Welfare Evaluations of Zoo Animals in the Philippines

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Summary

We have evaluated welfare standards of zoo animals in five major zoological institutions in the Philippines namely Avilon Zoo, Wildlife Rescue Center, Manila Zoo, Zoobic Zoo and Baluarte Zoo. We have interviewed both visitors and zoo keepers to assess animal welfare standards, especially on the health, nutrition, behavior, shelter, display, space, documentation, signage, and other management practices. All the five zoos showed significant difference on the mean scores of visitors and zoo keepers. The Avilon Zoo received the highest standard rating followed by Zoobic, Manila Zoo, Baluarte Zoo, and Wildlife Rescue Center. Besides, we have identified several problems related to animal welfare and zoo management. We have made appropriate recommendations to all the five zoos to improve animal welfare standards following regional and international standards.

Keywords: *Animal welfare, Zoo, Ethical standards, Philippines, Southeast Asia*

Filipinler'de Hayvanat Bahçesi Hayvanlarının Refah Değerlendirmeleri

Özet

Bu çalışmada Filipinler'de Avilon Hayvanat Bahçesi, Yaban Hayatı Kurtarma Merkezi, Manila Hayvanat Bahçesi, Zoobic Hayvanat Bahçesi ve Baluarte Hayvanat Bahçesi olarak adlandırılan beş önemli zoolojik kurumlarındaki hayvanlardaki refah standartları değerlendirildi. Hayvan refahı standartlarını özellikle sağlık, beslenme, davranış, barınak, görünüm, mekan, dökümantasyon, tabela ve diğer idari uygulamaları belirlemek amacıyla hem ziyaretçiler hem de hayvanat bahçesi yetiştiricileri ile görüşme yapıldı. Tüm bu beş hayvanat bahçesi, ziyaretçiler ve yetiştiriciler ortalama puanları açısından önemli farklılıklar gösterdi. Avilon Hayvanat Bahçesi en yüksek standart derecesi alırken bunu Zoobic, Manila Hayvanat Bahçesi, Baluarte Hayvanat Bahçesi ve Yaban Hayatı Kurtarma Merkezi takip etti. Ayrıca, hayvan refahı ve hayvanat bahçesi yönetimi ile ilgili çeşitli sorunlar belirlenmiştir. Bölgesel ve uluslararası standartlara göre hayvan refahı standartlarını geliştirmek için tüm beş hayvanat bahçeleri için uygun öneriler yapıldı.

Anahtar sözcükler: *Hayvan refahı, Hayvanat bahçesi, Etik standartlar, Filipinler, Güneydoğu Asya*

INTRODUCTION

Animal welfare is often defined as the morally acceptable use of nonhuman animals for food, clothing and entertainment, in animal research, and others as long as unnecessary suffering is avoided [1]. Animal welfare embraces both the physical and mental well-being and according to Spedding [2], welfare of animals is strictly connected to their identified needs and focuses based on the five basic freedoms. They are: (i) freedom from hunger and thirst, (ii) freedom from discomfort, (iii) freedom from pain, injury or disease, and (iv) freedom to express normal behavior, and (v) freedom from fear and distress. In this study, we have generally followed whether or not zoos in the Philippines provide the five basic freedoms to their animals.

This study aims to provide a framework and baseline data for several key objects for the establishment of animal welfare standards in the Philippines. Approximately 200 captive wildlife facilities including zoos, parks, rescue centers, and farms display both wild and domestic animals throughout the Philippines [3]. Unfortunately, the country does not have a national zoo policy. Nonetheless, in August 2010, a national zoo association called 'Philzoos'

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was formed to upgrade animal welfare standards. Very little is known about the welfare of animals in the Philippines zoos and this report follows a preliminary study of animal welfare in zoos conducted in the Philippines during 2005 [4].

MATERIAL and METHODS

From July to August 2009, five zoos namely Avilon Zoo, Wildlife Rescue Center, Manila Zoo, Zoobic Zoo and Baluarte Zoo were assessed to record animal welfare standards. Data on animal welfare were collected following the previously established procedures of zoo assessments [5-7]. Prior to the use of the evaluation forms, content validity was undertaken and pre-test among college students was administered to find its strength and weaknesses and necessary revisions were undertaken. In regards to visitor-evaluators, the following ratings were used: 1- strongly agree (75-100% of the animals/enclosures manifest the condition being evaluated); 2- agree (50-75% of the animals/enclosures); 3- disagree (25-50% of the animals/enclosures); and, 4- strongly disagree (0-25% of the animals/enclosures). In contrast, animal keepers were given the following higher rating standards since they have better understanding of welfare: 1- strongly agree (90-100% of the time), 2- agree (80-89% of the time), 3- disagree (70-79% of the time), and 4- strongly disagree (60-69% of the time). A total of 225 evaluators participated in the process (30 visitors and 15 keepers from each zoo totaling 75 staff and 150 visitors). They were randomly selected and asked to rate the zoo in terms of categories highlighted in the questionnaire. The authors were present to address queries and to guide evaluators objectively to complete the task.

Statistical analysis was done using the Statistical Package for the Social Sciences (SPSS) [8]. Mean rating of 1-1.4 was above average, 1.5-2.4 and 2.5-3.4 below average,

and 3.5-4 poor, respectively. The average to above average rating indicates that the management practices are within acceptable standards though average rating warrants improvement than above average. Below average/poor ratings imply unacceptable standard involving inhumane practices. Analysis of Variance in General Linear Model at 99% level of significance was used to test the differences of the mean scores of the rating. In addition, t-test at 99% level of significance was used to test significant differences between the perceptions of visitors and zoo keepers [8].

RESULTS

Based on the over-all rating, Zoobic Zoo ranked the top. It was followed by Manila Zoo, Avilon Zoo, Baluarte Zoo and Wildlife Rescue Center *(Table 1)*. All zoos received good ratings by zoo keepers for all categories evaluated with the exception of Wildlife Rescue Center that was rated below average in animal display (2.67) and documentation (2.69). The Zoobic zoo scored high in most categories, Manila zoo ranked high for animal health, behavior and shelter, and Zoobic zoo for animal space. The Avilon Zoo ranked third in most categories while Baluarte Zoo third or fourth in all categories. However, the Wildlife Rescue Center scored the lowest (ANOVA FC =20.33; F.TV <3.32; P= 99%).

In terms of the ratings from visitors *(Table 2)*, all zoos rated average in management practices that meant 50-75% of enclosures were within the acceptable standard. Based on the over-all mean rating, Avilon Zoo ranked first, and it was followed by Manila Zoo, Zoobic zoo, Baluarte Zoo and Wildlife Rescue Center. Although most zoos received good ratings by zoo keepers, the government-managed Wildlife Rescue Center received the lowest for documentation (3.36) and display (3.03). The Avilon Zoo on the other hand scored the highest average for display (1.45; ANOVA FC=20.33; F.TV <3.32; P= 99%). Combined

Table 1. *Mean rating per category of zoos given by animal keepers*

Tablo 1. *Hayvan yetiştiricileri tarafından verilen hayvanat bahçelerinin kategorisi başına ortalama derecelendirmesi*

Assessment Category	Average Rating of Zoo				
	Zoobic	**Manila**	**Avilon**	**Baluarte**	**Wildlife Rescue Center**
Health & nutrition	1.59	1.49	1.73	1.79	1.89
Behavior & fitness	1.87	1.82	1.95	1.91	2.42
Shelter	1.64	1.62	1.71	1.8	2.09
Display	1.62	1.74	1.69	2.24	2.67
Space	1.6	1.6	1.82	2.11	2.2
Documentation & information	1.67	2.09	1.78	2.07	2.69
Signage	1.53	2.2	1.69	1.98	2.38
Management practices	1.58	1.75	1.64	1.89	2.33
Over-all status	1.75	1.7	1.87	1.98	2.38
Over-all evaluation	1.64	1.79	1.75	1.97	2.33
Rank	1	2	3	4	5

1 - Strongly agree (90-100% of time/animals/enclosure), 2 - Agree (80- 89% of the time/animals/enclosure), 3 - Disagree (% of the time/animals/enclosure) and 4 - Strongly disagree (60-69% of the time/animals/enclosure)

Table 2. Mean rating per category of zoos given by visitors

Tablo 2. Ziyaretçiler tarafından verilen hayvanat bahçelerinin kategorisi başına ortalama derecelendirmesi

Assessment Category	Average rating of zoo				
	Avilon	Manila	Zoobic	Baluarte	Wildlife Rescue Center
Health & nutrition	1.71	1.86	1.72	2.06	1.87
Behavior & fitness	1.67	1.76	1.88	2.16	1.88
Shelter	1.62	1.80	2.18	2.25	2.08
Display	1.45	2.01	2.01	2.60	3.03
Space	1.61	1.80	1.99	2.38	2.41
Documentation & information	1.61	2.24	2.27	2.62	3.36
Signage	1.67	2.10	1.92	2.40	2.64
Management practices	1.60	2.37	1.93	2.60	2.93
Over-all evaluation	1.63	1.95	1.97	2.34	2.40
Rank	1	2	3	4	5

1 - Strongly agree (75-100% of the time/animals/enclosure), 2 - Agree (50-75% of the time/animals/enclosure), 3 - Disagree (25-50% of the time/animals/enclosure), and 4 - Strongly disagree (0-25% of the time/animals/enclosure)

rating by zoo keepers and visitors has showed Manila, Baluarte, and the Rescue Center consistent scores with no significant differences (t-value = 2.896; *P* = 99%) for different zoos.

DISCUSSION

The privately-owned Avilon Zoo has 7.5 ha area and it displays over 3.000 animals with 50% endemism. Although Avilon has received third rank, it still needs to make improvement for categories such as health, nutrition, behavior and fitness. Besides, the zoo should minimize the collection and maximize ethics and welfare. The Manila Zoo is the oldest (opened in 1959; area 5.5 ha), which harbors 600 animals. Surprisingly, this city-government zoo is over-staffed (n=300) but only 41 directly involved with animals. Manila Zoo needs to improve welfare and display. It must replace all the old cages with new enclosures, and then only animal welfare and ethics can be improved. The Baluarte zoo (area 80 ha) started in 1991 and it displays 330 animals. It focuses on animal shows and it needs to improve animal welfare. The Zoobic Zoo was started in 2004 (area 50 ha) and it displays mainly tigers and other domestic livestock to attract children. It has about 500 animals but it needs to design better enclosures in future that will not limit space for animal. It also needs to train their keepers and managers to enhance enrichment programs for animals.

The government-managed Wildlife Rescue Center was started in the 1980s to temporarily house confiscated animals. Later it became a mini zoo. It holds a collection of 900 animals with only 16 keepers and 2 veterinarians. It received the lowest scores due to poor maintenance and insufficient staff to care for the animals. Majority of the ratings were below standard as opposed to our previous report [4]. This indicates that even best zoos can become the worst if animal welfare standards are not maintained constantly. Furthermore, the center continues to get rescued and abandoned animals exceeding its carrying capacity. To make matters worst, the Philippine Raptor Center has been moved into the zoo thereby adding more obstacles to provide basic care for animals.

The above observations clearly shows that it is not advisable for rescue centers to transform into zoos since the logic and concept behind rescue center and zoo differ significantly [5-7]. We recommend that zoos not only in the Philippines but also in the Asian region should be cautious while rescuing and accepting abandoned and confiscated animals. These 'good samaritan' activities may lead to lowering the standards of basic animal welfare standards in zoos.

REFERENCES

1. Francione G: Animals, Property, and the Law. Temple University Press, 1995.

2. Spedding CRW: Animal welfare policy in Europe. *J Agric Environ Ethics,* 6, 110-117, 1993.

3. Protected Areas & Wildlife Bureau: Statistics on Philippine protected areas and wildlife resources. Department of Environment and Natural Resources, Quezon City, Philippines, 2001.

4. Almazan RR, Rubio RP, Agoramoorthy G: Welfare Evaluations of Nonhuman Animals in Selected Zoos in the Philippines. *J Appl Anim Welf Sci, 8,* 59-68, 2005.

5. Agoramoorthy G: Animal welfare and ethics evaluations in South East Asian zoos: procedures and prospects. *Anim Welf, 11,* 295-299, 2002.

6. Agoramoorthy G: Wildlife Welfare in Zoos: Case Studies from Southeast Asia. Saarbrucken: Lap Lambert Academic Publishing, 2011.

7. Agoramoorthy G: Southeast Asia. **In,** Kleiman DG, Thompson KV, Baer CK (Eds): Wild Mammals in Captivity: Principles and Techniques for Zoo Management. pp. 28-31, Chicago: Chicago University Press, 2010.

8. SPSS: Linear Mixed Models and Enhanced Data Management. SPSS Inc. IBM. Chicago, 2002.