Visitor's Perception About Orangutan Conservation In Indonesian Zoos

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Abstract.
Zoos have four main roles namely conservation, research, education and recreation. Whether the existence of the zoo has succeeded in increasing or at least influencing people's perceptions of animal conservation should be investigated further. The research aimed to assess the image of the zoos and perception of the visitors about orangutan conservation. This study applied the questionnaire and methods to Indonesia zoo's, and examines the effect of the zoo at changing visitor's conservation awareness. The result showed that there were no significant difference acros the sites and between arrival dan departures. This could be caused by many reasons, for example the short visit time, minimal information obtained during the visit or the background of the visitors themselves.

Keywords: *Indonesian zoo, Pongo pygmaeus, Orangutan, Perception,Conservation*

I. INTRODUCTION

An exsitu or insitu conservation effort aimed to ensure the sustainability of a wildlife. Zoo as one of exsitu conservation institution plays an important role in wildlife conservation effort such as orangutan. Nowadays, zoo was found almost around the world and according to the report from WAZA, there were 1200 institutions which is attracted more than 600 millions a year [1]. The number of zoo visitors in Indonesia is very high. For instante in Taman Margasatwa Ragunan (Ragunan Zoo), there were 4,5 millions visitors every year. Due to high number of zoo visitors, it is very potential for zoo to plays important role in order to educate visitors about wildlife conservation. As we know, principally zoo has four main function i.e. recreation, conservation, seducation and research. As based on the Regulation of the Minister of Forestry of the Republic of Indonesia Number P.31/Menhut-II/2012 about conservation institutions, it is stated that the main function of zoos is related to ex-situ conservation of animals, including as a center for controlled breeding of wild animals while maintaining their genetic purity.

In addition to having a function for animal conservation efforts, there are also other functions, namely as a place for educational, research and recreational activities. Educational, research and recreational activities are expected to increase public

awareness through entertaining learning about animals, so that they can support animal conservation efforts [2].However, whether the existence of the zoo has succeeded in increasing or at least influencing people's perceptions of animal conservation should be investigated further. Previously, there are several research focused on the role of zoo in influencing visitor behaviour [3,4]. All of previous studies have various methods and results to examine the role of zoos or zoos in influencing visitor behavior. Interestingly, Almazan et al. (2005) stated that the management of zoos in developing countries is mostly still under management standards by focusing more on human interests and benefits, especially related to recreational activities [5]. The present study conducted to measure the visitors knowledge, perception and concern about conservation, especially related to orangutans in two different zoos in Indonesia.

II. METHODS

This study conducted in two different zoos in Indonesia: Ragunan Zoo, located in South Jakarta and Taman Safari Indonesia, located in Cisarua Bogor.The design and conduct of the survey of the Indonesian public was methodologically adapated the study of Uozumi (2010) [6]. The survey consisted of two types of questionnaires, targeting zoo visitors and the zoo to itself understand the actual condition of orangutan conservation at Indonesian zoos and for comparison between visitors' and zoo's perception of orangutan conservation.

Data collection

The questionnaire was distributed to zoo visitors in each zoo and completed by visitors. Respondents were divided as "arrival" and "departure"same enclosure cage. “Arrival” categoriy meant visitors arrive in the zoo less than 2 hours, and otherwise to “departure” category.

Survey format

The survey consisted of a combination of close-ended and openended questions. This questionnaire is constructed of the following five parts: demographics and background, visitors conservation knowledge, visitors perceptions, visitors concern (attention) and zoo management perception.

Data Analysis

Visitor survey data will be analyze using statistical analysis to distinguish between arrivals and departures responses, and the difference between each zoo. Kruskal-Wallis will be done to see whether each response variable is different in each zoo. Mann-Whitney test (Test Wilcox) will be used to analyze the difference between the response variable for arrival and departing categories from two zoos.

III. RESULT AND DISCUSSION

Visitor’s Demographics

The survey was conducted for one month from June to July 2017. The number of sample in Ragunan Wildlife Park is 50 people and Taman Safari Indonesia is 50

people. Arrival samples counted 36 people and Departure as many as 64 people (Data not shown). Visitor demography is shown in Table 1 below. The number of samples taken from Arrival and Departure category is not much different i.e 36% and 64%. In terms of sex, most of the respondents were women (55%) and men (45%). Based on education level, S1 is the highest (43%) and high school (40%). Age of respondents highest in the range 30-50 years (32%), while in terms of employment of civil servants and students is the highest of 28% respectively.

Table 1. The respondent's demographics

Age	%	Gender	%	Education	%	Occupation	%	Categoriy	%
Under 20	28	Male	45,00	SD/PS	3	Student	28	Arrival	36,00
20-30 year	25	Female	55,00	SMP/JHS	5	House Wife	16	Departure	64,00
30-50 year	32			SMA/SHS	40	Employee	20		
Upper 50	15			S1/undergraduate	43	Civil Servant	28		
				Graduate School	8	Enterpreneur	0,00		
						Others	8		
Total	100		100		100		100		100

Note:SD/PS: Sekolah Dasar/Primary School; SMP: Sekolah Menengah Pertama/Junior High School; SMA/SHS: Senior High School

Visitor's Conservation Knowledge

In case of visitor's ability to mention name of endangered species, most respondents (85%) were succesful to mention some endangered species, while 12.5% mentioned vulnerable species and 2.5% non-threatened species name. Majority of respondents (48% in TSI and 42% in TMR) mentioned orangutans as endangered animals, followed by rhinos (20% in TSI and 18% in TMR).

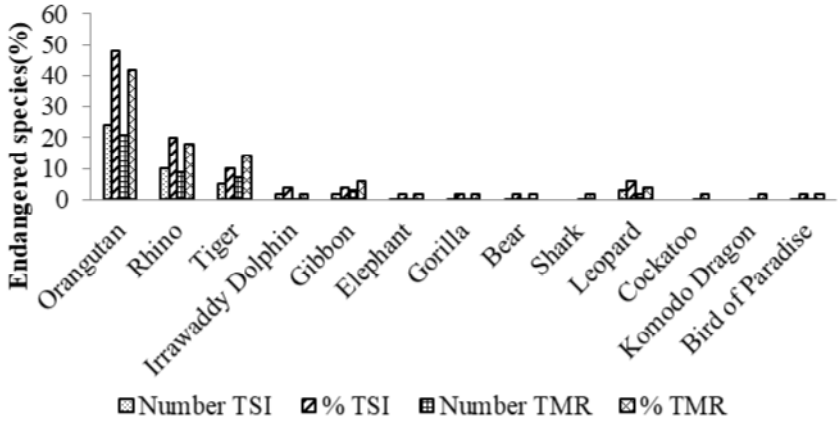

Fig 1. Endangered Species

Statistical analysis of total score acros the sites and between arrival dan departures showed no significant difference (both Kruskal-Wallis test and Mann-Whitney's U test). Individually, there were 77,8% arrival visitors correctly able to name endangered species. In contrast with arrival visitors, percentage in departure visitors are higher (93,8%) were able to name endangered species. In case of visitor's ability to mention species threat, in TMR majority of respondents (38%) mentioned loss of habitat as the main species threat, followed by wild hunting (36%). In TSI majority respondents (38%) mentioned wild hunting as the main species threat, followed by loss of habitat (10%).

Statistical analysis of total score acros the sites and between arrival dan departures showed no significant difference (both Kruskal-Wallis test and Mann-Whitney's U test). Individually, in arrival visitors wild hunting and loss of habitat were the main answer (40,63 respectively). In departure visitors, majority respondents said wild hunting and loss of habitat (36,1% and 30,5% respectively) were the main threat for species.

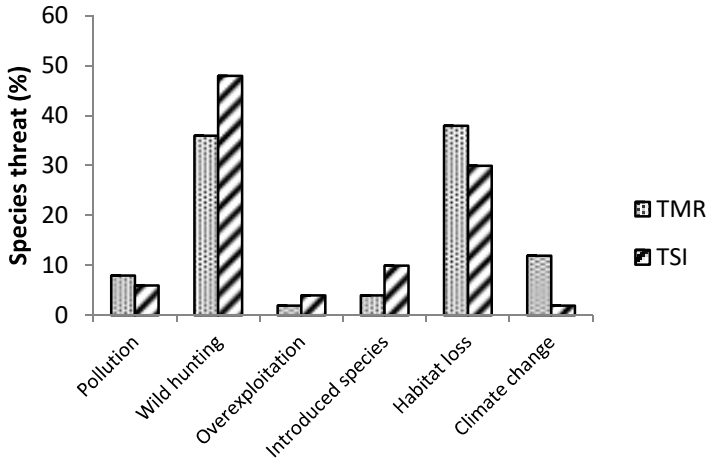

Fig 2. Species Threat

In case of visitor's ability to mention the act to protect orangutan, in TMR majority of respondents (34%) mentioned preventing deforestation as the main act to protect orangutan, followed by stop hunting (26%). In TSI majority respondents (36%) mentioned preventing deforestation as the main species threat, followed by stop hunting (28%). Statistical analysis of total score acros the sites and between arrival dan departures showed no significant difference (both Kruskal-Wallis test and Mann-Whitney's U test). Individually, in arrival visitors preventing deforestation was main answer (44,44). In departure visitors, majority respondents also said preventing deforestation (32,8%) as the main threat for species.

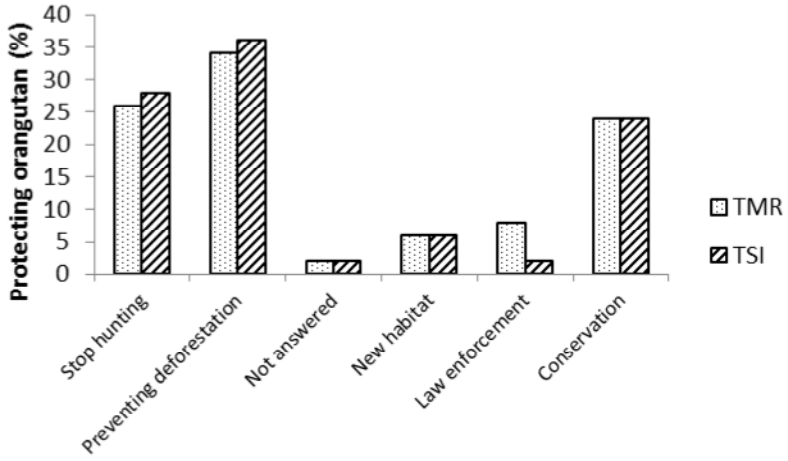

Fig 3. Protecting Orangutan

Visitor's Perceptions

In case of visitor's perception about the role of the zoo, both of in TMR and TSI majority of respondents perceipt that recreation was the main role of zoo (48% and 54% respectively) and followed by conservation (26% and 20% respectively). Statistical analysis of total score acros the sites and between arrival dan departures showed no significant difference (both Kruskal-Wallis test and Mann-Whitney's U test). Individually, both in arrival and departure visitors, recreation was the main answer (55,55% and 48,43% respectively). Interestingly, respondents that perceipt that conservation and education as zoo's role were higher in departure visitors to arrival visitors (23,43% and 21,9% to 22,2% and 13,9% respectively).

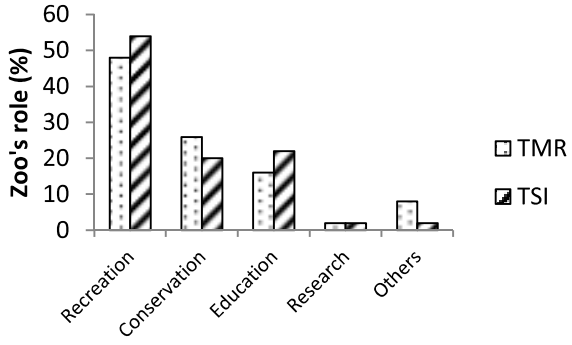

Fig 4. Zoo's Role

Visitor's Concern

When visitors asked about their concern to orangutan concervation, especially their willingness to donate money for orangutan conservation, there were no significance difference between arrival dan departures visitors nor TMR and TSI visitors difference (both Kruskal-Wallis test and Mann-Whitney's U test). Majority

TMR and TSI visitors said there was an increasing in their willingness to donate (40% and 38% respectively). Individually, in arrival visitors, majority respondents said there was an increasing in their willingness to donate (77,%). In departure visitors, majority respondents said there was an sligth increasing in their willingness to donate (43,75%).

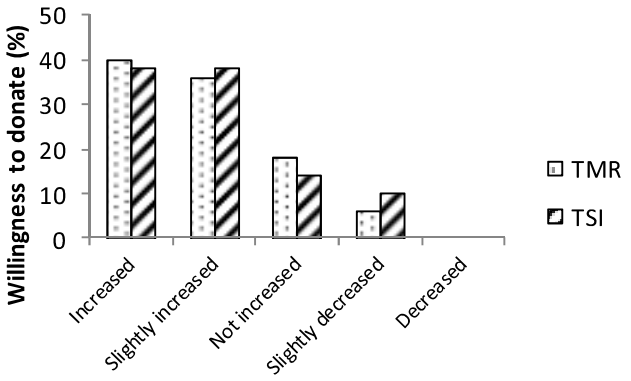

Fig 5. Willingness To Donate

Zoos Perceptions

Based on the results of the zoo perception questionnaire (TMR and TSI) about conservation activities (breeding, reintroduction, public education, fundraising, training conservation, NGO's collaboration) showed that breeding, reintroduction, public education were respectively the most important activities in order to protect orangutan (n=14).

Table 2. The zoo management perceptions about conservation activities

Conservation activities	level of importance					
	most important	more important	little important	neutral	less important	not important
Breeding	9	4	1	0	0	0
Reintroduction	4	7	3	0	0	0
Public education	1	3	8	2	0	0
Fundraising	0	0	0	0	6	8
Training	0	0	2	11	1	0
NGO's collaboration	0	0	0	0	8	6

Majority of zoo respondents perceipt conservation as the most important roles of zoo, recreation as the more important, research as the little important and education asthe less important roles (n=14).

Table 3. The zoo management perceptions about zoos' role

	level of importance			
	Most important	more important	little important	less important
Conservation	11	2	1	0

Education	1	1	2	10
Research	0	1	10	3
Recreation	2	11	1	0

IV. DISCUSSIONS

The results of the analysis showed that there were no significant differences between the knowledge, perceptions and concerns of visitors between different zoos and the "Arrival" and "Departure" categories. This indicates that there was no direct change in visitor response after visiting the zoo. This could be caused by many reasons, for example the short visit time, minimal information obtained during the visit or the background of the visitors themselves.Ideally, zoos focus on efforts to provide welfare for a small number of individual animals and the process of educating visitors about the importance of conserving animals and their habitats. By increasing the awareness and positive attitudes of visitors about rainforest conservation, visitors can contribute to changing political and economic policies that pay more attention to rainforests. Influencing and putting pressure on policy makers and companies by the public can make a long-term difference to orangutan sustainability [7].

Knowledge, perception and public awareness of animal conservation programs also play a role in changing the paradigm of zoo management. It is well known that zoos have undergone structural changes over time in response to pressures on wildlife and values [8,9,10]. Shaw (year unknown) stated that modern zoos have evolved from ordinary zoos to conservation centers. Modern zoos must not only be able to earn income from recreational activities, but also must be able to balance it with a conservation mission [11,12]. Now adays, most of modern zoos claim themselves as a conservation and educational institutions, consistent with the mission statement of zoos [13].Educational management or education plays a role in increasing visitor knowledge about the biological, ecological, behavioral and conservation status of orangutans. Educational efforts that can be done include information boards on species in each cage, leaflets, and other supporting facilities, such as libraries and museums. Educational efforts can also be made through efforts to involve visitors in interacting with animals.

Conservation management also functioned in inviting visitors to be involved in conservation efforts. The involvement of visitors can be in the form of donations for orangutan conservation efforts[14].In this research, some questions that were not different from the research conducted by Uozumi (2010) in Japan, direct comparisons can be made. That was showed the answers of respondents in Indonesia were not significantly different from respondents in Japan. The Uozumi questionnaire was different from this research questionnaire because there was a modification of this research questionnaire which more focused on questions about orangutan conservation.According to Uozumi there was no real influence between the categories

of visitors "Arrival" and "Departure" could be influenced by several factors such as too many questions that affect the resistance of respondents related to the time of filling out the questionnaire. In this study, we tried to give the respondent a friendlier impression in filling out questionnaires such as giving orangutan-themed souvenirs as a gift. The same thing was also done by Uozumi (2010) by giving Animal Postcards.

V. ACKNOWLEDGMENTS

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