>	<p>233</p>	<p>The zoo has made me more aware of current issues faced by wildlife and their habitat</p> <p>Staff member</p> <p>Personal conservation attitudes</p>
<p>Dickie, L.A., Bonner, J.P., and West, C. (2007). In situ and ex situ conservation: Blurring the boundaries between zoos and the wild. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). Zoos in the 21st century: Catalysts for conservation? 37-50. Cambridge, London: Cambridge University Press.</p>	<p>All zoo staff (regardless of the department they work in) need to be stakeholders in a common conservation vision that stretches from the urban zoo to field sites around the zoo. When a zoo has a committed staff, motivated by a common goal and fulfilling their part of the conservation jigsaw, bringing with them individual expertise strengths in cooperation with colleagues, and building a strong support base via their visitors and partners, then that zoo has truly become an integrated force of conservation.</p>	<p>233</p>	<p>The zoo has made me appreciate that nature is worthy of protection</p> <p>Staff member</p> <p>Personal conservation attitudes</p>
<p>Field, D.A., and Dickie, L.A. (2007). Zoo coalitions for conservation. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). Zoos in the 21st century: Catalysts for conservation? 37-50. Cambridge, London: Cambridge University Press.</p>	<p>In the developed world, commonly zoo visitors are targeted by request for conservation funding and can be asked, as consumers, to re-evaluate their personal impact on the environment. In the developing world, in contrast, visitors may directly impact on species survival in their local area. The provision of funds from the more economically able nations of the world is vital to species survival. However, communities in mega-diversity countries must be engaged in the conservation of their local biodiversity, regardless of whether they are able to provide fund.</p>	<p>290</p>	<p>The zoo's assistance to developing countries to conserve wildlife is effective.</p> <p>Staff member</p> <p>Evaluation of stakeholder relationship</p>

Fraser, J. (2009). The anticipated utility of zoos for developing moral concern in children. <i>Curator: The Museum Journal</i> , 52(4), 349–361.	Promote altruism	353	Compassion for animals is an important moral value in my life	Staff member	Personal conservation attitudes
Fraser, J. (2009). The anticipated utility of zoos for developing moral concern in children. <i>Curator: The Museum Journal</i> , 52(4), 349–361.	Transferring environmental values	355	The zoo has made me more aware of current issues faced by wildlife and their habitat	Staff member	Personal conservation attitudes
Fraser, J. (2009). The anticipated utility of zoos for developing moral concern in children. <i>Curator: The Museum Journal</i> , 52(4), 349–361.	Transferring environmental values	353	The zoo has made me appreciate that nature is worthy of protection	Staff member	Personal conservation attitudes
Fraser, J. (2009). The anticipated utility of zoos for developing moral concern in children. <i>Curator: The Museum Journal</i> , 52(4), 349–361.	Promoting self esteem	356			
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	To have a practical and moral responsibility to become fully functioning wildlife conservation organizations	44	The zoo is actively involved with international and national conservation programmes	Staff member	Evaluation of zoo operational aspects
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Craft a new vision for how society can live in a productive relationship with the world's remaining biodiversity	44	The zoo has inspired me to do more in my private life for the benefit of wildlife	Visitor	Potential impacts of zoo experience
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Craft a new vision for how society can live in a productive relationship with the world's remaining biodiversity	44	My visit to the zoo made me keen to find more about the threats faced in the wild	Visitor	Potential impacts of zoo experience
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Craft a new vision for how society can live in a productive relationship with the world's remaining biodiversity	44	I feel that the conservation projects conducted by the zoo is worth doing	Staff member	Evaluation of zoo operational aspects

Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Craft a new vision for how society can live in a productive relationship with the world's remaining biodiversity	44	The zoo has made me appreciate that nature is worthy of protection	Staff member	Personal conservation attitudes
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Craft a new vision for how society can live in a productive relationship with the world's remaining biodiversity	44	The zoo has made me more aware of current issues faced by wildlife and their habitat	Staff member	Personal conservation attitudes
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Invest and develop in sound scholarship on how to share a positive vision of the world that consistently protects its irreplaceable wildlife heritage	44	The zoo feels like an ally, recognising my work	Research associates	Intrinsic relationship
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Invest and develop in sound scholarship on how to share a positive vision of the world that consistently protects its irreplaceable wildlife heritage	44	The zoo deeply cares about my project	Research associates	Intrinsic relationship
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Invest and develop in sound scholarship on how to share a positive vision of the world that consistently protects its irreplaceable wildlife heritage	44	The zoo should contribute a portion of their annual profits to outside conservation projects	Research associates	
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Invest and develop in sound scholarship on how to share a positive vision of the world that consistently protects its irreplaceable wildlife heritage	44	There are sufficient resources to care for animals at the zoo	Staff member	Intrinsic factors of job satisfaction
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Balance an active field conservation program alongside the management of a zoo.	46	The zoo compares favourably with other zoos that I have visited	Visitor	Evaluation of zoo
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Balance an active field conservation program alongside the management of a zoo.	46	I think the zoo is well-managed	Staff member	Evaluation of zoo operational aspects

Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Balance an active field conservation program alongside the management of a zoo.	46	The zoo makes an effort to reintroduced zoo-bred endangered animals into the wild	Staff member	Assessment of zoo's wider values
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Captive or conservation breeding of endangered species	49	The zoo collaborates effectively with other zoos to sustain animal collections for the future	Staff member	Evaluation of stakeholder relationship
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Captive or conservation breeding of endangered species	49	Animal breeding is well managed at the zoo	Staff member	Evaluation of animal management
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Captive or conservation breeding of endangered species	49	It doesn't matter to me where the zoo sources their animals	Visitor	Expectations of visitors
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Scientific investigation of species biology, natural history and new field technology in direct response to field needs	49	The zoo has an effective partnership with universities to encourage scientific research	Staff member	Evaluation of stakeholder relationship
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Scientific investigation of species biology, natural history and new field technology in direct response to field needs	49	The zoo deeply cares about my project	Research associates	Intrinsic relationship
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Scientific investigation of species biology, natural history and new field technology in direct response to field needs	49	The zoo works effectively with external organisations on outside conservation projects	Staff member	Evaluation of stakeholder relationship
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Scientific investigation of species biology, natural history and new field technology in direct response to field needs	49	The zoo is actively involved with international and national conservation programmes	Staff member	Evaluation of zoo operational aspects

Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Scientific investigation of species biology, natural history and new field technology in direct response to field needs	49	The zoo is a main supporter of conservation projects in the region	Staff member	Assessment of zoo's wider values
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Well developed articulation and dissemination of the wildlife conservation agenda as a form of 'conservation marketing'	50	The zoo does a good job on educating the public regarding conservation issues	Visitor	Evaluation of zoo
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Well developed articulation and dissemination of the wildlife conservation agenda as a form of 'conservation marketing'	50	I enjoyed finding out more about wildlife in their habitat at the zoo	Visitor	Evaluation of experience
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Well developed articulation and dissemination of the wildlife conservation agenda as a form of 'conservation marketing'	50	I enjoyed the zoo's activities and presentations	Visitor	Evaluation of experience
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Well developed education of influential people, with emphasis on political leaders and philanthropists	50	The zoo works effectively with experts from outside the zoo	Staff member	Evaluation of stakeholder relationship
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Well developed education of influential people, with emphasis on political leaders and philanthropists	50	The zoo works effectively with the government to influence environmental legislation	Staff member	Evaluation of stakeholder relationship
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Research and evaluation on how cultural norms and environmental values are developed	50	The zoo is open and honest when resolving issues raised by the public	Visitor	Evaluation of zoo
Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Research and evaluation on how cultural norms and environmental values are developed	50	The zoo is open and honest when resolving issues raised by the public	Staff member	Evaluation of zoo operational aspects

Fraser, J., & Wharton, D. (2007). The future of zoos: A new model for cultural institutions. <i>Curator: The Museum Journal</i> , 50(1), 41 – 54.	Research and evaluation on how cultural norms and environmental values are developed	50	The zoo is open and honest when resolving issues raised by the staff	Staff member	Evaluation of zoo operational aspects	
Holst, B. and Dickie, L. (2007). How do national and international regulations and policies influence the roles of zoos and aquariums in conservation? In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds.), <i>Zoos in the 21st century: Catalysts for conservation?</i> 22 – 31. Cambridge, London. Cambridge University Press.	Make themselves hear and participate actively in politics as future of biodiversity is intimately tied to the political process	30				
Holst, B. and Dickie, L. (2007). How do national and international regulations and policies influence the roles of zoos and aquariums in conservation? In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds.), <i>Zoos in the 21st century: Catalysts for conservation?</i> 22 – 31. Cambridge, London. Cambridge University Press.	Not use conservation as an excuse for keeping animals in zoos, but use the animals they do manage to improve their conservation efforts.	30				
Holst, B. and Dickie, L. (2007). How do national and international regulations and policies influence the roles of zoos and aquariums in conservation? In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds.), <i>Zoos in the 21st century: Catalysts for conservation?</i> 22 – 31. Cambridge, London. Cambridge University Press.	Follow legislation and IUCN guidelines whenever relevant	30				
Holst, B. and Dickie, L. (2007). How do national and international regulations and policies influence the roles of zoos and aquariums in conservation? In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds.), <i>Zoos in the 21st century: Catalysts for conservation?</i> 22 – 31. Cambridge, London. Cambridge University Press.	Communicate openly and honestly about conservation efforts and make data available	30				

<p>Holst, B. and Dickie, L. (2007). How do national and international regulations and policies influence the roles of zoos and aquariums in conservation? In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds.), <i>Zoos in the 21st century: Catalysts for conservation?</i> 22 – 31. Cambridge, London. Cambridge University Press.</p>	<p>Support the development of new conservation tools and not wait until they are delivered by external bodies</p>	<p>30</p>	<p>Expectations of visitors</p>
<p>Holst, B. and Dickie, L. (2007). How do national and international regulations and policies influence the roles of zoos and aquariums in conservation? In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds.), <i>Zoos in the 21st century: Catalysts for conservation?</i> 22 – 31. Cambridge, London. Cambridge University Press.</p>	<p>Consider themselves as part of a national/regional/global zoo community and provide their support to its conservation efforts, It is unacceptable for zoos to consider themselves as isolated entities with no major links to other similar institutions. Responsible zoos depend on each other, no more so than in relation to conservation.</p>	<p>30</p>	<p>Expectations of visitors</p>
<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Zoos and aquariums of the future must take positive action in order to sustain their animal collections, and to conserve wild animals and their habitats</p>	<p>15</p>	<p>Expectations of visitors</p>
<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Zoos and aquariums of the future must take positive action in order to sustain their animal collections, and to conserve wild animals and their habitats</p>	<p>15</p>	<p>Expectations of visitors</p>
<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Zoos and aquariums of the future must take positive action in order to sustain their animal collections, and to conserve wild animals and their habitats</p>	<p>15</p>	<p>Evaluation of zoo operational aspects</p>
<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Zoos and aquariums of the future must take positive action in order to sustain their animal collections, and to conserve wild animals and their habitats</p>	<p>15</p>	<p>Evaluation of zoo operational aspects</p>
<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Make a greater commitment to cooperative population management (i.e. genetic and demographic management)</p>	<p>15</p>	<p>Evaluation of animal management</p>

Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Make a greater commitment to cooperative population management (i.e. genetic and demographic management)	15	Animal breeding is well managed at the zoo	Staff member	Evaluation of animal management
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Plan zoo and aquarium collections cooperatively and systematically	15	Animal breeding is well managed at the zoo	Staff member	Evaluation of animal management
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Zoos and, in some cases, aquariums must decide together which species they will manage co-operatively to sustain these taxa into the future (Hutchins, Willis & Wiese, 1995; Hutchins, Wiese & Willis, 1996; Hutchins et al., 1998; Smith & Allard, 1999)	15	Most of the animals in the zoo come from legal sustainable sources	Staff member	Evaluation of animal management
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Improve the skills of animal-management personnel	16	Training for staff members is an important priority for the zoo	Staff member	Intrinsic factors of job satisfaction
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Improve the skills of animal-management personnel	16	The zoo provides me with the tools to develop my career	Staff member	Intrinsic factors of job satisfaction
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Improve communication and information exchange using emerging information technologies, including Web sites and email. Some zoos and aquariums still lack computer and Internet capabilities	16	I find the zoo's website up to date and informative	Visitor	Behaviour of visitors
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Improve communication and information exchange using emerging information technologies, including Web sites and email. Some zoos and aquariums still lack computer and Internet capabilities	16	It is important to be recognised by the media for our sponsorship of the zoo	Corporate sponsors	Marketing strategies
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Link collection activities directly to field conservation. Modern zoos and aquariums reduce their need to collect free-ranging animals by managing their populations for long-term sustainability	16, 17	Most of the animals in the zoo come from legal sustainable sources	Staff member	Evaluation of animal management

Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Link collection activities directly to field conservation. Modern zoos and aquariums reduce their need to collect free-ranging animals by managing their populations for long-term sustainability	16, 17	Animal breeding is well managed at the zoo	Staff member	Evaluation of animal management
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Direct a substantially larger portion of resources, both human and financial, to field-conservation activities to reduce the need for costly ex situ alternatives	17	I feel that conservation projects conducted by the zoo is worth doing	Staff member	Evaluation of zoo operational aspects
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Direct a substantially larger portion of resources, both human and financial, to field-conservation activities to reduce the need for costly ex situ alternatives	17	The zoo is a main supporter of conservation projects in the region	Staff member	Assessment of zoo's wider values
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Prediction that future zoos will de-emphasize their role in reintroduction and so-called 'frozen zoo'	17			
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Increase support of in situ conservation through public education, scientific research and technology development, professional training, nature travel programmes and direct support of protected areas – "by far the most attractive and most economical gene bank is the proper management of animals in their habitat"	17	The zoo should be active in improving national conservation efforts	Visitor	Expectations of visitors
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Increase support of in situ conservation through public education, scientific research and technology development, professional training, nature travel programmes and direct support of protected areas – "by far the most attractive and most economical gene bank is the proper management of animals in their habitat"	17	The zoo has made me more aware of current issues faced by wildlife and their habitat	Staff member	Personal conservation attitudes

<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Increase support of in situ conservation through public education, scientific research and technology development, professional training, nature travel programmes and direct support of protected areas – “by far the most attractive and most economical gene bank is the proper management of animals in their habitat”</p>	<p>17</p>	<p>Animal breeding is well managed at the zoo</p>	<p>Staff member</p>	<p>Evaluation of animal management</p>
<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Increase support of in situ conservation through public education, scientific research and technology development, professional training, nature travel programmes and direct support of protected areas – “by far the most attractive and most economical gene bank is the proper management of animals in their habitat”</p>	<p>17</p>	<p>Most of the animals in the zoo come from legal sustainable sources</p>	<p>Staff member</p>	<p>Evaluation of animal management</p>
<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Increase support of in situ conservation through public education, scientific research and technology development, professional training, nature travel programmes and direct support of protected areas – “by far the most attractive and most economical gene bank is the proper management of animals in their habitat”</p>	<p>17</p>	<p>I feel that conservation projects conducted by the zoo is worth doing</p>	<p>Staff member</p>	<p>Evaluation of zoo operational aspects</p>
<p>Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i>, 38(1), 14–28.</p>	<p>Increase support of in situ conservation through public education, scientific research and technology development, professional training, nature travel programmes and direct support of protected areas – “by far the most attractive and most economical gene bank is the proper management of animals in their habitat”</p>	<p>17</p>	<p>The zoo makes an effort to reintroduced zoo-bred endangered animals into the wild</p>	<p>Staff member</p>	<p>Assessment of zoo’s wider values</p>

Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Increase support of in situ conservation through public education, scientific research and technology development, professional training, nature travel programmes and direct support of protected areas – “by far the most attractive and most economical gene bank is the proper management of animals in their habitat”	17	The zoo is a main supporter of conservation projects in the region	Staff member	Assessment of zoo’s wider values
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Future zoo-based conservation initiatives will always include an evaluation component to increase success from learning from past mistakes	18			
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Develop effective partnerships with non-profit organizations, government wildlife agencies and corporations that have similar goals	18	The zoo has an effective partnership with universities to encourage scientific research	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Develop effective partnerships with non-profit organizations, government wildlife agencies and corporations that have similar goals	18	The zoo works effectively with experts from outside the zoo	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Develop effective partnerships with non-profit organizations, government wildlife agencies and corporations that have similar goals	18	The zoo works effectively with external organisations on outside conservation projects	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Develop effective partnerships with non-profit organizations, government wildlife agencies and corporations that have similar goals	18	The zoo works effectively with the government to influence environmental legislation	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Increase levels of inter-institutional cooperation on field conservation and research initiatives.	19	The zoo has effective partnerships with universities to encourage scientific research	Staff member	Evaluation of stakeholder relationship

Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Develop effective models for conservation that integrate traditional species-focused efforts with habitat conservation and community-based economic incentives	19		
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Become more politically proactive for conservation efforts	19	The zoo works effectively with the government to influence environmental legislation	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Continue to improve animal-management and exhibit designs capabilities to meet the physical and psychological needs of the animals.	20	There are sufficient resources to care for animals at the zoo	Intrinsic factors of job satisfaction
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Continue to improve animal-management and exhibit designs capabilities to meet the physical and psychological needs of the animals.	20	The animals are housed in a natural setting	Evaluation of zoo
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Continue to improve animal-management and exhibit designs capabilities to meet the physical and psychological needs of the animals.	20	Most of the animals in the zoo come from legal sustainable sources	Evaluation of animal management
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Develop written taxon-specific standards of animal care which are enforced as part of accreditation programmes.	20-21	It doesn't matter to me where the zoo sources their animals	Expectations of visitors
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Develop effective environmental enrichment programmes which become a condition of accreditation.	21	Animal breeding is well managed at the zoo	Evaluation of animal management
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Manage animal populations more intensively to reduce production of surplus animals. This would reduce the amount of criticism for their disposal of so-called surplus animals.	21	It doesn't matter to me where the zoo sources their animals	Expectations of visitors

Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Manage animal populations more intensively to reduce production of surplus animals. This would reduce the amount of criticism for their disposal of so-called surplus animals.	21	Animal breeding is well managed at the zoo	Staff member	Evaluation of animal management
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Manage animal populations more intensively to reduce production of surplus animals. This would reduce the amount of criticism for their disposal of so-called surplus animals.	21	The zoo collaborates effectively with other zoos to sustain animal collections for the future	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Strengthen regional accreditation standards in order to draw a strong distinction between professionally managed zoos and aquariums and roadside animal attractions.	21	The zoo works effectively with the government to influence environmental legislation	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Strengthen regional accreditation standards in order to draw a strong distinction between professionally managed zoos and aquariums and roadside animal attractions.	21	The zoo's assistance to developing countries to conserve wildlife is effective	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Work with government authorities to eliminate substandard facilities such as roadside animal attractions.	22			
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Partner with animal-welfare organizations and educate the public about the differences between animal welfare, animal rights and conservation	22	The zoo works effectively with external organisations on outside conservation projects	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Greatly improve education programmes with the goal of increasing public concern for and interest in wildlife and their habitats.	23	The zoo does a good job on educating the public regarding conservation issues	Visitor	Evaluation of zoo

Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Focus educational efforts where the problems are most relevant and immediate.	23	The zoo does a good job on educating the public regarding conservation issues	Visitor	Evaluation of zoo
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Focus educational efforts where the problems are most relevant and immediate.	23	My visit to the zoo made me keen to find more about the threats faced in the wild	Visitor	Potential impacts of zoo experience
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Focus educational efforts where the problems are most relevant and immediate.	23	The zoo has inspired me to do more in my private life for the benefit of wildlife	Visitor	Potential impacts of zoo experience
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Focus energy on sharing conservation-education skills and resources with professionals in developing countries	23	The zoo should assist developing countries to conserve wildlife	Visitor	Expectations of visitors
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Focus energy on sharing conservation-education skills and resources with professionals in developing countries	23	The zoo's assistance to developing countries to conserve wildlife is effective	Staff member	Evaluation of stakeholder relationship
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Seek to increase direct public involvement in conservation on a local level. Zoos and aquariums of the future will become important catalyst for volunteer work that has a positive impact on the environment.	24	I would be interested in volunteering for conservation projects conducted by the zoo	Visitor	Potential impacts of zoo experience
Hutchins, M. (2003). Zoo and aquarium animal management and conservation: Current trends and future challenges. <i>International Zoo Yearbook</i> , 38(1), 14–28.	Seek to increase direct public involvement in conservation on a local level. Zoos and aquariums of the future will become important catalyst for volunteer work that has a positive impact on the environment.	24	My visit to the zoo made me keen to find more about the threats faced in the wild	Visitor	Potential impacts of zoo experience

Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Organizational structure and philosophy – require intelligent, decisive, innovative leaders in order to be successful.	131	I think the zoo is well-managed	Staff member	Evaluation of zoo operational aspects
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Employee recruitment, training and retention – personnel who understand the vision and goals of a modern zoological institution, and have the skills and motivation to implement them	132	I thoroughly enjoy the job that I am doing	Staff member	Intrinsic factors of job satisfaction
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Employee recruitment, training and retention – personnel who understand the vision and goals of a modern zoological institution, and have the skills and motivation to implement them	132	I feel that my opinions are highly valued by zoo management	Staff member	Intrinsic factors of job satisfaction
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Employee recruitment, training and retention – personnel who understand the vision and goals of a modern zoological institution, and have the skills and motivation to implement them	132	The zoo has provided me with excellent training to do my job	Staff member	Intrinsic factors of job satisfaction
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Employee recruitment, training and retention – personnel who understand the vision and goals of a modern zoological institution, and have the skills and motivation to implement them	132	My supervisor encourages me to come up with new ideas at work	Staff member	Extrinsic factors of job satisfaction
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Inter-institutional cooperation	133		Staff member	
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Technological capabilities – use to improve its networking and outreach capabilities	134			
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Animal care and husbandry – surpass basic expectations stipulated by governments and/or relevant association to ensure that both physical and psychological needs of all the animals in their collection are being met or exceeded.	134			

Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Research – need formal research programme that includes an institutional mission statement, a method for evaluating research proposals and protocols for visiting scientists.	135
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Develop strong cooperative relationships with local colleagues and universities for appropriate and approved research and educational activities	135
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Research not only focused on animal collection or on wildlife-conservation topics but integrated into all aspects of the zoological business	135
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Conservation – recognize that simply sustaining captive populations of wild animals should not by itself be considered conservation	136
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Education - develop outstanding conservation-education programmes that inspire people to change their attitudes and behaviour to benefit wildlife and their habitats	136
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Exhibit design – immerse visitors in the natural habitat of the animals and inspire them to explore the world of nature and show them how they can take conservation action.	136
Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21 st century. <i>International Zoo Yearbook</i> , 38, 130–141.	Government affairs – use collective political power to influence legislation addressing conservation initiatives and other issues important to the zoological profession	137

<p>Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21st century. <i>International Zoo Yearbook</i>, 38, 130–141.</p>	<p>Marketing and development – become more businesslike in their operations, including budgeting and financial reporting. Implement strong and innovative marketing and developing strategies that provide a solid financial base for the institution while supporting education, scientific and conservation goals.</p>	<p>137</p>
<p>Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21st century. <i>International Zoo Yearbook</i>, 38, 130–141.</p>	<p>Strong partnerships with local business and corporation supports their objectives</p>	<p>137</p>
<p>Hutchins, M., & Smith, B. (2003). Characteristics of a world-class zoo or aquarium in the 21st century. <i>International Zoo Yearbook</i>, 38, 130–141.</p>	<p>Public relations – Enter into a dialogue with its critics and attempt to find solutions to perceived conflicts as well as try to satisfy the people it directly affects</p>	<p>138</p>
<p>Ip, C., Lee, H. A., & Law, R. (2012). Profiling the users of travel websites for planning and online experience sharing. <i>Journal of Hospitality & Tourism Research</i>, 36(3), 418–426.</p>	<p>On the whole, the travel website users were young, highly educated, and had a high level of personal income</p>	<p>1</p>
<p>Ip, C., Lee, H. A., & Law, R. (2012). Profiling the users of travel websites for planning and online experience sharing. <i>Journal of Hospitality & Tourism Research</i>, 36(3), 418–426.</p>	<p>As social networking empowers individual travelers, they can portray, reconstruct, and relive their tourism experience through the online channel (Pudliner, 2007; Tussyadiah & Fesenmaier, 2009; Xiang & Gretzel, 2010).</p>	<p>2</p>
<p>Ip, C., Lee, H. A., & Law, R. (2012). Profiling the users of travel websites for planning and online experience sharing. <i>Journal of Hospitality & Tourism Research</i>, 36(3), 418–426.</p>	<p>Findings from prior studies have shown that the Internet is an important information source for travel planning (Choi et al., 2007; Pan & Fesenmaier, 2006; Xiang & Fesenmaier, 2006), particularly because of its convenience and speed (Cheung & Law, 2009).</p>	<p>2</p>

Ip, C., Lee, H. A., & Law, R. (2012). Profiling the users of travel websites for planning and online experience sharing. <i>Journal of Hospitality & Tourism Research</i> , 36(3), 418–426.	Prior research findings thus suggest that a cultural- and countryspecific investigation on travel website use would be necessary.	2
Ip, C., Lee, H. A., & Law, R. (2012). Profiling the users of travel websites for planning and online experience sharing. <i>Journal of Hospitality & Tourism Research</i> , 36(3), 418–426.	The findings reveal that travelers who are young, well educated, and have high incomes are more likely to use travel websites for travel planning. Of those that post, young travelers are also more willing to share their travel experiences online.	4
Ip, C., Lee, H. A., & Law, R. (2012). Profiling the users of travel websites for planning and online experience sharing. <i>Journal of Hospitality & Tourism Research</i> , 36(3), 418–426.	Hospitality and tourism managers therefore need to understand the profiles of information seekers and content creators. The findings of this study suggest that young Hong Kong travelers with higher education are both travel information receivers and producers online	5
Knowles, J. M. (2003). Zoos and a century of change. <i>International Zoo Yearbook</i> , 38, 28–34.	Active participation by zoo staff working with experts from other relevant fields demonstrates the commitment of the zoo community to the concept of meta-populations and science-based conservation.	31
Knowles, J. M. (2003). Zoos and a century of change. <i>International Zoo Yearbook</i> , 38, 28–34.	Improved knowledge of animal husbandry from the combination of research and the willingness to share information resulted in self-sustaining populations of most species of mammals and some other fauna.	30
Knowles, J. M. (2003). Zoos and a century of change. <i>International Zoo Yearbook</i> , 38, 28–34.	Joint management of species with the cooperation of animal breeders for self-sustaining population.	30
Knowles, J. M. (2003). Zoos and a century of change. <i>International Zoo Yearbook</i> , 38, 28–34.	Cooperation in in situ programmes direct/indirectly through governmental and non-governmental conservation organizations	31

Knowles, J. M. (2003). Zoos and a century of change. <i>International Zoo Yearbook</i> , 38, 28–34.	To inform zoo visitors of the realities of 21 st century threats to non-human life.	32	
Knowles, J. M. (2003). Zoos and a century of change. <i>International Zoo Yearbook</i> , 38, 28–34.	Fun, provisional information is one of the services offered by modern zoos	32	Evaluation of experience
Leask, A. (2010). Progress in visitor attraction research: Towards more effective management. <i>Tourism Management</i> , 31(2), 155–166.	The range of stakeholders involved means their effective management is of key importance in the destination and in the overall success of a country's tourism product, yet they are an under-researched sector of the tourism system	155	
Leask, A. (2010). Progress in visitor attraction research: Towards more effective management. <i>Tourism Management</i> , 31(2), 155–166.	It should be recognised that many museum and gallery sites are significant also in their intrinsic value and societal role, for example the clear statement from the Greek authorities in the form of the new museum at the Acropolis, clearly in anticipation and readiness for their desired return of the Elgin Marbles	156	
Leask, A. (2010). Progress in visitor attraction research: Towards more effective management. <i>Tourism Management</i> , 31(2), 155–166.	Support for the development of visitor attractions may link closely to tourism destination development or economic regeneration of an area or community (Connell & Page, 2009; Darnell & Johnston, 2001; Henderson, 1999; Sternberg, 1997; Timothy & Nyaupane, 2009; Winter, 2009).	157	
Leask, A. (2010). Progress in visitor attraction research: Towards more effective management. <i>Tourism Management</i> , 31(2), 155–166.	In common with other tourism research, the international dimension and perspective of researchers is critical in determining the value of the output.	159	

Leask, A. (2010). Progress in visitor attraction research: Towards more effective management. <i>Tourism Management</i> , 31(2), 155–166.	Both Richards (2002) and Shoval and Raveh (2004) identify the significance of information available to visitors prior to their visit to a destination, noting that many decisions are taken pre-visit.	160	
Leask, A. (2010). Progress in visitor attraction research: Towards more effective management. <i>Tourism Management</i> , 31(2), 155–166.	Identifying the factors that contribute to the effective management of VAs depends very much on the nature of the resource on which the product is based, the management objectives and the consumer.	162	
Leask, A. (2010). Progress in visitor attraction research: Towards more effective management. <i>Tourism Management</i> , 31(2), 155–166.	The findings emphasise the importance of the need to appreciate that the VA sector is shaped by the challenges it faces and the need to recognise how these impact on the choice and effectiveness of management practices.	164	
Lewis, J.C.M. (2007). Conservation medicine. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). <i>Zoos in the 21st century: Catalysts for conservation?</i> 37-50. Cambridge, London: Cambridge University Press.	Most zoos in developing countries are severely under-funded and their immediate needs are often basic-improvements to animal enclosures, food type and quality, staff training, simple veterinary care, etc. However, such collections can have enormous potential as a source of data relevant to conservation medicine and sponsoring zoos should at least assess any such potential and factor it into their involvement.	202	The zoo's assistance to developing countries to conserve wildlife is effective Staff member Evaluation of stakeholder relationship
Lindemann-Matthies, P., & Kamer, T. (2006). The influence of an interactive educational approach on visitors' learning in a Swiss zoo. <i>Science Education</i> , 90(2), 296–315.	A new but costly approach to providing visitors of zoos with information on conservation is the presentation of small exhibits by zoo professionals or volunteers. At these "touch tables" visitors can find out about the biology, ecology, and conservation of animals kept in the zoo	296	
Lindemann-Matthies, P., & Kamer, T. (2006). The influence of an interactive educational approach on visitors' learning in a Swiss zoo. <i>Science Education</i> , 90(2), 296–315.	The accelerating decline in biodiversity due to human activities is one of the most urgent environmental issues (Wilson & Peter, 1988; Meffe & Carroll, 1994).	296	

Lindemann-Matthies, P., & Kamer, T. (2006). The influence of an interactive educational approach on visitors' learning in a Swiss zoo. <i>Science Education</i> , 90(2), 296–315.	If zoological gardens make use of their enormous educational potential, they will become an important place for nature education (Dierking & Falk, 1994) and can offer an effective contribution to the increase of public and political awareness of the necessity for conservation (IUDZG/CBSG (IUCN/SSC), 1993).	297	Motivation for visitation
Lindemann-Matthies, P., & Kamer, T. (2006). The influence of an interactive educational approach on visitors' learning in a Swiss zoo. <i>Science Education</i> , 90(2), 296–315.	However, people visiting zoos or other informal learning settings are very diverse and include people of all ages and most educational levels (Falk, Koran, & Dierking, 1986; Falk & Adelman, 2003).	297	Visitor
Lindemann-Matthies, P., & Kamer, T. (2006). The influence of an interactive educational approach on visitors' learning in a Swiss zoo. <i>Science Education</i> , 90(2), 296–315.	Several studies have shown that multiple factors such as age, background, prior knowledge, personal experience, interests, motivation, and the physical environment all interact to contribute to the learners' experience in free-choice learning settings (e.g. Brody et al., 2002; Falk & Adelman, 2003; Falk, Moussouri, & Coulson, 1998; Rahm, 2004; detailed overviews in Falk, 2004; Falk & Dierking, 2000).	297	I usually come to the zoo to see specific animals
Lindemann-Matthies, P., & Kamer, T. (2006). The influence of an interactive educational approach on visitors' learning in a Swiss zoo. <i>Science Education</i> , 90(2), 296–315.	Zoos, like other recreational facilities, are social settings that are often visited by families or friends who want to enjoy their leisure time together and watch their favorite animals (Falk, Koran, & Dierking, 1986).	309	Motivation for visitation
Lindemann-Matthies, P., & Kamer, T. (2006). The influence of an interactive educational approach on visitors' learning in a Swiss zoo. <i>Science Education</i> , 90(2), 296–315.	Zoos, like other recreational facilities, are social settings that are often visited by families or friends who want to enjoy their leisure time together and watch their favorite animals (Falk, Koran, & Dierking, 1986).	309	Visitor

Maccarone, A. D., & Batdorf, B. (2003). The zoo science program: A successful zoo/university partnership. <i>Curator: The Museum Journal</i> , 46(1), 36–41.	There is a growing tendency for American zoos and aquariums to fill entry-level keeperpositions with college graduates who have a four-year degree in zoology, biology, or another animal-related field (AAZK 1996).	36
Mason, P. (2000). Zoo tourism: The need for more research. <i>Journal of Sustainable Tourism</i> , 8(4), 333–339.	Zoo appropriate attritions given concerns for animal welfare	337
Mason, P. (2000). Zoo tourism: The need for more research. <i>Journal of Sustainable Tourism</i> , 8(4), 333–339.	Zoos promote environmental awareness	337
Mason, P. (2000). Zoo tourism: The need for more research. <i>Journal of Sustainable Tourism</i> , 8(4), 333–339.	Encourage visitors to anthropomorphize and trivialize natural heritage and wildlife	337
Mason, P. (2000). Zoo tourism: The need for more research. <i>Journal of Sustainable Tourism</i> , 8(4), 333–339.	Substitute for real wildlife experience	337
Mason, P. (2000). Zoo tourism: The need for more research. <i>Journal of Sustainable Tourism</i> , 8(4), 333–339.	Sustainable form of ecotourism	337
Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i> , 105, 185–201.	The zoo community seeks improved relevance to society by contributing to restoration of biological diversity, but faces special challenges to meeting this admirable policy goal	185
Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i> , 105, 185–201.	We used a triangulation of methods and sources of data to achieve a comprehensive and selective research design. Our data is drawn from international zoo policy documents and literature, and from a four-year study of nine major Australasian zoos (see Mazur 1997 for details)	186

Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i> , 105, 185–201.	The cumulative effects of industrialization and increased material consumption by an expanding population were considered to be serious problems (Pepper 1984).	187
Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i> , 105, 185–201.	Today, many Western zoos pursue a central role in solving the problem of worldwide declines in biodiversity by participating in endangered species conservation plans and environmental education programs (e.g., CBSG&WZO 1993).	187
Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i> , 105, 185–201.	Established practices, such as the preference for charismatic, exotic mega-fauna in zoo collections, function to sustain an image of the zoo as an “old-fashioned” institution operating on the margins of conservation (Kellert 1987; Mullan and Marvin 1987; Mazur 1997)	188
Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i> , 105, 185–201.	Zoo policy is formed in response to changing ecological, political and social contexts, environmental values, and economic imperatives. Such societal dynamics have resulted in various criticisms of zoo practices. Some cite the shortcomings of zoos’ captive breeding and education efforts (e.g., Jamieson 1985; McKenna et al. 1987; Seidman 1993; World Society for the Protection of Animals and The Born Free Foundation 1994; Jamieson 1995; Snyder et al. 1996).	189
Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i> , 105, 185–201.	These decision-making processes are highly political because they consist of numerous “interrelationships between different groups of actors” (Nakamura and Silkwood 1980: 9) who must vie for resources and rationalize their decisions about personnel, animals, and money to themselves and their constituents. In addition to the highly political nature of decision-making processes, the very structure of zoos fundamentally affects policy creation.	191

<p>Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i>, 105, 185–201.</p>	<p>Are zoos appropriately staffed? Are budgetary processes allocating sufficient funds to conservation goals? What is the nature of leadership in both the zoo community and in individual organizations? Do zoos have sufficient political autonomy to achieve their objectives? How much are zoos learning from their mistakes?</p>	<p>192</p>	<p>Intrinsic factors of job satisfaction</p>
<p>Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i>, 105, 185–201.</p>	<p>Corporate management, and the economic rationalism it embodies, has been soundly criticized by Considine (1988), Painter (1988), Rees (1994), Rhodes (1996) and Sinclair (1989), because it narrowly construes economic efficiency as organizational effectiveness. Corporatization has serious ramifications for all zoo policy.</p>	<p>192</p>	<p>Staff member</p>
<p>Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i>, 105, 185–201.</p>	<p>A zoo's greatest strength is the dedication, concern, and creativity of its staff at all organizational levels. Securing knowledgeable and skilled staff is vital for successful zoo policy and operations.</p>	<p>194</p>	<p>I feel that my opinions are highly valued by zoo management</p>
<p>Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i>, 105, 185–201.</p>	<p>Additionally, some operational staff fear that their enthusiasm for working with animals or in zoos is exploited by an uncaring management and that their views regarding zoos' conservation policies are not taken seriously enough.</p>	<p>195</p>	<p>Intrinsic factors of job satisfaction</p>
<p>Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i>, 105, 185–201.</p>	<p>Additionally, some operational staff fear that their enthusiasm for working with animals or in zoos is exploited by an uncaring management and that their views regarding zoos' conservation policies are not taken seriously enough.</p>	<p>195</p>	<p>Staff member</p>

<p>Mazur, N., & Clark, T. W. (2001). Zoos and conservation: Policy making and organizational challenges. <i>Bulletin Series Yale School of Forestry and Environmental Studies</i>, 105, 185–201.</p>	<p>Additionally, some operational staff fear that their enthusiasm for working with animals or in zoos is exploited by an uncaring management and that their views regarding zoos' conservation policies are not taken seriously enough.</p>	<p>195</p>	<p>My supervisor encourages me to come up with new ideas at work</p> <p>Staff member</p> <p>Extrinsic factors of job satisfaction</p>
<p>McNeal, T., & van't Hooft, M. (2009). Anytime, anywhere: Using mobile phones for learning. <i>Journal of the Research Center for Educational Technology</i>, 2(2), 24–31.</p>	<p>The mobile or smart phone is an increasingly popular mobile platform, especially among younger generations.</p>	<p>24</p>	
<p>McNeal, T., & van't Hooft, M. (2009). Anytime, anywhere: Using mobile phones for learning. <i>Journal of the Research Center for Educational Technology</i>, 2(2), 24–31.</p>	<p>Teens in Scandinavia and Asia have near 100% mobile-phone ownership (Katz, 2005). In New Zealand, a survey of children between 7-19 years of age reported that about half of them owned a cell phone, and 73% reported using one (Netsafe, 2005; Yates, 2003).</p>	<p>24</p>	
<p>McNeal, T., & van't Hooft, M. (2009). Anytime, anywhere: Using mobile phones for learning. <i>Journal of the Research Center for Educational Technology</i>, 2(2), 24–31.</p>	<p>With regards to research, we expect to investigate how the use of mobile tools can help diminish the spatial and temporal boundaries that current schools impose, and what changes need to be made in curriculum and pedagogy to successfully use cell phones for teaching and learning.</p>	<p>29</p>	
<p>Moss, A., & Esson, M. (2013). The educational claims of zoos: Where do we go from here? <i>Zoo Biology</i>, 32(1), 13–18.</p>	<p>The generally accepted way of referring to the different educational outputs of zoos is to separate them into two categories; formal (taught, educator led, not necessarily self-selected) and informal (visitor led—interpretation, talks, demonstrations, etc.).</p>	<p>13</p>	

Moss, A., & Esson, M. (2013). The educational claims of zoos: Where do we go from here? <i>Zoo Biology</i> , 32(1), 13–18.	Patrick et al. [2007] undertook a more comprehensive analysis of zoo mission statements (in the United States) and found that the theme of education was mentioned in 131 out of the 136 mission statements analyzed. In fact, education appeared more frequently than the theme of conservation (118 out of 136 statements).	13 – 14
Odinsky-Zec, T. L. (2010). Sustainability and the modern zoo. In D. Crowther & G. Aras (Eds.), <i>NGOs and Social Responsibility</i> (Vol. 1, pp. 191–208). Emerald Group Publishing Limited.	Within the zoo community, it was found that their cross-national associations have taken a leadership role in mandating a synchronized, sustainability vision. The communication of industry-wide initiatives has revolved around a clear and common mantra. For the zoo industry, sustainability relates directly to their collective positioning as centers of education and conservation	205
Odinsky-Zec, T. L. (2010). Sustainability and the modern zoo. In D. Crowther & G. Aras (Eds.), <i>NGOs and Social Responsibility</i> (Vol. 1, pp. 191–208). Emerald Group Publishing Limited.	The majority of the zoos in the sample are indeed embracing proliferating the conservation and education messages that are more in line with being responsible entities in their particular industry.	205
Patrick, P. G., & Tunnickliffe, S. D. (2013). Visitors' Knowledge of Zoos. In <i>Zoo Talk</i> (pp. 37–51). Springer.	The first step in identifying why people visit is understanding visitor identity	39
Patrick, P. G., & Tunnickliffe, S. D. (2013). Visitors' Knowledge of Zoos. In <i>Zoo Talk</i> (pp. 37–51). Springer.	Visitors orient themselves to a place by applying their prior knowledge, attitudes, and expectations. Therefore, the more educators know about students' prior knowledge, including students' mental models, the better-prepared educators will be able to aid students in adjusting their prior knowledge to reflect correct mental models (Coburn, 1995).	42 My visit to the zoo made me keen to find more about the threats faced in the wild Visitor Potential impacts of zoo experience

<p>Identifying the public's knowledge of zoos is a key concept for properly marketing and enhancing the zoo experience. Currently, zoo visitors see zoos as entertainment venues. Informing the public about what zoos do and their role in biological conservation efforts is a daunting task. Zoo directors must develop a system which emphasizes zoos' goals of education, conservation, and research. Zoos are utilizing edutainment to goad visitors into learning about conservation</p>	<p>Patrick, P. G., & Tunnicliffe, S. D. (2013). Visitors' Knowledge of Zoos. In <i>Zoo Talk</i> (pp. 37-51). Springer.</p>	<p>47</p>
<p>Front-line educators are arguably critical to the visitor experience at museums and science centers across the country</p>	<p>Pattison, S. A., & Dierking, L. D. (2012). Exploring staff facilitation that supports family learning. <i>Journal of Museum Education</i>, 37(3), 69-80.</p>	<p>69</p>
<p>Despite growing interest, however, there is little research on the characteristics of successful staff-mediated learning to inform the work of these educators or ground professional development efforts.</p>	<p>Pattison, S. A., & Dierking, L. D. (2012). Exploring staff facilitation that supports family learning. <i>Journal of Museum Education</i>, 37(3), 69-80.</p>	<p>69</p>
<p>Mony and Heimlich (2008) found that the length of interactions and the number of educational messages communicated were influenced by visitor group composition and how interactions were initiated, with staff- adult group interactions being longer with more educational messages. Interactions also lasted longer when staff approached visitors, although the number of messages was similar.</p>	<p>Pattison, S. A., & Dierking, L. D. (2012). Exploring staff facilitation that supports family learning. <i>Journal of Museum Education</i>, 37(3), 69-80.</p>	<p>70</p>
<p>This important role of adult family members was particularly noticeable when staff members attempted to initiate the interaction or introduce new learning goals.</p>	<p>Pattison, S. A., & Dierking, L. D. (2012). Exploring staff facilitation that supports family learning. <i>Journal of Museum Education</i>, 37(3), 69-80.</p>	<p>74</p>

<p>Pattison, S. A., & Dierking, L. D. (2012). Exploring staff facilitation that supports family learning. <i>Journal of Museum Education</i>, 37(3), 69–80.</p>	<p>Front-line museum educators should adopt facilitation approaches that recognize and support the unique role that adults play in family learning in museums.</p>	<p>77</p>
<p>Pattison, S. A., & Dierking, L. D. (2012). Exploring staff facilitation that supports family learning. <i>Journal of Museum Education</i>, 37(3), 69–80.</p>	<p>Providing visitors with a challenge gave them a common goal and created the potential for exciting, memorable experiences. Adult visitors often reiterated and helped facilitate the challenges for their families. Evaluation results suggest the approach is a promising technique for leveraging, rather than inhibiting, the important role adults in the family are often eager to play.</p>	<p>77</p>
<p>Puan, C. L., & Zakaria, M. (2007). Perception of visitors towards the role of zoos: A Malaysian perspective. <i>International Zoo Yearbook</i>, 41(1), 226–232.</p>	<p>From a total of 297 usable responses, the majority of the respondents (80%) lived within the state where the focal zoo was located. About 74% of them said they had visited the zoo before, while 58% stated that they would visit once a year. About two-thirds (67%) of the respondents had been to other zoos.</p>	<p>228</p>

<p>Puan, C. L., & Zakaria, M. (2007). Perception of visitors towards the role of zoos: A Malaysian perspective. <i>International Zoo Yearbook</i>, 41(1), 226–232.</p>	<p>In terms of reasons for visiting, c. 37% of the respondents stated that they visited the zoo to see the animals, while 27% said they wanted to bring their children to the zoo and 22% visited for relaxation. Most of the respondents (61%) went to the zoo with their family.</p>	<p>228</p>	<p>I usually come to the zoo to learn about the animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Puan, C. L., & Zakaria, M. (2007). Perception of visitors towards the role of zoos: A Malaysian perspective. <i>International Zoo Yearbook</i>, 41(1), 226–232.</p>	<p>About 77% of respondents were aware that the zoos were trying to educate children about animals and were involved in the preparation of activities for students</p>	<p>228</p>	<p>I usually come to the zoo to see specific animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Puan, C. L., & Zakaria, M. (2007). Perception of visitors towards the role of zoos: A Malaysian perspective. <i>International Zoo Yearbook</i>, 41(1), 226–232.</p>	<p>About 77% of respondents were aware that the zoos were trying to educate children about animals and were involved in the preparation of activities for students</p>	<p>231</p>	<p>I usually come to the zoo to see specific animals</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Puan, C. L., & Zakaria, M. (2007). Perception of visitors towards the role of zoos: A Malaysian perspective. <i>International Zoo Yearbook</i>, 41(1), 226–232.</p>	<p>Basically, the visitors came to the zoos for recreation and family outings, and the results indicate that they prefer to see attractive animals and exhibits</p>	<p>231</p>	<p>I usually come to the zoo to spend a day out with friends</p>	<p>Visitor</p>	<p>Motivation for visitation</p>
<p>Puan, C. L., & Zakaria, M. (2007). Perception of visitors towards the role of zoos: A Malaysian perspective. <i>International Zoo Yearbook</i>, 41(1), 226–232.</p>	<p>Basically, the visitors came to the zoos for recreation and family outings, and the results indicate that they prefer to see attractive animals and exhibits</p>	<p>231</p>	<p>I usually come to the zoo to spend a day with family</p>	<p>Visitor</p>	<p>Motivation for visitation</p>

<p>Puan, C. L., & Zakaria, M. (2007). Perception of visitors towards the role of zoos: A Malaysian perspective. <i>International Zoo Yearbook</i>, 41(1), 226–232.</p>	<p>The local zoos in the study have long faced problems and challenges that affect operation or even existence. This includes the lack of trained workers, food supply and financial support, as well as strategic location within development pressures. It is expected that the same situation also occurs in other developing countries</p>	232	Evaluation of zoo		
<p>Reading, R.P., and Miller, B.J. (2007). Attitudes and attitude change among zoo visitors. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). Zoos in the 21st century: Catalysts for conservation? 37-50. Cambridge, London: Cambridge University Press.</p>	<p>Pedagogical literature exists to help guide the development of new zoo education programs, graphics, and exhibit designs, but directed research promises to help us develop more effective programs more rapidly.</p>	88	The quality of information displayed at most of the animal enclosures is good	Visitors	Evaluation of zoo
<p>Ryder, O. A., & Feistner, A. T. C. (1995). Research in zoos: A growth area in conservation. <i>Biodiversity and Conservation</i>, 4(6), 671–677.</p>	<p>Typically, research goals are integral to conservation efforts in order that knowledge crucial to the development of recovery plans and for management of sustainable populations can be available.</p>	671	The zoo is actively involved with international and national conservation programmes	Staff member	Evaluation of zoo operational aspects
<p>Ryder, O. A., & Feistner, A. T. C. (1995). Research in zoos: A growth area in conservation. <i>Biodiversity and Conservation</i>, 4(6), 671–677.</p>	<p>Typically, research goals are integral to conservation efforts in order that knowledge crucial to the development of recovery plans and for management of sustainable populations can be available.</p>	671	I feel that conservation projects conducted by the zoo is worth doing	Staff member	Evaluation of zoo operational aspects
<p>Ryder, O. A., & Feistner, A. T. C. (1995). Research in zoos: A growth area in conservation. <i>Biodiversity and Conservation</i>, 4(6), 671–677.</p>	<p>In recognition of these new challenges, zoos are undertaking new initiatives. Direct funding for in situ conservation through adopt-a-park programmes has received recent attention, and the ways directly to link zoos and the conservation of species in natural ecosystems is increasing.</p>	675			
<p>Serrell, B. (1988). The evolution of educational graphics in zoos. <i>Environment and Behavior</i>, 20(4), 396–415.</p>	<p>Educational graphics in zoos is a term that includes both signs and texts only and signs with text plus art. They usually accompany live animal exhibits to educate and entertain the visiting public.</p>	397	I took the time to read the information displayed at the animal enclosures	Visitor	Evaluation of zoo operational aspects

Serrell, B. (1988). The evolution of educational graphics in zoos. <i>Environment and Behavior</i> , 20(4), 396–415.	Educational graphics in zoos is a term that includes both signs and texts only and signs with text plus art. They usually accompany live animal exhibits to educate and entertain the visiting public.	397	The quality of the information displayed at most of the animal enclosures is good	Visitor	Evaluation of zoo
Serrell, B. (1988). The evolution of educational graphics in zoos. <i>Environment and Behavior</i> , 20(4), 396–415.	Available money, good teamwork between the people responsible for the various tasks, and a supportive director contribute to successful graphics projects, but a few places are so lucky as to have all three factors	404			
Smith, K. N., Shaw, J. H., Bettinger, T., Caniglia, B., & Carter, T. (2007). Conservation partnerships between zoos and aquariums, federal and state agencies, and nongovernmental organizations. <i>Zoo Biology</i> , 26(6), 471–486.	Effective leadership by those in charge	477			
Smith, K. N., Shaw, J. H., Bettinger, T., Caniglia, B., & Carter, T. (2007). Conservation partnerships between zoos and aquariums, federal and state agencies, and nongovernmental organizations. <i>Zoo Biology</i> , 26(6), 471–486.	Trust between partners in a successful conservation partnership	477			
Smith, K. N., Shaw, J. H., Bettinger, T., Caniglia, B., & Carter, T. (2007). Conservation partnerships between zoos and aquariums, federal and state agencies, and nongovernmental organizations. <i>Zoo Biology</i> , 26(6), 471–486.	Clear and consistent communication between partners	477			
Smith, K. N., Shaw, J. H., Bettinger, T., Caniglia, B., & Carter, T. (2007). Conservation partnerships between zoos and aquariums, federal and state agencies, and nongovernmental organizations. <i>Zoo Biology</i> , 26(6), 471–486.	Clearly defined objectives of conservation project	477			

Smith, K. N., Shaw, J. H., Bettinger, T., Caniglia, B., & Carter, T. (2007). Conservation partnerships between zoos and aquariums, federal and state agencies, and nongovernmental organizations. <i>Zoo Biology</i> , 26(6), 471–486.	Commitment from zoo staff to the partnership (other than financially)	477		
Smith, L., Broad, S., & Weiler, B. (2008). A closer examination of the impact of zoo visits on visitor behaviour. <i>Journal of Sustainable Tourism</i> , 16(5), 544–562.	Need to communicate the necessary information to foster conservation behaviour	546		
Sterling, E., Lee, J., and Wood, T. (2007). Conservation education in zoos: An emphasis on behavioral change. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). <i>Zoos in the 21st century: Catalysts for conservation?</i> 37-50. Cambridge, London: Cambridge University Press.	Zoo education programs could develop such that people come to expect conservation messages and not just recreation during their visit. People should depend on zoos as a resource for information on how change can happen across individuals and institutions.	46-47	My visit to the zoo made me keen to find more about the threats faced in the wild	Visitors Potential impacts of zoo experience
Sterling, E., Lee, J., and Wood, T. (2007). Conservation education in zoos: An emphasis on behavioral change. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). <i>Zoos in the 21st century: Catalysts for conservation?</i> 37-50. Cambridge, London: Cambridge University Press.	Zoo education programs could develop such that people come to expect conservation messages and not just recreation during their visit. People should depend on zoos as a resource for information on how change can happen across individuals and institutions.	46-47	The zoo has inspired me to do more in my private life for the benefit of wildlife	Visitors Potential impacts of zoo experience
Sterling, E., Lee, J., and Wood, T. (2007). Conservation education in zoos: An emphasis on behavioral change. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). <i>Zoos in the 21st century: Catalysts for conservation?</i> 37-50. Cambridge, London: Cambridge University Press.	Zoos could think across institutions (zoos, aquariums, museums, botanical gardens, and universities) to design and evaluate programs that will reinforce messages about what individuals can do.	47	The zoo has an effective partnership with universities to encourage scientific research	Staff member Evaluation of stakeholder relationship

<p>Sterling, E., Lee, J., and Wood, T. (2007). Conservation education in zoos: An emphasis on behavioral change. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). <i>Zoos in the 21st century: Catalysts for conservation?</i> 37-50. Cambridge, London: Cambridge University Press.</p>	<p>Zoos could think across institutions (zoos, aquariums, museums, botanical gardens, and universities) to design and evaluate programs that will reinforce messages about what individuals can do.</p>	<p>47</p>	<p>The zoo collaborates effectively with schools to develop educational activities</p>	<p>Staff member</p>	<p>Evaluation of stakeholder relationship</p>
<p>Sterling, E., Lee, J., and Wood, T. (2007). Conservation education in zoos: An emphasis on behavioral change. In Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (Eds). <i>Zoos in the 21st century: Catalysts for conservation?</i> 37-50. Cambridge, London: Cambridge University Press.</p>	<p>Zoos could think across institutions (zoos, aquariums, museums, botanical gardens, and universities) to design and evaluate programs that will reinforce messages about what individuals can do.</p>	<p>47</p>	<p>The zoo works effectively with experts from outside the zoo</p>	<p>Staff member</p>	<p>Evaluation of stakeholder relationship</p>
<p>Stoinski, T., Allen, M., Bloomsmith, M., Forthman, D., & Maple, T. (2002). Educating zoo visitors about complex environmental issues: Should we do it and how? <i>Curator: The Museum Journal</i>, 45(2), 129–143.</p>	<p>The results demonstrate that the public believes zoos should educate about bushmeat, and that realistic images influence people's perception of an issue.</p>	<p>129</p>			
<p>Stoinski, T., Allen, M., Bloomsmith, M., Forthman, D., & Maple, T. (2002). Educating zoo visitors about complex environmental issues: Should we do it and how? <i>Curator: The Museum Journal</i>, 45(2), 129–143.</p>	<p>While the ultimate goal of zoos may be to promote long-term behavioral change, the zoo community does not yet have data to suggest that it is achieving this goal.</p>	<p>140</p>			
<p>Swanagan, J. S. (2000). Factors influencing zoo visitors' conservation attitudes and behavior. <i>The Journal of Environmental Education</i>, 31(4), 26–31.</p>	<p>They "failed to observe [in visitors] any appreciable increase in either factual or conceptual knowledge of animals. Learning, when observed, was largely restricted to basic issues of animal appearance or behavior, with little in the way of enhanced knowledge or interest in . . . wildlife conservation" (Dunlap & Kellert, 1989).</p>	<p>26</p>			
<p>Swanagan, J. S. (2000). Factors influencing zoo visitors' conservation attitudes and behavior. <i>The Journal of Environmental Education</i>, 31(4), 26–31.</p>	<p>High-technology tools, such as interactive computers, could also provide a means for the visitor to obtain experience with learning how to take citizenship action to resolve issues</p>	<p>30</p>			

Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i> , 43(1), 53–63.	In some parts of the world, such as East Asia and the Pacific, human poverty is decreasing but in other regions, such as Sub-Saharan Africa and South Asia, the number of poor people continues to increase (Todaro & Smith, 2006).	53			
Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i> , 43(1), 53–63.	However, as businesses extend their corporate responsibilities and political influence, through increased engagement with consumers, the emergence of multi-national companies and globalized market, their impact on society can be substantial.	54			
Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i> , 43(1), 53–63.	To establish a TBL approach, zoos should consider what environmental and social aspects are relevant to their business and seek to set targets for these areas alongside traditional financial aspects.	54			
Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i> , 43(1), 53–63.	The best way for zoos to be a positive influence on visitors and their lifestyles is for them to lead by example, promoting their commitment through the daily activities of their staff, the good operation of their sites and by communicating best practice to visitors	59			
Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i> , 43(1), 53–63.	Ongoing relationships with suppliers and contractors can start to influence activities further up and down the supply chain, and position zoos as catalysts of positive change.	59			
Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i> , 43(1), 53–63.	Zoos should look for ways to increase their involvement with the local community through participation with local interest groups and schools	59	The zoo collaborates effectively with schools to develop educational activities	Staff member	Evaluation of stakeholder relationship

<p>Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i>, 43(1), 53–63.</p>	<p>Increase the involvement of local people in organizational decisions, and communicate sustainability best practice to visitors and the general public.</p>	<p>62</p>	<p>My visit to the zoo made me keen to find more about the threats faced in the wild</p>	<p>Visitor</p>	<p>Potential impacts of zoo experience</p>
<p>Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i>, 43(1), 53–63.</p>	<p>Increase the involvement of local people in organizational decisions, and communicate sustainability best practice to visitors and the general public.</p>	<p>62</p>	<p>The zoo has inspired me to do more in my private life for the benefit of wildlife</p>	<p>Visitor</p>	<p>Potential impacts of zoo experience</p>
<p>Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: A triple bottom line approach. <i>International Zoo Yearbook</i>, 43(1), 53–63.</p>	<p>Work in partnership with other zoos to make collective progress towards a more sustainable approach</p>	<p>62</p>	<p>The zoo works effectively with external organisations on outside conservation projects</p>	<p>Staff member</p>	<p>Evaluation of stakeholder relationship</p>
<p>Tribe, A. (2012). <i>The conservation role of zoos – Perceptions from Australia and the United Kingdom</i>. (Doctoral dissertation) University of Queensland, Queensland, Australia.</p>	<p>Table 2.6. The motivations of zoo visitors in the USA, the UK and Australia. (References to results from Kellert, 1979; Andereck and Caldwell, 1994; Reading and Miller 2007, etc)</p>	<p>32</p>	<p>I usually come to the zoo to: see specific animals, learn about animals, spend the day with family or friends.</p>	<p>Visitors</p>	<p>Motivation for visitation</p>
<p>Veech, J. A. (2003). Incorporating socioeconomic factors into the analysis of biodiversity hotspots. <i>Applied Geography</i>, 23(1), 73–88.</p>	<p>Hotspot analysis is the identification and ranking of countries or other geographic regions on the basis of biodiversity. Hotspots have exceptional biodiversity per unit land area. This paper introduces a new method of hotspot analysis that ranks hotspots on the basis of biodiversity and anthropogenic threats to biodiversity. These threats are represented by socioeconomic factors such as human population size, rural population density, population growth rate, and governmental debt</p>	<p>73</p>			
<p>Winter, C., & Linke, C. (2008). Reasons for zoo visitation: Comparison of two sites. In <i>CAUTHE 2008 Conference</i> (p. 5).</p>	<p>The visitor today is better informed, more travelled and much more environmentally conscious than those of previous decades, which means that zoos must be clearly, positively and appropriately positioned in the mind of their prospective visitors. Few studies have made comparisons between attitudes towards different types of zoos and the effect that these variables may have on visitation</p>	<p>1</p>			

Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Link in situ activities with ex situ programs
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Success evaluation of public receiving conservation messages and instigating action
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Up skilling existing zoo professionals
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Zoos to become THE resource of information on how change can happen across individuals and institutions
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Genetic and demographic reservoir
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Population for recovery and reintroduction
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Development of technologies relevant to in situ conservation
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Leaders in conservation education
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Animals as fundraising ambassadors
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Professional training: zoo facilities for research on exotic species

Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	<i>In situ</i> research and conservation
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Habitat protection and restoration
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Coalition building among zoo institutes and associates
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Local conservation initiatives - place for penguins
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Leaders in conservation and captive breeding
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Assessing the contributions of zoos to reintroductions
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Unsustainable harvesting
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Global climate change
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Invasive species and restoration ecology
Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). <i>Zoos in the 21st century: Catalysts for conservation?</i> Cambridge University Press Cambridge.	Export expertise rather than repatriate animals

Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). *Zoos in the 21st century: Catalysts for conservation?* Cambridge University Press Cambridge.

Evolve the image and messages from zoos

Zimmermann, A., Hatchwell, M., Dickie, L., & West, C. (2007). *Zoos in the 21st century: Catalysts for conservation?* Cambridge University Press Cambridge.

Evolve animal collections, management and research

APPENDIX B: VISITORS RESPONSE RATES

DAILY VISITORS RESPONSE RATES FOR ALL STUDY sites

Date	Total	Rejected	Responded	Response rate (%)	Date	Total	Rejected	Approached	Response rate (%)
2 October 2012	18	9	27	67%	13 January 2013	36	7	43	84%
3 October 2012	25	5	30	83%	14 January 2013	13	5	18	72%
4 October 2012	23	4	27	85%	15 January 2013	8	3	11	73%
5 October 2012	24	6	30	80%	16 January 2013	20	3	23	87%
6 October 2012	56	17	73	77%	17 January 2013	29	2	31	94%
7 October 2012	65	21	86	76%	18 January 2013	0	0	0	0%
8 October 2012	19	3	22	86%	19 January 2013	29	3	32	91%
9 October 2012	21	7	28	75%	20 January 2013	31	4	35	89%
10 October 2012	23	4	27	85%	21 January 2013	0	0	0	0%
11 October 2012	21	8	29	72%	22 January 2013	31	2	33	94%
12 October 2012	20	7	27	74%	23 January 2013	29	4	33	88%
13 October 2012	19	10	29	66%	24 January 2013	44	11	55	80%
14 October 2012	28	4	32	88%	25 January 2013	22	6	28	79%
15 October 2012	13	6	19	68%	26 January 2013	43	9	52	83%
Total	375	111	486	77%	27 January 2013	11	6	17	65%
11 November 2012	24	6	30	80%	Total	346	65	411	84%
12 November 2012	26	7	33	79%	2 February 2013	12	17	29	41%
13 November 2012	45	7	52	87%	3 February 2013	11	19	30	37%
14 November 2012	36	10	46	78%	4 February 2013	11	15	26	42%
15 November 2012	24	5	29	83%	5 February 2013	30	21	51	59%
16 November 2012	26	6	32	81%	6 February 2013	18	20	38	47%
17 November 2012	53	15	68	78%	7 February 2013	15	15	30	50%
18 November 2012	29	7	36	81%	8 February 2013	30	8	38	79%
19 November 2012	32	8	40	80%	9 February 2013	20	12	32	63%
20 November 2012	43	13	56	77%	10 February 2013	68	21	89	76%
21 November 2012	42	7	49	86%	11 February 2013	23	13	36	64%
22 November 2012	29	5	34	85%	12 February 2013	43	4	47	91%
23 November 2012	24	9	33	73%	13 February 2013	28	6	34	82%
24 November 2012	16	3	19	84%	14 February 2013	29	8	37	78%
Total	449	108	557	81%	15 February 2013	20	4	24	83%
12 February 2012	15	11	26	58%	Total	358	183	541	66%
13 February 2012	18	12	30	60%	25 February 2015	10	17	27	37%
14 February 2012	24	9	33	73%	26 February 2015	12	24	36	33%
15 February 2012	20	11	31	65%	27 February 2015	19	12	31	61%
16 February 2012	19	8	27	70%	28 February 2015	27	9	36	75%
17 February 2012	19	4	23	83%	1 March 2013	27	12	39	69%
18 February 2012	25	11	36	69%	2 March 2013	31	8	39	79%
19 February 2012	31	9	40	78%	3 March 2013	41	12	53	77%
20 February 2012	27	11	38	71%	4 March 2013	32	8	40	80%
21 February 2012	31	9	40	78%	5 March 2013	29	9	38	76%
22 February 2012	35	9	44	80%	6 March 2013	30	12	42	71%
23 February 2012	27	7	34	79%	7 March 2013	24	16	40	60%
24 February 2012	34	12	46	74%	8 March 2013	34	8	42	81%
25 February 2012	29	19	48	60%	9 March 2013	39	9	48	81%
Total	354	142	496	71%	10 March 2013	42	11	53	79%
					Total	397	167	564	70%

APPENDIX C: SURVEY INSTRUMENTS (ENGLISH)

VISITOR SURVEY



Visitor Survey

What is this study about?

This research examines how zoos will need to position themselves in the 21st century to accommodate the complex demands that stakeholders place upon them.

Who is the researcher?

I am a PhD candidate studying Environmental Management at Massey University, New Zealand.

Who should complete this survey?

This survey is aimed at visitors of the zoo. These are individuals who are above the age of 18.

Confidentiality

The survey results will be used in a way that individual response cannot be identified and only aggregated results will be published. Completed forms will be kept by the University and will not be released to third parties.

Participant Rights

You have the right to:

- Decline to answer any question
- Ask any questions about the study at anytime during participation

Contacts

If you have any questions, please feel free to contact either me or my supervisors.

Researcher

Jeraldine Teng
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Ethics Statement

The University requires that ethics approval be obtained for research involving human participants. This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 9099, email humanethics@massey.ac.nz.

TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS

1=Strongly disagree to 5=Strongly agree (circle answer)

	Strongly disagree		Neutral		Strongly agree	Don't know
1. I enjoyed finding out more about wildlife in their habitat at the zoo	1	2	3	4	5	0
2. I enjoyed the zoo's activities and presentations	1	2	3	4	5	0
3. My visit to the zoo made me keen to find more about the threats faced in the wild	1	2	3	4	5	0
4. The zoo has inspired me to do more in my private life for the benefit of wildlife	1	2	3	4	5	0
5. I usually come to the zoo to see specific animals	1	2	3	4	5	0
6. I usually come to the zoo to learn about the animals	1	2	3	4	5	0
7. I usually considered the zoo's reputation before visiting	1	2	3	4	5	0
8. I usually come to the zoo to spend a day out with friends	1	2	3	4	5	0
9. I usually come to the zoo to spend the day with family	1	2	3	4	5	0
10. I usually visit a zoo because of their range of animals	1	2	3	4	5	0
11. I frequently hear the zoo mentioned on T.V, radio and magazines	1	2	3	4	5	0
12. I frequently make use of the zoo's social media network (e.g. Facebook, Twitter and etc.)	1	2	3	4	5	0
13. I find the zoo's website up to date and informative	1	2	3	4	5	0
14. The zoo does a good job on educating the public regarding conservation issues	1	2	3	4	5	0
15. It appears to me that the zoo does a good job entertaining their visitors	1	2	3	4	5	0
16. The animals at the zoo are housed in a natural setting	1	2	3	4	5	0
17. The quality of the information displayed at most of the animal enclosures is good	1	2	3	4	5	0
18. I am aware of the services that the zoo provides to the community.	1	2	3	4	5	0
19. Watching a wildlife documentary is no substitute for my experiences at the zoo	1	2	3	4	5	0
20. I took the time to read the information displayed at the animal enclosures	1	2	3	4	5	0
21. The entrance fee for an adult is reasonable	1	2	3	4	5	0
22. The entrance fee for a child is reasonable	1	2	3	4	5	0
23. If the entry fee was lower, I would come more often	1	2	3	4	5	0
24. The zoo should give discounted entrance fees to residents of [local city]	1	2	3	4	5	0
25. Based on the experience I had today, I would be willing to pay a higher entrance fee	1	2	3	4	5	0
26. The zoo should sell products made only from sustainable sources	1	2	3	4	5	0
27. It doesn't matter to me where the zoo sources their animals	1	2	3	4	5	0
28. The zoo should sell products only bought through ethical purchasing	1	2	3	4	5	0
29. The zoo should be active in improving international conservation efforts	1	2	3	4	5	0
30. The zoo should be active in improving national conservation efforts	1	2	3	4	5	0
31. I would like the zoo to create reserves in unprotected environments	1	2	3	4	5	0
32. The zoo should assist developing countries to conserve wildlife	1	2	3	4	5	0
33. The zoo is open and honest when resolving issues raised by the public	1	2	3	4	5	0
34. Compassion for animals is an important moral value in my life	1	2	3	4	5	0
35. The zoo compares favourably with the other zoos that I have visited	1	2	3	4	5	0
36. I would be interested in volunteering for conservation projects conducted by the zoo	1	2	3	4	5	0
37. All things considered, the zoo is doing an excellent job	1	2	3	4	5	0

38. I am a: *(Circle answer)* a. Male b. Female
39. My age is: _____
40. My highest level of education is: *(Circle answer)*
- a. Primary school education b. Secondary school education c. Tertiary diploma
d. Vocational or Trade qualification e. University qualification f. Postgraduate diploma or degree
41. Our total annual household income before tax is: \$ _____/year
42. My main occupation is: _____
43. The country I usually live in is: _____
44. Do you pay an annual subscription to be a member of the zoo? *(Circle answer)* a. Yes b. No
45. Generally, I visit the zoo _____ times a year.
46. I have _____ children under the age of 18 years accompanying me today.
47. There are _____ people (including myself) in our group today.
48. I have religious affiliations. a. Yes. Please state which one _____ b. No.
49. I would visit the zoo again *(circle answer)*: a. Yes b. No

Reason: _____

50. I would recommend that others visit the zoo *(circle answer)*: a. Yes b. No

Reason: _____

51. I decided to visit the zoo today because:

Reason: _____

52. There were aspects of the zoo that I did not enjoy today *(circle answer)* a. Yes b. No

Reason: _____

Thank you very much for completing my survey.

If you are happy for the researcher to contact you, please fill in your contact details below:

Name: _____ Contact email: _____

STAFF MEMBER SURVEY



Staff Survey

What is this study about?

This research examines how zoos will need to position themselves in the 21st century to accommodate the complex demands that stakeholders place upon them.

Who is the researcher?

I am a PhD candidate studying Environmental Management at Massey University, New Zealand.

Who should complete this survey?

This survey is aimed at staff members of the zoo.

Who else is participating in this study?

Several zoos in the Asia-Pacific region have been asked to participate in this study. The surveys from each zoo will be compared and the aggregated results will be published.

Confidentiality

The survey results will be used in a way that individual response cannot be identified and only aggregated results will be published. Completed forms will be kept by the University and will not be released to third parties.

Participant Rights

You have the right to:

- Decline to answer any question
- Ask any questions about the study at anytime during participation

Contacts

If you have any questions, please feel free to contact either me or my supervisors.

Researcher

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Tel: +64 6 356 9099

Ethics Statement

The University requires that ethics approval be obtained for research involving human participants. This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 9099 email: humanethics@massey.ac.nz.

GENERAL QUESTIONS

TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS

1=Strongly disagree to 5=Strongly agree (circle answer)

	Strongly disagree		Neutral		Strongly agree	Don't know
1. I thoroughly enjoy the job that I am doing	1	2	3	4	5	0
2. I feel that my opinions are highly valued by zoo management	1	2	3	4	5	0
3. My supervisor encourages me to come up with new ideas at work	1	2	3	4	5	0
4. I feel comfortable providing feedback to management	1	2	3	4	5	0
5. I feel safe working near the animals at the zoo	1	2	3	4	5	0
6. There is really good team spirit in my team	1	2	3	4	5	0
7. There is good communication within my team	1	2	3	4	5	0
8. There is good communication between the teams at the zoo	1	2	3	4	5	0
9. The working atmosphere is excellent at the zoo	1	2	3	4	5	0
10. Training for staff members is an important priority for the zoo	1	2	3	4	5	0
11. The zoo has provided me with excellent training to do my job	1	2	3	4	5	0
12. The zoo provides me with the tools to develop my career	1	2	3	4	5	0
13. My salary at the zoo is competitive for the job I do	1	2	3	4	5	0
14. The zoo is open and honest when resolving issues raised by staff members	1	2	3	4	5	0
15. I enjoy working at the zoo	1	2	3	4	5	0
16. I frequently participate in field conservation projects conducted by external organisations	1	2	3	4	5	0
17. I feel that the conservation projects conducted by the zoo is worth doing	1	2	3	4	5	0
18. I think the zoo is well managed	1	2	3	4	5	0
19. Compassion for animals is an important moral value in my life	1	2	3	4	5	0
20. The zoo has made me appreciate that nature is worthy of protection	1	2	3	4	5	0
21. The zoo has made me more aware of current issues faced by wildlife and their habitats	1	2	3	4	5	0
22. The primary aim focus of the zoo is to entertain their visitors	1	2	3	4	5	0
23. There are sufficient resources to care for animals at the zoo	1	2	3	4	5	0
24. Most of the enclosures are well designed for animal welfare purposes	1	2	3	4	5	0
25. Most of the animals in the zoo come from legal sustainable sources	1	2	3	4	5	0
26. Animal breeding is well managed at the zoo	1	2	3	4	5	0
27. The zoo exceeds the standards for animal welfare stipulated by regional associations	1	2	3	4	5	0
28. Regardless of the impact on the animals, the zoo is determined to turn a profit	1	2	3	4	5	0
29. The zoo is open and honest when resolving issues raised by the public	1	2	3	4	5	0
30. The zoo has an effective partnership with universities to encourage scientific research	1	2	3	4	5	0
31. The zoo collaborates effectively with schools to develop educational activities	1	2	3	4	5	0
32. The zoo collaborates effectively with other zoos to sustain animal collections for the future	1	2	3	4	5	0
33. The zoo works effectively with <u>external organisations</u> on outside conservation projects	1	2	3	4	5	0
34. The zoo works effectively with <u>experts from outside</u> the zoo	1	2	3	4	5	0
35. The zoo works effectively with the <u>government</u> to influence environmental legislation	1	2	3	4	5	0

36. The zoo's assistance to developing countries to conserve wildlife is effective	1	2	3	4	5	0
37. The zoo is actively involved with <u>international</u> conservation programmes	1	2	3	4	5	0
38. The zoo is actively involved with <u>national</u> conservation programmes	1	2	3	4	5	0
39. The zoo is working towards creating more reserves in unprotected area	1	2	3	4	5	0
40. Services provided by individuals / organisations sponsored by the zoo is valuable	1	2	3	4	5	0
41. Services provided by volunteers of the zoo is valuable	1	2	3	4	5	0
42. Working with corporate sponsors of the zoo is uncomplicated	1	2	3	4	5	0
43. The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	1	2	3	4	5	0
44. The zoo is a main supporter of conservation projects in the region	1	2	3	4	5	0
45. All things considered, the zoo is an excellent employer	1	2	3	4	5	0
46. In your opinion, is the zoo is well placed to operate successfully well into the future? Please elaborate.						

47. I am a: *(Circle answer)* a. Male b. Female
48. What is your age? *(circle answer)*
- a. 18 – 25 b. 26 – 30 c. 31 – 35 d. 36 – 40 e. 41 – 45 f. 46 – 50
- g. 51 – 55 h. 56 – 60 i. 61 – 65 j. 66+
49. My highest level of education is: *(Circle answer)*
- a. Primary school b. Secondary school c. Tertiary diploma
- d. Vocational or Trade qualification e. University qualification f. Postgraduate diploma or degree
50. I have been employed at this zoo for _____ years
51. I work in the _____ team/section of the zoo.
52. My employment status is: *(Circle answer)* a. Full time b. Part time c. Volunteer d. Casual
53. I have _____ children under the age of 18 years living with me.
54. I currently practice a religion. *(Circle answer)* a. Yes. Please state which one _____ b. No.
55. I would recommend a friend to visit this zoo. *(Circle answer)* a. Yes b. No
- Reason: _____
56. What are the three most rewarding aspects about working at the zoo?
- a. _____
- b. _____
- c. _____
57. I think the zoo should contribute _____ of the annual revenue to outside conservation projects. *(Circle answer)*
- a. 0% b. 1-9% c. 10-19% d. 20-29% e. 30-39% f. 40-49% g. 50+%

Thank you for completing my survey

If you are happy for the researcher to contact you, please fill in your contact details below

Name: _____ Contact email: _____

CORPORATE SPONSOR SURVEY



Corporate Sponsor Survey

What is this study about?

This research examines how zoos will need to position themselves in the 21st century to accommodate the complex demands that stakeholders place upon them.

Who is the researcher?

I am a PhD candidate studying Environmental Management at Massey University, New Zealand.

Who should complete this survey?

This survey is aimed at corporate sponsors of the zoo.

Confidentiality

The survey results will be used in a way that individual response cannot be identified and only aggregated results will be published. Completed forms will be kept by the University and will not be released to third parties.

Participant Rights

You have the right to:

- Decline to answer any question
- Ask any questions about the study at anytime during participation

Contacts

If you have any questions, please feel free to contact either myself or my supervisors.

Researcher

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Ethics Statement

The University requires that ethics approval be obtained for research involving human participants. This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 5249, email humanethics@massey.ac.nz.

PLEASE ANSWER THE FOLLOWING QUESTIONS **FROM THE PERSPECTIVE** OF YOUR ORGANISATION OR COMPANY.

1. My organisation operates in the _____ sector (e.g. telecommunication, tourism, manufacturing, etc).
2. My organisation is (circle answer):
 - a. Privately owned
 - b. Government owned
 - c. Listed on the stock exchange
 - c. Other: _____
3. My organisation has been in operation for _____ years.
4. My organisation currently employs _____ (full-time equivalent) employees in [country name].
5. We sponsor _____ (e.g. 3) other organisations **in** [country name]
6. Excluding the zoo, indicate which other activities/areas does your organisation sponsor? (circle answer/s)
 - a. Environment
 - b. Humanitarian aid
 - c. Children /Youth
 - d. Sports
 - e. Art
 - f. Infrastructure
 - g. Volunteer work
 - h. Scholarships
 - i. Research
 - j. Music
 - k. Other: _____
7. Including this year, my organisation has been sponsoring the zoo for _____ years.
8. The annual cash and in-kind value of my sponsorship to the zoo is \$ _____
9. In 2011, my organisation has made use of the zoo's facilities _____ times for corporate events.

TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS

1=Strongly disagree to 5=Strongly agree (circle number)

	Strongly disagree	Neutral	Strongly agree	Don't know		
10. We sponsor the zoo to be seen as a good corporate citizen	1	2	3	4	5	0
11. We sponsor the zoo to network with other businesses	1	2	3	4	5	0
12. We sponsor the zoo to drive product sales	1	2	3	4	5	0
13. We sponsor the zoo to educate the public about our services and products	1	2	3	4	5	0
14. Our donations to the zoo have improved our organisation's profile	1	2	3	4	5	0
15. The zoo and our organisation promote each other to increase our brand values	1	2	3	4	5	0
16. The zoo's typical visitors are similar to our target customers	1	2	3	4	5	0
17. We encourage our staff to visit the zoo	1	2	3	4	5	0
18. We encourage our customers to visit the zoo	1	2	3	4	5	0
19. We are happy with the benefits the zoo is providing in exchange for our sponsorship	1	2	3	4	5	0
20. We are satisfied with the way the zoo advertises our relationship to their public	1	2	3	4	5	0
21. We have a strong sense of loyalty to the zoo	1	2	3	4	5	0
22. When the media praises the zoo, it feels like a compliment to our organisation	1	2	3	4	5	0
23. It is important to be recognised by the media for our sponsorship of the zoo	1	2	3	4	5	0
24. Claiming a tax-deduction influenced our decision to sponsor the zoo	1	2	3	4	5	0
25. The benefits from sponsoring the zoo exceeds the direct commercial returns	1	2	3	4	5	0
26. All things considered, the zoo is worth sponsoring	1	2	3	4	5	0

ZOO ASSOCIATE SURVEY



Associates of the Zoo Survey

What is this study about?

This research examines how zoos will need to position themselves in the 21st century to accommodate the complex demands that stakeholders place upon them.

Who is the researcher?

I am a PhD candidate studying Environmental Management at Massey University, New Zealand.

Who should complete this survey?

This survey is aimed at associates of the zoo. These are individuals and/or organisations that receive cash or in-kind support from THE zoo.

Confidentiality

The survey results will be used in a way that individual response cannot be identified and only aggregated results will be published. Completed forms will be kept by the University and will not be released to third parties.

Participant Rights

You have the right to:

- Decline to answer any question
- Ask any questions about the study at anytime during participation

Contacts

If you have any questions, please feel free to contact either me or my supervisor.

Researcher

Jeraldine Teng
PhD candidate
Institute of Natural Resources
Massey University
New Zealand
Email: j.teng@massey.ac.nz

Supervisors

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Institute of Natural Resources
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The University requires that ethics approval be obtained for research involving human participants. This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 9099 email: humanethics@massey.ac.nz.

GENERAL QUESTIONS

1. I/We have been working with the zoo for _____ years.
2. What work do you do with the zoo? _____

3. In which countries are your project/s conducted? _____

4. What is the type of support do you receive from the zoo? *(circle answer)*
 a. Cash b. In-kind c. Combination of both cash and in-kind
5. Please describe the support you receive from the zoo?

6. What does the zoo gets in return for their support?

TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS
 1=Strongly disagree to 7=Strongly agree *(circle number)*

	Strongly disagree			Neutral			Strongly agree	Don't know
7. I found it easy to obtain information about receiving project support from the zoo	1	2	3	4	5	6	7	0
8. Obtaining the zoo's support was a straight-forward process	1	2	3	4	5	6	7	0
9. The zoo clearly articulated how my project fits into the overall strategy of their organisation	1	2	3	4	5	6	7	0
10. The zoo has clear guidelines when working with them	1	2	3	4	5	6	7	0
11. The zoo staff has been accessible and helpful	1	2	3	4	5	6	7	0
12. I am treated with respect by the zoo	1	2	3	4	5	6	7	0
13. I found working with the zoo's management team was straightforward	1	2	3	4	5	6	7	0

14. I found working with the zoo's general staff was straightforward	1	2	3	4	5	0
15. The zoo feels like an ally, recognising my work	1	2	3	4	5	0
16. The zoo deeply cares about my project	1	2	3	4	5	0
17. I am provided with substantive feedback on my reports to the zoo	1	2	3	4	5	0
18. I am comfortable discussing both problems and successes with the zoo regarding my project	1	2	3	4	5	0
19. The zoo should contribute a portion of their annual profits to outside conservation projects	1	2	3	4	5	0
20. I can go to the zoo staff members for further advice outside my project/s	1	2	3	4	5	0
21. My opinions are valued by the zoo's management	1	2	3	4	5	0
22. All things considered, the zoo is an excellent organisation with whom to collaborate	1	2	3	4	5	0

23. Given what you know of the zoo's values and role in the community, please comment on how you think the zoo can improve their support for associates like yourself?

24. In your opinion, do you think the zoo is well placed to operate successfully well into the future? Please elaborate.

Thank you very much for completing this survey.

If you are happy for the researcher to contact you, please fill in your contact details below:

Name: _____

Contact details: _____

APPENDIX D: ETHICS APPROVAL

MASSEY UNIVERSITY HUMAN ETHICS (LOW RISK NOTIFICATION)



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA

1 October 2012

Jeraldine Teng
c/o Ecology Group
Institute of Natural Resources
PN624

Dear Jeraldine

Re: Society, Wildlife and Zoos in the 21st Century

Thank you for your Low Risk Notification which was received on 14 September 2012.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director (Research Ethics), telephone 06 350 5249, e-mail humanethics@massey.ac.nz".

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

John G O'Neill (Professor)
**Chair, Human Ethics Chairs' Committee and
Director (Research Ethics)**

cc Assoc Prof John Holland
Ecology Group, Institute of Natural Resources
PN624

Prof Peter Kemp, Hol
Institute of Natural Resources
PN433

Massey University Human Ethics Committee
Accredited by the Health Research Council

Research Ethics Office, Massey University, Private Bag 11222, Palmerston North 4442, New Zealand
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APPENDIX E: DISTRIBUTION OF RESPONSE IN PERCENTAGES

1. Visitor responses for: New Zealand, Indonesia, Malaysia, The Philippines, Thailand and Hong Kong
2. Staff members response for New Zealand, Indonesia, Malaysia, The Philippines, Thailand and Hong Kong.

DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM NEW ZEALAND.

New Zealand: Percentage distribution of visitors' responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs	Statements	SD	D	N	A	SA	DK	M
A. Motivation for visitation	5	I usually come to the zoo to see specific animals	18.1	13.1	31.2	15.5	17.3	4.5	0.3
	6	I usually come to the zoo to learn about the animals	6.1	10.4	36.3	29.9	13.9	2.7	0.8
	8	I usually come to the zoo to spend a day out with friends	12.8	15.7	22.9	19.5	25.9	2.4	0.8
	9	I usually come to the zoo to spend the day with family	5.6	4.8	9.6	16.8	58.9	2.9	1.3
	10	I usually visit a zoo because of their range of animals	3.7	3.7	13.9	25.3	52.3	1.1	0.0
	23	If the entry fee was lower, I would come more often	12.8	8.3	17.9	14.4	39.2	7.2	0.3
B. Expectations of visitors	24	The zoo should give discounted entrance fees to residents of this city	14.4	6.4	20.3	11.7	37.6	8.8	0.8
	26	The zoo should sell products made only from sustainable sources	4.5	5.9	26.7	20.5	36.8	5.1	0.5
	27	It doesn't matter to me where the zoo sources their animals	38.7	13.6	19.2	12.5	10.9	4.3	0.8
	28	The zoo should sell products only bought through ethical purchasing	2.9	7.2	18.1	23.7	43.5	3.7	0.8
	29	The zoo should be active in improving international conservation efforts	1.6	2.9	12.8	29.6	49.6	2.9	0.5
	30	The zoo should be active in improving national conservation efforts	2.4	1.6	11.2	26.9	54.1	2.9	0.8
	31	I would like the zoo to create reserves in unprotected environments	2.9	4.5	23.7	25.1	34.9	6.9	1.9
	32	The zoo should assist developing countries to conserve wildlife	2.9	4.5	21.9	25.9	40.5	3.2	1.1
	3	My visit to the zoo made me keen to find more about the threats faced in the wild	1.9	6.1	31.5	32.0	28.0	0.3	0.3
	4	The zoo has inspired me to do more in my private life for the benefit of wildlife	2.9	9.3	37.6	30.4	18.4	0.8	0.5
C. Potential impacts of zoo experience	36	I would be interested in volunteering for conservation projects conducted by the zoo	16.8	10.7	24.5	14.4	15.2	16.3	2.1

	11	I frequently hear the zoo mentioned on T.V, radio and magazines	11.2	12.3	13.9	23.7	33.1	5.3	0.5
D. Behaviour of visitors	12	I frequently make use of the zoo's social media network (e.g. Facebook, Twitter, etc.)	48.3	17.3	14.7	4.0	4.8	10.7	0.3
	13	I find the zoo's website up to date and informative	6.9	7.2	22.4	15.2	13.6	34.1	0.5
	20	I took the time to read the information displayed at the animal enclosures	2.9	9.3	22.4	41.6	22.4	0.8	0.5
E. Evaluation of experience	1	I enjoyed finding out more about wildlife in their habitat at the zoo	0.8	2.9	10.7	27.5	57.6	0.3	0.3
	2	I enjoyed the zoo's activities and presentations	1.1	3.7	12.8	25.1	54.1	2.7	0.5
	19	Watching a wildlife documentary is no substitute for my experiences at the zoo	7.5	8.3	26.7	24.0	31.2	2.1	0.3
	25	Based on the experience I had today, I would be willing to pay a higher entrance fee	34.4	21.6	25.3	9.6	4.5	3.5	1.1
	14	The zoo does a good job on educating the public regarding conservation issues	1.3	2.9	13.6	34.4	43.2	4.5	0.0
	15	It appears to me that the zoo does a good job entertaining their visitors	2.4	2.1	9.1	32.5	52.8	0.8	0.3
	16	The animals at the zoo are housed in a natural setting	1.6	4.8	12.3	36.5	43.7	0.8	0.3
F. Evaluation of zoo	17	The quality of the information displayed at most of the animal enclosures is good	0.5	5.3	10.9	36.5	46.1	0.5	0.0
	21	The entrance fee for an adult is reasonable	6.7	16.5	22.9	32.5	20.3	0.8	0.3
	22	The entrance fee for a child is reasonable	4.3	10.7	22.7	31.7	23.2	7.2	0.3
	33	The zoo is open and honest when resolving issues raised by the public	0.5	1.6	23.5	20.5	16.3	36.3	1.3
	35	The zoo compares favourably with the other zoos that I have visited	1.6	3.7	14.1	26.7	46.1	6.1	1.6
	37	All things considered, the zoo is doing an excellent job	1.9	2.1	5.3	25.3	63.7	0.8	0.8

DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM INDONESIA

Indonesia: Percentage distribution of visitors' responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs	Statements	SD	D	N	A	SA	DK	M
A. Motivation for visitation	5	I usually come to the zoo to see specific animals	12.7	11.6	40.8	13.3	17.9	1.4	2.3
	6	I usually come to the zoo to learn about the animals	3.2	10.4	43.9	14.5	23.1	3.2	1.7
	8	I usually come to the zoo to spend a day out with friends	6.9	12.1	35.8	12.7	26.6	3.2	2.6
	9	I usually come to the zoo to spend the day with family	2.9	11.6	14.7	11.8	56.4	0.9	1.7
	10	I usually visit a zoo because of their range of animals	2.3	10.4	16.8	14.7	51.2	3.5	1.2
	23	If the entry fee was lower, I would come more often	4.0	7.5	9.8	6.9	66.5	2.6	2.6
B. Expectations of visitors	24	The zoo should give discounted entrance fees to residents of this city	3.8	8.1	9.0	7.2	66.8	2.3	2.9
	26	The zoo should sell products made only from sustainable sources	2.6	10.1	17.9	14.2	49.7	3.2	2.3
	27	It doesn't matter to me where the zoo sources their animals	28.3	14.2	28.0	8.1	11.3	7.5	2.6
	28	The zoo should sell products only bought through ethical purchasing	5.2	11.0	27.5	9.8	37.6	5.8	3.2
	29	The zoo should be active in improving international conservation efforts	1.4	11.0	9.0	13.6	59.0	2.3	3.8
	30	The zoo should be active in improving national conservation efforts	1.4	11.0	6.1	10.7	65.6	1.4	3.8
C. Potential impacts of zoo experience	31	I would like the zoo to create reserves in unprotected environments	3.8	11.3	11.0	13.3	54.3	1.7	4.6
	32	The zoo should assist developing countries to conserve wildlife	2.6	11.3	9.8	12.7	56.6	3.5	3.5
	3	My visit to the zoo made me keen to find more about the threats faced in the wild	1.7	11.3	24.3	18.2	40.2	3.2	1.2
	4	The zoo has inspired me to do more in my private life for the benefit of wildlife	0.6	8.4	25.4	17.1	45.1	2.0	1.4
	36	I would be interested in volunteering for conservation projects conducted by the zoo	3.8	11.8	32.1	14.7	18.8	13.0	5.8

	11	I frequently hear the zoo mentioned on T.V, radio and magazines	5.2	11.3	26.9	13.6	27.2	13.9	2.0
D. Behaviour of visitors	12	I frequently make use of the zoo's social media network (e.g. Facebook, Twitter, etc.)	11.0	11.6	32.9	10.7	9.2	22.0	2.6
	13	I find the zoo's website up to date and informative	1.4	9.2	31.8	12.7	22.0	20.2	2.6
	20	I took the time to read the information displayed at the animal enclosures	2.0	11.0	30.3	22.0	27.7	4.6	2.3
	1	I enjoyed finding out more about wildlife in their habitat at the zoo	2.0	15.9	5.5	10.4	65.3	0.0	0.9
	2	I enjoyed the zoo's activities and presentations	0.9	15.3	7.8	17.3	57.5	0.9	0.3
E. Evaluation of experience	19	Watching a wildlife documentary is no substitute for my experiences at the zoo	4.0	9.8	30.9	14.7	31.5	6.6	2.3
	25	Based on the experience I had today, I would be willing to pay a higher entrance fee	27.5	11.6	32.4	11.8	9.0	4.6	3.2
	14	The zoo does a good job on educating the public regarding conservation issues	0.6	12.7	15.9	18.8	45.1	5.5	1.4
	15	It appears to me that the zoo does a good job entertaining their visitors	0.0	14.2	6.6	15.3	61.8	0.9	1.2
	16	The animals at the zoo are housed in a natural setting	1.7	17.6	12.4	16.8	46.5	2.6	2.3
	17	The quality of the information displayed at most of the animal enclosures is good	1.2	13.0	19.9	21.7	37.9	4.0	2.3
F. Evaluation of zoo	21	The entrance fee for an adult is reasonable	15.6	9.0	29.5	21.4	21.4	1.2	2.0
	22	The entrance fee for a child is reasonable	22.5	11.8	24.0	17.3	19.9	2.3	2.0
	33	The zoo is open and honest when resolving issues raised by the public	2.6	6.9	21.4	11.8	40.2	11.8	5.2
	35	The zoo compares favourably with the other zoos that I have visited	1.7	11.3	13.3	13.0	51.4	3.2	6.1
	37	All things considered, the zoo is doing an excellent job	1.4	13.0	15.6	21.1	38.2	3.2	7.5

DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM MALAYSIA

Malaysia: Percentage distribution of visitors' responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs	Statements	SD	D	N	A	SA	DK	M
A. Motivation for visitation	5	I usually come to the zoo to see specific animals	10.5	11.4	21.4	22.3	30.3	1.8	2.4
	6	I usually come to the zoo to learn about the animals	2.4	7.8	19.6	28.3	38.3	1.3	2.2
	8	I usually come to the zoo to spend a day out with friends	14.0	12.0	23.4	22.5	22.9	1.6	3.6
	9	I usually come to the zoo to spend the day with family	4.5	6.2	12.0	21.6	52.8	0.4	2.4
	10	I usually visit a zoo because of their range of animals	3.8	7.8	17.1	26.1	41.6	1.3	2.2
	23	If the entry fee was lower, I would come more often	4.9	6.9	12.7	17.8	53.5	1.8	2.4
B. Expectations of visitors	24	The zoo should give discounted entrance fees to residents of this city	12.7	7.3	19.4	17.4	38.5	1.3	3.3
	26	The zoo should sell products made only from sustainable sources	7.1	6.7	22.9	25.6	31.0	3.6	3.1
	27	It doesn't matter to me where the zoo sources their animals	24.3	11.4	19.8	18.7	16.7	4.5	4.7
	28	The zoo should sell products only bought through ethical purchasing	6.5	6.7	24.1	25.4	28.5	4.2	4.7
	29	The zoo should be active in improving international conservation efforts	2.9	3.3	10.9	24.5	53.9	1.1	3.3
	30	The zoo should be active in improving national conservation efforts	2.4	3.3	12.2	24.1	53.5	0.9	3.6
C. Potential impacts of zoo experience	31	I would like the zoo to create reserves in unprotected environments	4.9	5.1	14.5	24.5	45.9	1.8	3.3
	32	The zoo should assist developing countries to conserve wildlife	3.3	4.5	16.9	22.0	48.3	1.6	3.3
	3	My visit to the zoo made me keen to find more about the threats faced in the wild	3.3	4.7	17.6	28.7	42.1	0.9	2.7
	4	The zoo has inspired me to do more in my private life for the benefit of wildlife	2.4	5.8	21.8	32.7	32.7	2.0	2.4
	36	I would be interested in volunteering for conservation projects conducted by the zoo	6.5	6.7	25.2	23.6	26.3	4.7	7.1

	11	I frequently hear the zoo mentioned on T.V, radio and magazines	12.7	11.1	20.7	21.2	26.3	5.1	2.9
D. Behaviour of visitors	12	I frequently make use of the zoo's social media network (e.g. Facebook, Twitter, etc.)	17.1	14.5	23.6	17.6	14.9	8.9	3.3
	13	I find the zoo's website up to date and informative	6.9	7.1	23.6	22.9	20.3	16.9	2.2
	20	I took the time to read the information displayed at the animal enclosures	2.0	7.8	21.4	27.4	37.0	2.0	2.4
	1	I enjoyed finding out more about wildlife in their habitat at the zoo	3.6	4.0	11.8	24.3	53.5	1.1	1.8
	2	I enjoyed the zoo's activities and presentations	3.1	6.7	17.4	30.7	37.2	2.4	2.4
E. Evaluation of experience	19	Watching a wildlife documentary is no substitute for my experiences at the zoo	5.8	7.1	18.0	28.3	36.5	1.3	2.9
	25	Based on the experience I had today, I would be willing to pay a higher entrance fee	26.5	15.1	23.6	18.7	10.0	2.7	3.3
	14	The zoo does a good job on educating the public regarding conservation issues	5.1	8.2	16.5	30.1	33.0	4.2	2.9
	15	It appears to me that the zoo does a good job entertaining their visitors	4.0	8.9	16.9	32.3	34.5	0.4	2.9
	16	The animals at the zoo are housed in a natural setting	4.5	7.8	16.7	29.6	37.4	1.6	2.4
	17	The quality of the information displayed at most of the animal enclosures is good	5.3	9.6	20.0	31.2	29.6	1.3	2.9
F. Evaluation of zoo	21	The entrance fee for an adult is reasonable	14.3	9.6	20.0	25.4	25.4	2.4	2.9
	22	The entrance fee for a child is reasonable	9.6	9.4	18.7	26.7	30.3	2.9	2.4
	33	The zoo is open and honest when resolving issues raised by the public	2.7	4.0	21.6	26.9	34.1	6.9	3.8
	35	The zoo compares favourably with the other zoos that I have visited	8.5	8.7	19.6	25.6	26.3	4.5	6.9
	37	All things considered, the zoo is doing an excellent job	4.0	6.0	15.8	29.8	31.0	2.4	10.9

DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM THE PHILIPPINES

The Philippines: Percentage distribution of visitors' responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs	Statements	SD	D	N	A	SA	DK	M
A. Motivation for visitation	5	I usually come to the zoo to see specific animals	6.5	5.6	31.9	20.6	33.3	1.4	0.6
	6	I usually come to the zoo to learn about the animals	3.7	5.4	30.2	26.8	31.6	1.4	0.8
	8	I usually come to the zoo to spend a day out with friends	4.8	4.5	37.0	24.6	28.0	0.6	0.6
	9	I usually come to the zoo to spend the day with family	5.9	4.5	28.8	20.3	39.0	0.8	0.6
	10	I usually visit a zoo because of their range of animals	3.1	9.9	28.0	24.0	32.5	1.4	1.1
	23	If the entry fee was lower, I would come more often	8.8	2.5	25.1	10.2	52.0	0.8	0.6
B. Expectations of visitors	24	The zoo should give discounted entrance fees to residents of this city	7.9	4.5	21.5	17.5	45.2	2.8	0.6
	26	The zoo should sell products made only from sustainable sources	3.1	7.1	34.2	23.7	28.0	2.8	1.1
	27	It doesn't matter to me where the zoo sources their animals	11.0	11.0	33.3	25.1	16.7	1.7	1.1
	28	The zoo should sell products only bought through ethical purchasing	3.7	5.6	33.6	24.9	26.6	3.4	2.3
	29	The zoo should be active in improving international conservation efforts	4.2	5.4	26.8	26.6	34.7	1.4	0.8
	30	The zoo should be active in improving national conservation efforts	3.7	5.9	23.4	28.5	36.4	1.1	0.8
C. Potential impacts of zoo experience	31	I would like the zoo to create reserves in unprotected environments	4.5	5.9	23.7	25.7	38.4	1.1	0.6
	32	The zoo should assist developing countries to conserve wildlife	4.8	4.0	22.9	28.0	37.3	1.7	1.4
	3	My visit to the zoo made me keen to find more about the threats faced in the wild	4.2	3.7	29.7	27.4	32.2	1.4	1.4
	4	The zoo has inspired me to do more in my private life for the benefit of wildlife	3.4	5.4	31.9	31.9	25.4	1.1	0.8
	36	I would be interested in volunteering for conservation projects conducted by the zoo	3.4	5.1	34.7	29.1	22.3	3.1	2.3

	11	I frequently hear the zoo mentioned on T.V, radio and magazines	7.1	8.8	32.2	24.0	22.0	3.7	2.3
D. Behaviour of visitors	12	I frequently make use of the zoo's social media network (e.g. Facebook, Twitter, etc.)	6.5	13.3	31.6	22.3	20.3	4.8	1.1
	13	I find the zoo's website up to date and informative	5.4	9.6	36.4	20.9	18.6	7.1	2.0
	20	I took the time to read the information displayed at the animal enclosures	4.0	6.8	29.1	32.2	26.8	0.3	0.8
	1	I enjoyed finding out more about wildlife in their habitat at the zoo	4.0	5.9	26.3	30.2	31.1	0.8	1.7
	2	I enjoyed the zoo's activities and presentations	3.1	5.6	25.7	24.3	36.7	2.5	2.0
E. Evaluation of experience	19	Watching a wildlife documentary is no substitute for my experiences at the zoo	4.0	5.1	28.8	29.4	29.7	1.4	1.7
	25	Based on the experience I had today, I would be willing to pay a higher entrance fee	14.7	8.5	34.5	25.1	13.6	2.8	0.8
	14	The zoo does a good job on educating the public regarding conservation issues	5.9	5.9	26.0	28.2	31.4	0.8	1.7
	15	It appears to me that the zoo does a good job entertaining their visitors	4.2	5.6	24.9	31.9	31.4	0.8	1.1
	16	The animals at the zoo are housed in a natural setting	5.6	5.9	25.4	31.9	28.0	1.1	2.0
	17	The quality of the information displayed at most of the animal enclosures is good	5.1	5.4	28.5	30.8	27.1	0.8	2.3
F. Evaluation of zoo	21	The entrance fee for an adult is reasonable	8.8	13.6	35.3	23.4	14.7	3.4	0.8
	22	The entrance fee for a child is reasonable	9.6	14.7	34.7	20.6	17.2	2.5	0.6
	33	The zoo is open and honest when resolving issues raised by the public	3.7	5.9	30.5	28.8	26.3	4.2	0.6
	35	The zoo compares favourably with the other zoos that I have visited	3.7	5.4	31.9	28.0	27.1	2.3	1.7
	37	All things considered, the zoo is doing an excellent job	3.7	4.8	26.3	27.7	34.7	1.1	1.7

DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM THAILAND

Thailand: Percentage distribution of visitors' responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs	Statements	SD	D	N	A	SA	DK	M
A. Motivation for visitation	5	I usually come to the zoo to see specific animals	23.7	13.1	27.9	20.9	9.8	2.5	2.0
	6	I usually come to the zoo to learn about the animals	1.7	6.4	22.3	32.1	33.8	0.8	2.8
	8	I usually come to the zoo to spend a day out with friends	3.6	12.3	29.3	24.9	25.7	1.4	2.8
	9	I usually come to the zoo to spend the day with family	3.1	9.8	22.1	24.6	35.2	1.7	3.6
	10	I usually visit a zoo because of their range of animals	1.1	4.2	15.4	25.7	50.3	0.3	3.1
	23	If the entry fee was lower, I would come more often	4.2	5.0	19.8	26.5	41.6	0.8	2.0
B. Expectations of visitors	24	The zoo should give discounted entrance fees to residents of this city	5.3	3.1	21.2	21.8	45.8	1.1	1.7
	26	The zoo should sell products made only from sustainable sources	2.5	4.7	25.1	27.9	35.8	1.1	2.8
	27	It doesn't matter to me where the zoo sources their animals	20.4	11.7	24.9	17.6	21.2	1.1	3.1
	28	The zoo should sell products only bought through ethical purchasing	1.4	2.8	19.6	27.4	46.1	0.3	2.5
	29	The zoo should be active in improving international conservation efforts	1.4	2.5	15.4	24.6	53.4	0.0	2.8
	30	The zoo should be active in improving national conservation efforts	0.3	2.2	13.4	19.6	61.5	0.3	2.8
	31	I would like the zoo to create reserves in unprotected environments	0.8	1.1	9.5	20.7	65.9	0.0	2.0
	32	The zoo should assist developing countries to conserve wildlife	0.6	1.1	12.6	23.7	59.5	0.6	2.0
	3	My visit to the zoo made me keen to find more about the threats faced in the wild	1.1	4.5	25.4	32.4	32.7	2.5	1.4
	4	The zoo has inspired me to do more in my private life for the benefit of wildlife	1.1	5.3	17.9	34.1	38.0	1.1	2.5
C. Potential impacts of zoo experience	36	I would be interested in volunteering for conservation projects conducted by the zoo	2.5	3.4	23.5	27.7	37.4	3.4	2.2

	11	I frequently hear the zoo mentioned on T.V, radio and magazines	5.0	5.0	26.8	26.3	32.4	3.1	1.4
D. Behaviour of visitors	12	I frequently make use of the zoo's social media network (e.g. Facebook, Twitter, etc.)	6.7	12.8	25.1	27.1	22.9	3.4	2.0
	13	I find the zoo's website up to date and informative	2.5	7.3	22.3	32.7	27.1	7.0	1.1
	20	I took the time to read the information displayed at the animal enclosures	2.2	7.3	26.5	35.2	24.6	1.4	2.8
E. Evaluation of experience	1	I enjoyed finding out more about wildlife in their habitat at the zoo	0.0	1.1	17.6	27.4	51.7	0.6	1.7
	2	I enjoyed the zoo's activities and presentations	0.0	0.8	17.3	33.0	45.5	1.4	2.0
	19	Watching a wildlife documentary is no substitute for my experiences at the zoo	4.2	5.9	20.9	34.1	31.3	0.3	3.4
	25	Based on the experience I had today, I would be willing to pay a higher entrance fee	8.9	10.9	30.4	26.8	20.1	1.4	1.4
	14	The zoo does a good job on educating the public regarding conservation issues	0.6	4.7	16.2	29.6	44.4	2.0	2.5
	15	It appears to me that the zoo does a good job entertaining their visitors	0.3	3.9	14.2	34.6	44.4	0.3	2.2
	16	The animals at the zoo are housed in a natural setting	0.6	3.9	13.4	34.6	45.5	0.0	2.0
F. Evaluation of zoo	17	The quality of the information displayed at most of the animal enclosures is good	1.1	5.3	21.5	39.1	29.9	0.8	2.2
	21	The entrance fee for an adult is reasonable	2.0	4.7	22.9	31.6	36.3	1.4	1.1
	22	The entrance fee for a child is reasonable	0.8	4.7	19.8	31.0	40.2	2.0	1.4
	33	The zoo is open and honest when resolving issues raised by the public	0.3	0.8	12.0	32.1	49.2	3.4	2.2
	35	The zoo compares favourably with the other zoos that I have visited	0.6	1.1	10.1	29.9	55.9	0.6	2.0
	37	All things considered, the zoo is doing an excellent job	0.3	0.8	15.6	31.8	47.8	1.1	2.5

DISTRIBUTION OF VISITORS RESPONSES IN PERCENTAGES FROM HONG KONG, SAR

Hong Kong, SAR: Percentage distribution of visitors' responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs	Statements	SD	D	N	A	SA	DK	M
A. Motivation for visitation	5	I usually come to the zoo to see specific animals	8.1	9.3	34.5	19.6	22.7	3.0	2.8
	6	I usually come to the zoo to learn about the animals	5.5	8.1	35.8	21.4	23.7	2.3	3.3
	8	I usually come to the zoo to spend a day out with friends	5.0	8.1	28.2	22.2	30.7	2.5	3.3
	9	I usually come to the zoo to spend the day with family	3.5	5.5	14.6	17.4	54.7	1.5	2.8
	10	I usually visit a zoo because of their range of animals	2.5	4.5	22.9	24.7	41.3	1.5	2.5
	23	If the entry fee was lower, I would come more often	4.3	4.5	15.4	14.6	54.4	4.0	2.8
B. Expectations of visitors	24	The zoo should give discounted entrance fees to residents of this city	4.3	2.3	24.2	14.6	41.8	9.6	3.3
	26	The zoo should sell products made only from sustainable sources	4.8	5.3	32.0	19.1	29.7	5.8	3.3
	27	It doesn't matter to me where the zoo sources their animals	15.6	10.1	31.5	14.6	22.9	2.3	3.0
	28	The zoo should sell products only bought through ethical purchasing	2.3	3.0	23.9	19.9	44.1	4.0	2.8
	29	The zoo should be active in improving international conservation efforts	1.5	0.8	13.6	24.2	55.2	1.8	3.0
	30	The zoo should be active in improving national conservation efforts	1.5	1.5	13.9	24.2	52.9	3.0	3.0
C. Potential impacts of zoo experience	31	I would like the zoo to create reserves in unprotected environments	2.5	2.5	17.1	25.7	44.6	3.5	4.0
	32	The zoo should assist developing countries to conserve wildlife	1.8	1.5	17.6	23.9	50.4	2.3	2.5
	3	My visit to the zoo made me keen to find more about the threats faced in the wild	1.0	4.3	31.7	25.7	33.8	1.5	2.0
	4	The zoo has inspired me to do more in my private life for the benefit of wildlife	1.8	3.5	32.5	25.2	31.2	2.3	3.5
	36	I would be interested in volunteering for conservation projects conducted by the zoo	5.8	3.3	29.5	27.0	23.2	7.3	4.0

	11	I frequently hear the zoo mentioned on T.V, radio and magazines	5.8	7.3	27.0	25.2	25.2	5.8	3.8
	12	I frequently make use of the zoo's social media network (e.g. Facebook, Twitter, etc.)	16.6	14.6	33.0	13.4	7.6	11.3	3.5
D. Behaviour of visitors	13	I find the zoo's website up to date and informative	2.3	4.8	33.5	22.7	15.6	17.6	3.5
	20	I took the time to read the information displayed at the animal enclosures	2.8	7.3	32.2	30.7	19.9	3.5	3.5
	1	I enjoyed finding out more about wildlife in their habitat at the zoo	1.5	3.0	19.6	21.9	50.1	1.3	2.5
	2	I enjoyed the zoo's activities and presentations	1.3	3.0	16.9	26.7	50.1	0.0	2.0
E. Evaluation of experience	19	Watching a wildlife documentary is no substitute for my experiences at the zoo	4.0	4.5	21.2	26.4	35.8	4.3	3.8
	25	Based on the experience I had today, I would be willing to pay a higher entrance fee	23.9	14.6	36.8	7.8	9.3	5.0	2.5
	14	The zoo does a good job on educating the public regarding conservation issues	1.3	3.5	24.2	31.0	31.7	5.0	3.3
	15	It appears to me that the zoo does a good job entertaining their visitors	1.5	2.8	23.9	34.5	33.0	2.3	2.0
	16	The animals at the zoo are housed in a natural setting	4.5	4.3	28.0	33.2	24.4	2.0	3.5
	17	The quality of the information displayed at most of the animal enclosures is good	1.3	3.3	25.2	37.5	27.7	2.0	3.0
F. Evaluation of zoo	21	The entrance fee for an adult is reasonable	8.1	10.6	38.8	22.4	15.4	2.3	2.5
	22	The entrance fee for a child is reasonable	9.6	9.8	34.3	18.9	15.4	9.1	3.0
	33	The zoo is open and honest when resolving issues raised by the public	1.5	2.5	27.2	23.4	26.7	15.9	2.8
	35	The zoo compares favourably with the other zoos that I have visited	2.5	3.8	21.4	29.2	37.3	3.3	2.5
	37	All things considered, the zoo is doing an excellent job	1.8	3.3	22.4	42.8	25.4	1.3	3.0

DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM NEW ZEALAND

New Zealand: Percentage distribution of staff members responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs.	Statements	SD	D	N	A	SA	DK	M
A. Intrinsic factors of job satisfaction	2	I feel that my opinions are highly valued by zoo management	2.6	16.4	16.4	42.2	12.1	7.8	2.6
	10	Training for staff members is an important priority for the zoo	1.7	2.6	12.1	41.4	33.6	4.3	4.3
	12	The zoo provides me with the tools to develop my career	1.7	12.1	22.4	30.2	18.1	9.5	6.0
B. Extrinsic factors of job satisfaction	1	I thoroughly enjoy the job that I am doing	0.0	0.9	4.3	26.7	67.2	0.0	0.9
	11	The zoo has provided me with excellent training to do my job	1.7	2.6	23.3	33.6	32.8	0.9	5.2
	23	There are sufficient resources to care for animals at the zoo	0.0	4.3	12.9	42.2	30.2	6.9	3.4
	3	My supervisor encourages me to come up with new ideas at work	0.0	8.6	15.5	42.2	28.4	3.4	1.7
C. Personal conservation attitudes	4	I feel comfortable providing feedback to management	3.4	8.6	20.7	33.6	29.3	2.6	1.7
	15	I enjoy working at the zoo	0.9	3.4	4.3	25.0	61.2	0.9	4.3
	6	There is really good team spirit in my department	3.4	3.4	10.3	38.8	42.2	0.0	1.7
	7	There is good communication within my department	2.6	8.6	9.5	37.9	37.9	0.0	3.4
	8	There is good communication between the departments at the zoo	2.6	15.5	31.9	28.4	12.1	6.0	3.4
	9	The working atmosphere is excellent at the zoo	0.9	6.0	10.3	45.7	32.8	0.9	3.4
	5	I feel safe working near the animals at the zoo	0.0	0.0	6.0	25.0	62.9	1.7	4.3
	13	My salary at the zoo is competitive for the job I do	4.3	17.2	31.0	18.1	4.3	19.0	6.0
	16	I frequently participate in field conservation projects conducted by external organisations	11.2	23.3	12.1	20.7	15.5	7.8	9.5
	21	The zoo has made me more aware of current issues faced by wildlife and their habitats	1.7	3.4	6.9	18.1	62.9	1.7	5.2
C. Personal conservation attitudes	20	The zoo has made me appreciate that nature is worthy of protection	0.9	1.7	11.2	23.3	56.9	1.7	4.3
	19	Compassion for animals is an important moral value in my life	0.9	0.0	6.0	15.5	71.6	0.9	5.2

	30	The zoo has an effective partnership with universities to encourage scientific research	0.9	4.3	13.8	34.5	19.8	20.7	6.0
	31	The zoo collaborates effectively with schools to develop educational activities	0.0	2.6	6.9	40.5	40.5	6.0	3.4
D. Evaluation of stakeholder relationship	32	The zoo collaborates effectively with other zoos to sustain animal collections for the future	0.0	0.9	6.0	37.9	46.6	3.4	5.2
	33	The zoo works effectively with external organisations on outside conservation projects	0.9	0.9	4.3	37.9	46.6	5.2	4.3
	34	The zoo works effectively with experts from outside the zoo	0.9	1.7	9.5	38.8	31.0	13.8	4.3
	35	The zoo works effectively with the government to influence environmental legislation	1.7	4.3	13.8	28.4	14.7	32.8	4.3
	36	The zoo's assistance to developing countries to conserve wildlife is effective	0.0	1.7	17.2	33.6	24.1	18.1	5.2
E. Opinions of external stakeholders	40	Services provided by individuals / organisations sponsored by the zoo is valuable	0.0	0.0	7.8	29.3	43.1	13.8	6.0
	41	Service provided by volunteers of the zoo is valuable	0.0	0.9	2.6	18.1	72.4	1.7	4.3
	42	Working with corporate sponsors of the zoo is uncomplicated	1.7	7.8	22.4	12.9	7.8	40.5	6.9
F. Evaluation of animal management	24	Most of the enclosures are well designed for animal welfare purposes	0.0	1.7	8.6	40.5	40.5	3.4	5.2
	25	Most of the animals in the zoo come from legal sustainable sources	0.0	0.0	4.3	24.1	56.9	10.3	4.3
	26	Animal breeding is well managed at the zoo	0.0	0.0	6.9	41.4	41.4	6.9	3.4
	27	The zoo exceeds the standards for animal welfare stipulated by regional associations	2.6	1.7	5.2	28.4	44.0	14.7	3.4
	37	The zoo is actively involved with international conservation programmes	0.0	0.0	4.3	37.1	52.6	2.6	3.4
	38	The zoo is actively involved with national conservation programmes	0.0	0.9	1.7	31.9	56.9	4.3	4.3
	17	I feel that conservation projects conducted by the zoo is worth doing	0.0	0.0	5.2	25.0	65.5	0.9	3.4
	18	I think the zoo is well managed	2.6	5.2	7.8	48.3	28.4	4.3	3.4
G. Evaluation of zoo operational aspects	22	The primary focus of the zoo is to entertain their visitors	13.8	28.4	20.7	21.6	10.3	0.0	5.2
	28	Regardless of the impact on the animals, the zoo is determined to turn a profit	30.2	31.0	13.8	9.5	4.3	7.8	3.4
	29	The zoo is open and honest when resolving issues raised by the public	0.9	0.9	15.5	45.7	19.0	13.8	4.3
	14	The zoo is open and honest when resolving issues raised by the staff	3.4	9.5	30.2	25.0	12.1	16.4	3.4
	45	All things considered, the zoo is an excellent employer	0.9	3.4	14.7	28.4	42.2	6.0	4.3
H. Assessment of zoo's wider values	39	The zoo is working towards creating more reserves in unprotected area	0.9	3.4	14.7	27.6	15.5	32.8	5.2
	43	The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	0.0	2.6	9.5	37.1	37.9	6.9	6.0
	44	The zoo is a main supporter of conservation projects in the region	0.0	0.9	10.3	32.8	37.1	12.1	6.9

DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM INDONESIA

Indonesia: Percentage distribution of staff members responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs.	Statements	SD	D	N	A	SA	DK	M
A. Intrinsic factors of job satisfaction	2	I feel that my opinions are highly valued by zoo management	6.4	1.9	45.1	10.6	16.7	17.0	2.3
	10	Training for staff members is an important priority for the zoo	2.7	2.7	12.5	13.3	65.2	3.0	0.8
	12	The zoo provides me with the tools to develop my career	6.1	1.9	31.4	18.9	39.4	1.9	0.4
	1	I thoroughly enjoy the job that I am doing	0.4	2.3	14.4	14.8	67.4	0.8	0.0
	11	The zoo has provided me with excellent training to do my job	1.5	1.5	15.9	19.3	59.5	1.1	1.1
	23	There are sufficient resources to care for animals at the zoo	3.0	1.5	12.1	16.7	64.0	1.5	1.1
B. Extrinsic factors of job satisfaction	3	My supervisor encourages me to come up with new ideas at work	4.2	3.4	22.0	16.7	45.5	7.6	0.8
	4	I feel comfortable providing feedback to management	3.8	3.4	33.7	16.7	29.9	9.8	2.7
	15	I enjoy working at the zoo	1.9	1.5	21.6	15.9	57.2	1.1	0.8
	6	There is really good team spirit in my department	4.2	3.4	15.9	14.4	58.0	0.0	4.2
	7	There is good communication within my department	5.7	2.7	21.6	15.2	51.1	0.0	3.8
	8	There is good communication between the departments at the zoo	3.4	6.1	29.2	18.6	34.5	6.1	2.3
	9	The working atmosphere is excellent at the zoo	5.3	3.0	20.5	11.7	57.6	1.5	0.4
	5	I feel safe working near the animals at the zoo	2.7	2.7	33.0	16.3	41.7	0.0	3.8
	13	My salary at the zoo is competitive for the job I do	12.9	8.0	35.6	14.4	14.4	10.2	4.5
C. Personal conservation attitudes	16	I frequently participate in field conservation projects conducted by external organisations	10.6	4.5	37.5	7.6	10.6	21.6	7.6
	21	The zoo has made me more aware of current issues faced by wildlife and their habitats	1.1	1.9	11.7	11.4	70.5	1.5	1.9
	20	The zoo has made me appreciate that nature is worthy of protection	1.9	1.1	3.4	9.8	83.3	0.4	0.0
	19	Compassion for animals is an important moral value in my life	0.4	1.5	16.3	15.9	64.8	0.4	0.8

	30	The zoo has an effective partnership with universities to encourage scientific research	0.8	2.7	15.2	14.8	59.1	6.8	0.8
	31	The zoo collaborates effectively with schools to develop educational activities	0.4	2.7	7.2	17.8	68.2	3.4	0.4
D. Evaluation of stakeholder relationship	32	The zoo collaborates effectively with other zoos to sustain animal collections for the future	0.4	2.7	6.1	15.2	68.2	2.7	4.9
	33	The zoo works effectively with external organisations on outside conservation projects	0.4	2.3	9.8	14.8	63.6	7.2	1.9
	34	The zoo works effectively with experts from outside the zoo	1.1	1.9	11.0	16.7	59.5	8.3	1.5
	35	The zoo works effectively with the government to influence environmental legislation	7.6	3.8	11.0	11.0	45.1	18.2	3.4
	36	The zoo's assistance to developing countries to conserve wildlife is effective	1.1	1.5	12.5	14.4	61.0	7.6	1.9
E. Opinions of external stakeholders	40	Services provided by individuals / organisations sponsored by the zoo is valuable	0.8	0.8	18.9	16.7	46.2	13.3	3.4
	41	Service provided by volunteers of the zoo is valuable	1.5	2.7	13.6	11.4	58.3	9.5	3.0
	42	Working with corporate sponsors of the zoo is uncomplicated	3.4	1.9	28.0	9.1	20.5	32.6	4.5
F. Evaluation of animal management	24	Most of the enclosures are well designed for animal welfare purposes	1.5	1.5	5.3	13.3	75.0	1.9	1.5
	25	Most of the animals in the zoo come from legal sustainable sources	2.7	2.7	6.1	11.4	71.2	5.3	0.8
	26	Animal breeding is well managed at the zoo	1.9	1.5	4.9	11.4	77.7	1.9	0.8
	27	The zoo exceeds the standards for animal welfare stipulated by regional associations	4.9	1.1	10.2	12.1	65.2	4.9	1.5
	37	The zoo is actively involved with international conservation programmes	0.8	1.1	8.3	13.3	69.7	5.3	1.5
	38	The zoo is actively involved with national conservation programmes	0.0	1.1	4.5	14.4	76.1	1.9	1.9
	17	I feel that conservation projects conducted by the zoo is worth doing	1.1	1.1	3.0	12.1	62.5	1.1	18.9
	18	I think the zoo is well managed	4.5	1.5	12.1	16.3	61.4	2.7	1.5
G. Evaluation of zoo operational aspects	22	The primary focus of the zoo is to entertain their visitors	10.6	9.5	24.2	13.6	39.4	0.4	2.3
	28	Regardless of the impact on the animals, the zoo is determined to turn a profit	58.3	8.0	12.1	3.0	9.8	7.6	1.1
	29	The zoo is open and honest when resolving issues raised by the public	8.0	4.5	28.8	13.6	28.8	14.0	2.3
	14	The zoo is open and honest when resolving issues raised by the staff	4.9	5.3	35.2	11.7	22.3	17.0	3.4
	45	All things considered, the zoo is an excellent employer	3.0	2.3	21.6	16.7	43.6	6.1	6.8
H. Assessment of zoo's wider values	39	The zoo is working towards creating more reserves in unprotected area	0.4	0.8	11.4	15.9	58.0	11.0	2.7
	43	The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	0.4	1.5	9.5	17.0	65.9	3.4	2.3
	44	The zoo is a main supporter of conservation projects in the region	1.1	2.3	18.2	16.3	55.7	4.5	1.9

DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM MALAYSIA

Malaysia: Percentage distribution of staff members responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs. Statements	SD	D	N	A	SA	DK	M
A. Intrinsic factors of job satisfaction	2 I feel that my opinions are highly valued by zoo management	11.5	11.5	23.1	25.0	17.3	7.7	3.8
	10 Training for staff members is an important priority for the zoo	11.5	1.9	19.2	13.5	42.3	7.7	3.8
	12 The zoo provides me with the tools to develop my career	7.7	9.6	25.0	21.2	28.8	5.8	1.9
B. Extrinsic factors of job satisfaction	1 I thoroughly enjoy the job that I am doing	0.0	0.0	3.8	34.6	59.6	0.0	1.9
	11 The zoo has provided me with excellent training to do my job	7.7	5.8	32.7	17.3	30.8	3.8	1.9
	23 There are sufficient resources to care for animals at the zoo	7.7	13.5	23.1	21.2	25.0	7.7	1.9
C. Personal conservation attitudes	3 My supervisor encourages me to come up with new ideas at work	1.9	9.6	9.6	25.0	40.4	9.6	3.8
	4 I feel comfortable providing feedback to management	13.5	3.8	17.3	26.9	26.9	9.6	1.9
	15 I enjoy working at the zoo	1.9	3.8	7.7	25.0	55.8	3.8	1.9
	6 There is really good team spirit in my department	9.6	0.0	9.6	21.2	55.8	0.0	3.8
	7 There is good communication within my department	7.7	0.0	17.3	25.0	46.2	0.0	3.8
	8 There is good communication between the departments at the zoo	11.5	9.6	28.8	9.6	28.8	9.6	1.9
	9 The working atmosphere is excellent at the zoo	1.9	3.8	15.4	30.8	38.5	7.7	1.9
	5 I feel safe working near the animals at the zoo	0.0	0.0	7.7	21.2	61.5	0.0	9.6
	13 My salary at the zoo is competitive for the job I do	25.0	9.6	21.2	19.2	11.5	11.5	1.9
	16 I frequently participate in field conservation projects conducted by external organisations	17.3	13.5	32.7	17.3	9.6	7.7	1.9
	21 The zoo has made me more aware of current issues faced by wildlife and their habitats	5.8	0.0	3.8	17.3	67.3	0.0	5.8
	20 The zoo has made me appreciate that nature is worthy of protection	1.9	1.9	1.9	23.1	67.3	1.9	1.9
	19 Compassion for animals is an important moral value in my life	0.0	0.0	3.8	11.5	80.8	1.9	1.9

	30	The zoo has an effective partnership with universities to encourage scientific research	0.0	1.9	9.6	36.5	40.4	9.6	1.9
	31	The zoo collaborates effectively with schools to develop educational activities	3.8	1.9	9.6	30.8	46.2	5.8	1.9
D. Evaluation of stakeholder relationship	32	The zoo collaborates effectively with other zoos to sustain animal collections for the future	1.9	5.8	11.5	32.7	40.4	5.8	1.9
	33	The zoo works effectively with external organisations on outside conservation projects	3.8	3.8	13.5	42.3	25.0	9.6	1.9
	34	The zoo works effectively with experts from outside the zoo	5.8	3.8	11.5	42.3	23.1	11.5	1.9
	35	The zoo works effectively with the government to influence environmental legislation	3.8	3.8	17.3	36.5	23.1	11.5	3.8
	36	The zoo's assistance to developing countries to conserve wildlife is effective	3.8	11.5	23.1	26.9	17.3	15.4	1.9
E. Opinions of external stakeholders	40	Services provided by individuals / organisations sponsored by the zoo is valuable	0.0	1.9	17.3	25.0	40.4	13.5	1.9
	41	Service provided by volunteers of the zoo is valuable	0.0	3.8	9.6	28.8	53.8	1.9	1.9
	42	Working with corporate sponsors of the zoo is uncomplicated	7.7	3.8	25.0	26.9	15.4	19.2	1.9
F. Evaluation of animal management	24	Most of the enclosures are well designed for animal welfare purposes	7.7	11.5	19.2	19.2	38.5	1.9	1.9
	25	Most of the animals in the zoo come from legal sustainable sources	0.0	0.0	13.5	26.9	50.0	7.7	1.9
	26	Animal breeding is well managed at the zoo	3.8	1.9	19.2	38.5	30.8	3.8	1.9
	27	The zoo exceeds the standards for animal welfare stipulated by regional associations	5.8	3.8	11.5	26.9	36.5	13.5	1.9
	37	The zoo is actively involved with international conservation programmes	1.7	5.8	11.5	38.5	19.2	21.2	1.9
	38	The zoo is actively involved with national conservation programmes	1.9	1.9	11.5	32.7	32.7	15.4	3.8
	17	I feel that conservation projects conducted by the zoo is worth doing	5.8	3.8	13.5	28.8	38.5	7.7	1.9
	18	I think the zoo is well managed	9.6	7.7	23.1	21.2	28.8	7.7	1.9
G. Evaluation of zoo operational aspects	22	The primary focus of the zoo is to entertain their visitors	5.8	5.8	7.7	34.6	38.5	5.8	1.9
	28	Regardless of the impact on the animals, the zoo is determined to turn a profit	17.3	13.5	21.2	17.3	17.3	9.6	3.8
	29	The zoo is open and honest when resolving issues raised by the public	7.7	3.8	26.9	28.8	21.2	9.6	1.9
	14	The zoo is open and honest when resolving issues raised by the staff	13.5	13.5	19.2	28.8	7.7	15.4	1.9
	45	All things considered, the zoo is an excellent employer	5.8	13.5	21.2	26.9	23.1	7.7	1.9
H. Assessment of zoo's wider values	39	The zoo is working towards creating more reserves in unprotected area	7.7	9.6	28.8	21.2	11.5	19.2	1.9
	43	The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	7.7	0.0	5.8	32.7	46.2	5.8	1.9
	44	The zoo is a main supporter of conservation projects in the region	3.8	3.8	13.5	26.9	40.4	9.6	1.9

DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM THE PHILIPPINES

The Philippines: Percentage distribution of staff members responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs. Statements	SD	D	N	A	SA	DK	M
A. Intrinsic factors of job satisfaction	2 I feel that my opinions are highly valued by zoo management	4.7	2.3	58.1	14.0	18.6	0.0	2.3
	10 Training for staff members is an important priority for the zoo	2.3	2.3	20.9	27.9	46.5	0.0	0.0
	12 The zoo provides me with the tools to develop my career	2.3	7.0	32.6	32.6	25.6	0.0	0.0
B. Extrinsic factors of job satisfaction	1 I thoroughly enjoy the job that I am doing	0.0	0.0	7.0	32.6	60.5	0.0	0.0
	11 The zoo has provided me with excellent training to do my job	2.3	9.3	18.6	27.9	41.9	0.0	0.0
	23 There are sufficient resources to care for animals at the zoo	0.0	4.7	39.5	23.3	27.9	2.3	2.3
C. Personal conservation attitudes	3 My supervisor encourages me to come up with new ideas at work	0.0	4.7	30.2	25.6	37.2	0.0	2.3
	4 I feel comfortable providing feedback to management	2.3	7.0	32.6	23.3	32.6	0.0	2.3
	15 I enjoy working at the zoo	0.0	0.0	11.6	27.9	60.5	0.0	0.0
	6 There is really good team spirit in my department	2.3	0.0	20.9	39.5	37.2	0.0	0.0
	7 There is good communication within my department	0.0	2.3	11.6	51.2	32.6	0.0	2.3
	8 There is good communication between the departments at the zoo	0.0	4.7	27.9	39.5	27.9	0.0	0.0
	9 The working atmosphere is excellent at the zoo	0.0	7.0	27.9	34.9	27.9	0.0	2.3
	5 I feel safe working near the animals at the zoo	0.0	2.3	25.6	34.9	37.2	0.0	0.0
	13 My salary at the zoo is competitive for the job I do	9.3	14.0	37.2	18.6	18.6	2.3	0.0
	16 I frequently participate in field conservation projects conducted by external organisations	0.0	2.3	46.5	25.6	25.6	0.0	0.0
	21 The zoo has made me more aware of current issues faced by wildlife and their habitats	4.7	0.0	16.3	27.9	51.2	0.0	0.0
	20 The zoo has made me appreciate that nature is worthy of protection	0.0	0.0	7.0	34.9	55.8	0.0	2.3
	19 Compassion for animals is an important moral value in my life	2.3	0.0	4.7	23.3	67.4	0.0	2.3

	30	The zoo has an effective partnership with universities to encourage scientific research	2.3	2.3	25.6	11.6	41.9	7.0	9.3
	31	The zoo collaborates effectively with schools to develop educational activities	0.0	4.7	18.6	32.6	34.9	2.3	7.0
D. Evaluation of stakeholder relationship	32	The zoo collaborates effectively with other zoos to sustain animal collections for the future	0.0	2.3	27.9	27.9	25.6	7.0	9.3
	33	The zoo works effectively with external organisations on outside conservation projects	0.0	9.3	27.9	32.6	14.0	7.0	9.3
	34	The zoo works effectively with experts from outside the zoo	0.0	4.7	25.6	37.2	18.6	4.7	9.3
	35	The zoo works effectively with the government to influence environmental legislation	0.0	4.7	39.5	25.6	14.0	7.0	9.3
	36	The zoo's assistance to developing countries to conserve wildlife is effective	2.3	7.0	27.9	16.3	32.6	4.7	9.3
E. Opinions of external stakeholders	40	Services provided by individuals / organisations sponsored by the zoo is valuable	0.0	2.3	37.2	23.3	30.2	4.7	2.3
	41	Service provided by volunteers of the zoo is valuable	0.0	2.3	20.9	37.2	32.6	2.3	4.7
	42	Working with corporate sponsors of the zoo is uncomplicated	0.0	16.3	27.9	23.3	14.0	9.3	9.3
F. Evaluation of animal management	24	Most of the enclosures are well designed for animal welfare purposes	2.3	9.3	32.6	25.6	23.3	7.0	0.0
	25	Most of the animals in the zoo come from legal sustainable sources	0.0	7.0	30.2	34.9	20.9	2.3	4.7
	26	Animal breeding is well managed at the zoo	0.0	2.3	32.6	27.9	30.2	2.3	4.7
	27	The zoo exceeds the standards for animal welfare stipulated by regional associations	2.3	7.0	34.9	20.9	25.6	2.3	7.0
	37	The zoo is actively involved with international conservation programmes	2.3	11.6	25.6	23.3	23.3	7.0	7.0
	38	The zoo is actively involved with national conservation programmes	2.3	2.3	27.9	37.2	18.6	4.7	7.0
	17	I feel that conservation projects conducted by the zoo is worth doing	0.0	0.0	32.6	27.9	32.6	2.3	4.7
	18	I think the zoo is well managed	2.3	2.3	30.2	34.9	23.3	7.0	0.0
G. Evaluation of zoo operational aspects	22	The primary focus of the zoo is to entertain their visitors	0.0	2.3	9.3	30.2	55.8	0.0	2.3
	28	Regardless of the impact on the animals, the zoo is determined to turn a profit	2.3	4.7	37.2	20.9	20.9	4.7	9.3
	29	The zoo is open and honest when resolving issues raised by the public	2.3	7.0	25.6	39.5	20.9	2.3	2.3
	14	The zoo is open and honest when resolving issues raised by the staff	9.3	2.3	41.9	23.3	23.3	0.0	0.0
	45	All things considered, the zoo is an excellent employer	2.3	7.0	37.2	25.6	20.9	2.3	4.7
H. Assessment of zoo's wider values	39	The zoo is working towards creating more reserves in unprotected area	4.7	4.7	34.9	25.6	14.0	9.3	7.0
	43	The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	4.7	4.7	23.3	30.2	20.9	4.7	11.6
	44	The zoo is a main supporter of conservation projects in the region	0.0	9.3	41.9	18.6	18.6	4.7	7.0

DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM THAILAND

Thailand: Percentage distribution of staff members responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs.	Statements	SD	D	N	A	SA	DK	M
A. Intrinsic factors of job satisfaction	2	I feel that my opinions are highly valued by zoo management	0.0	10.9	31.8	28.2	25.5	0.0	3.6
	10	Training for staff members is an important priority for the zoo	0.0	3.6	31.8	30.9	33.6	0.0	0.0
	12	The zoo provides me with the tools to develop my career	6.4	10.0	26.4	44.5	11.8	0.0	0.9
	1	I thoroughly enjoy the job that I am doing	1.8	8.2	19.1	33.6	37.3	0.0	0.0
	11	The zoo has provided me with excellent training to do my job	0.9	4.5	35.5	47.3	11.8	0.0	0.0
	23	There are sufficient resources to care for animals at the zoo	0.0	7.3	33.6	43.6	15.5	0.0	0.0
B. Extrinsic factors of job satisfaction	3	My supervisor encourages me to come up with new ideas at work	2.7	8.2	22.7	35.5	27.3	0.0	3.6
	4	I feel comfortable providing feedback to management	0.9	10.9	23.6	35.5	28.2	0.0	0.9
	15	I enjoy working at the zoo	0.0	3.6	23.6	30.0	42.7	0.0	0.0
	6	There is really good team spirit in my department	1.8	7.3	24.5	32.7	33.6	0.0	0.0
	7	There is good communication within my department	1.8	12.7	25.5	34.5	24.5	0.0	0.9
	8	There is good communication between the departments at the zoo	3.6	6.4	35.5	36.4	17.3	0.0	0.9
	9	The working atmosphere is excellent at the zoo	0.0	3.6	22.7	30.9	42.7	0.0	0.0
	5	I feel safe working near the animals at the zoo	0.0	10.0	21.8	42.7	25.5	0.0	0.0
	13	My salary at the zoo is competitive for the job I do	10.9	20.0	31.8	28.2	7.3	0.9	0.9
C. Personal conservation attitudes	16	I frequently participate in field conservation projects conducted by external organisations	6.4	11.8	35.5	33.6	10.9	1.8	0.0
	21	The zoo has made me more aware of current issues faced by wildlife and their habitats	0.0	7.3	10.9	34.5	47.3	0.0	0.0
	20	The zoo has made me appreciate that nature is worthy of protection	0.9	3.6	12.7	28.2	54.5	0.0	0.0
	19	Compassion for animals is an important moral value in my life	0.0	5.5	14.5	36.4	43.6	0.0	0.0

	30	The zoo has an effective partnership with universities to encourage scientific research	0.0	4.5	22.7	37.3	32.7	1.8	0.9
	31	The zoo collaborates effectively with schools to develop educational activities	0.0	4.5	12.7	36.4	45.5	0.9	0.0
D. Evaluation of stakeholder relationship	32	The zoo collaborates effectively with other zoos to sustain animal collections for the future	0.9	3.6	15.5	32.7	46.4	0.9	0.0
	33	The zoo works effectively with external organisations on outside conservation projects	0.9	4.5	20.9	42.7	28.2	1.8	0.9
	34	The zoo works effectively with experts from outside the zoo	0.9	6.4	18.2	42.7	29.1	1.8	0.9
	35	The zoo works effectively with the government to influence environmental legislation	0.0	10.0	17.3	40.9	24.5	4.5	2.7
	36	The zoo's assistance to developing countries to conserve wildlife is effective	0.0	7.3	20.0	40.9	24.5	4.5	2.7
E. Opinions of external stakeholders	40	Services provided by individuals / organisations sponsored by the zoo is valuable	0.9	4.5	25.5	46.4	18.2	1.8	2.7
	41	Service provided by volunteers of the zoo is valuable	0.9	6.4	26.4	43.6	18.2	1.8	2.7
	42	Working with corporate sponsors of the zoo is uncomplicated	1.8	6.4	30.9	37.3	14.5	6.4	2.7
F. Evaluation of animal management	24	Most of the enclosures are well designed for animal welfare purposes	1.8	8.2	30.0	47.3	12.7	0.0	0.0
	25	Most of the animals in the zoo come from legal sustainable sources	0.9	4.5	15.5	32.7	46.4	0.0	0.0
	26	Animal breeding is well managed at the zoo	0.0	6.4	20.9	37.3	35.5	0.0	0.0
	27	The zoo exceeds the standards for animal welfare stipulated by regional associations	0.0	4.5	16.4	43.6	33.6	0.9	0.9
	37	The zoo is actively involved with international conservation programmes	0.9	3.6	21.8	40.0	29.1	0.0	4.5
	38	The zoo is actively involved with national conservation programmes	0.9	6.4	15.5	34.5	39.1	0.0	3.6
	17	I feel that conservation projects conducted by the zoo is worth doing	0.0	6.4	18.2	40.0	33.6	0.0	1.8
	18	I think the zoo is well managed	0.9	10.0	32.7	38.2	17.3	0.9	0.0
G. Evaluation of zoo operational aspects	22	The primary focus of the zoo is to entertain their visitors	3.6	19.1	25.5	31.8	20.0	0.0	0.0
	28	Regardless of the impact on the animals, the zoo is determined to turn a profit	23.6	21.8	21.8	27.3	3.6	0.9	0.9
	29	The zoo is open and honest when resolving issues raised by the public	1.8	11.8	20.0	39.1	24.5	0.9	1.8
	14	The zoo is open and honest when resolving issues raised by the staff	2.7	10.9	33.6	39.1	12.7	0.9	0.0
	45	All things considered, the zoo is an excellent employer	0.9	4.5	17.3	46.4	27.3	0.0	3.6
H. Assessment of zoo's wider values	39	The zoo is working towards creating more reserves in unprotected area	0.0	6.4	30.0	35.5	20.0	3.6	4.5
	43	The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	0.0	4.5	12.7	28.2	51.8	0.0	2.7
	44	The zoo is a main supporter of conservation projects in the region	0.0	3.6	18.2	40.9	30.9	3.6	2.7

DISTRIBUTION OF STAFF MEMBERS RESPONSES IN PERCENTAGES FROM HONG KONG, SAR

Hong Kong, SAR: Percentage distribution of staff members responses (SD: Strongly disagree, D: Disagree, N: Neither agree nor disagree, A: Agree, SA: Strongly agree, DK: Don't know, M: Missing (unanswered)).

Themes	Qs.	Statements	SD	D	N	A	SA	DK	M
A. Intrinsic factors of job satisfaction	2	I feel that my opinions are highly valued by zoo management	8.2	12.3	46.8	22.2	7.0	2.3	1.2
	10	Training for staff members is an important priority for the zoo	2.9	7.0	21.6	35.1	29.8	2.3	1.2
	12	The zoo provides me with the tools to develop my career	5.8	9.4	33.3	37.4	10.5	2.3	1.2
	1	I thoroughly enjoy the job that I am doing	2.3	5.3	24.6	41.5	25.1	0.6	0.6
	11	The zoo has provided me with excellent training to do my job	3.5	7.0	32.2	38.6	15.8	1.2	1.8
	23	There are sufficient resources to care for animals at the zoo	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B. Extrinsic factors of job satisfaction	3	My supervisor encourages me to come up with new ideas at work	8.2	7.6	25.7	31.6	22.8	2.9	1.2
	4	I feel comfortable providing feedback to management	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15	I enjoy working at the zoo	1.2	5.3	19.9	38.0	32.2	2.3	1.2
	6	There is really good team spirit in my department	2.9	10.5	28.1	35.1	21.1	0.0	2.3
	7	There is good communication within my department	1.8	10.5	24.6	39.2	21.1	0.0	2.9
	8	There is good communication between the departments at the zoo	1.2	17.5	37.4	31.6	9.9	1.2	1.2
	9	The working atmosphere is excellent at the zoo	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	5	I feel safe working near the animals at the zoo	0.6	2.3	19.9	33.3	31.0	0.0	12.9
	13	My salary at the zoo is competitive for the job I do	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16	I frequently participate in field conservation projects conducted by external organisations	17.5	29.8	24.6	11.7	4.1	10.5	1.8
C. Personal conservation attitudes	21	The zoo has made me more aware of current issues faced by wildlife and their habitats	1.2	5.8	20.5	39.2	32.2	0.6	0.6
	20	The zoo has made me appreciate that nature is worthy of protection	0.6	4.1	18.7	35.1	39.2	1.2	1.2
	19	Compassion for animals is an important moral value in my life	0.0	2.3	24.0	32.7	36.3	2.9	1.8

	30	The zoo has an effective partnership with universities to encourage scientific research	0.0	2.3	25.7	36.3	19.3	15.2	1.2
	31	The zoo collaborates effectively with schools to develop educational activities	0.0	0.6	15.2	43.3	29.2	9.9	1.8
D. Evaluation of stakeholder relationship	32	The zoo collaborates effectively with other zoos to sustain animal collections for the future	0.6	0.6	19.3	42.7	22.8	13.5	0.6
	33	The zoo works effectively with external organisations on outside conservation projects	0.0	0.6	21.1	42.7	24.6	9.9	1.2
	34	The zoo works effectively with experts from outside the zoo	0.6	1.2	18.1	44.4	21.6	12.9	1.2
	35	The zoo works effectively with the government to influence environmental legislation	2.3	5.3	27.5	36.8	15.2	12.3	0.6
	36	The zoo's assistance to developing countries to conserve wildlife is effective	0.6	5.3	24.6	36.8	13.5	18.1	1.2
E. Opinions of external stakeholders	40	Services provided by individuals / organisations sponsored by the zoo is valuable	0.0	1.8	28.1	36.8	16.4	15.2	1.8
	41	Service provided by volunteers of the zoo is valuable	0.6	0.0	24.0	43.9	21.1	8.8	1.8
	42	Working with corporate sponsors of the zoo is uncomplicated	0.0	5.8	32.7	19.9	8.2	31.6	1.8
F. Evaluation of animal management	24	Most of the enclosures are well designed for animal welfare purposes	1.2	5.3	28.7	32.7	26.9	4.1	1.2
	25	Most of the animals in the zoo come from legal sustainable sources	0.6	1.2	9.4	34.5	41.5	12.3	0.6
	26	Animal breeding is well managed at the zoo	1.2	1.2	12.9	43.3	29.8	9.9	1.8
	27	The zoo exceeds the standards for animal welfare stipulated by regional associations	1.8	0.0	22.2	27.5	25.7	22.2	0.6
	37	The zoo is actively involved with international conservation programmes	0.0	2.9	19.9	44.4	22.8	8.8	1.2
	38	The zoo is actively involved with national conservation programmes	0.0	3.5	21.1	39.8	24.6	9.9	1.2
	17	I feel that conservation projects conducted by the zoo is worth doing	1.2	1.8	16.4	38.0	39.8	2.3	0.6
	18	I think the zoo is well managed	2.9	7.6	36.8	35.1	14.0	1.8	1.8
G. Evaluation of zoo operational aspects	22	The primary focus of the zoo is to entertain their visitors	3.5	11.1	31.6	28.7	21.6	2.3	1.2
	28	Regardless of the impact on the animals, the zoo is determined to turn a profit	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29	The zoo is open and honest when resolving issues raised by the public	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14	The zoo is open and honest when resolving issues raised by the staff	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	45	All things considered, the zoo is an excellent employer	0.0	4.7	30.4	39.2	21.1	2.9	1.8
H. Assessment of zoo's wider values	39	The zoo is working towards creating more reserves in unprotected area	2.9	2.3	35.1	15.2	8.8	35.1	0.6
	43	The zoo makes an effort to reintroduce zoo-bred endangered animals into the wild	4.1	5.3	23.4	24.6	14.6	25.7	2.3
	44	The zoo is a main supporter of conservation projects in the region	0.0	2.3	23.4	35.1	27.5	9.4	2.3

