

Tourist Guide Behavior of Margorejo Tourism Community Towards Timor Deer Reproduction

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ABSTRACT

The aim of this research is to know the alteration of behavior of tourist guide after accompaniment towards Timor deer reproduction. This research was done on October 2018 to November 2019 in Margorejo village, Dawe District, Kudus Regency. Experimental method with one group pre-test post-test design were used in this research. Fifteen tourist guide as responden in this research. Interview and observation were used for data retrieval. Knowledge, attitude and skills were used as variable. Descriptive analysis were used. The results of this research showed that knowledge of tourist guide was increased 50.5%, from 26.66% to 77.16%. The attitude of the tourist guide was increased 39.17%, from 29.33% to 68.50%. The skills of tourist guide was increased 40.84%, from 26.16% to 67.00%. The conclusion of this research is the accompaniment was success to improve the knowledge, attitude and skills of tour guide in Margorejo village toward reproduction of Timor deer.

Keywords: behavior, timor deer reproduction, tourist guide

INTRODUCTION

Timor deer (*Cervus timorensis*) is one of the deer that endemic in Indonesia. Other species of deer in Indonesia is Sambar deer (*Cervus unicolor*), Bawean deer (*Axis kuhlii*) and kijang (*Muntiacus muntjak*). Timor deer is the most rearing on captivity in Indonesia (Samsudewa et al., 2017; Xavier et al., 2018).

Timor deer is the deer with high carcass percentage, good quality of skin, antler and velvet. However, the increasing population of Timor deer is low (0.5 head per year) (Samsudewa, et al., 2017). It was important to support the population through conservation. Conservation can be done through supporting habitat and population (Utomo dan Hasan, 2014). Conservation need to balance with utilization for improving the interest of the

community. *Ex-situ* conservation is one of the ways to stabilize the population of Timor deer. Takandjandji and Setio (2014) stated that *ex-situ* conservation of Timor deer will give social and financial advantage.

Currently, Timor deer not only breed in captivity but also used for tourism. Timor deer captivity breeding also developed as ecotourism in Grand forest Park Wan Abdul Rachman Lampung (Xavier et al., 2018) and also in Sibreh, Aceh Besar (Susanti and Aidar, 2017; Rahmi and Taher, 2019). Ecotourism is nature tourism based in environment and supports the economics of the community (Ramadhani et al., 2016). As part of ecotourism, Timor deer captive breeding is one of the tourist destinations for the Indonesian community.



Timor deer edutourism has been developed since 2016 in Margorejo village, Dawe district, Kudus regency. Although it has developed as ecotourism, it was important to apply the strategy to avoid natural damage and loss of germ plasm. This condition will reduce the economic value for the community affected by loss of the ecotourism. The effort that can be done to minimize this condition is improving the knowledge, attitude and skills (behaviour) of tourist guide toward the reproduction of Timor deer.

Community empowerment, especially tourist guide is important to preserving natural resource of Timor deer. Low increasing population of Timor deer cause need to improving behaviour of tourist guide towards reproduction of Timor deer. It was important because the tourist guide need to bring up the awareness of the tourist about Timor deer conservation and habit during the visit. Treatment of the tourist along the visit will affected to the consumption pattern and reproduction of Timor deer (Amiati et al., 2015). The aim of this research is to know the alteration of behavior of tourist guide after accompaniment towards Timor deer reproduction.

METHOD

This research was done on October 2018 up to November 2019 in Margorejo village, Dawe, Kudus. Margorejo village were chosen by purposive sampling because this village has become an edutourism of Timor deer. Census were used for the sampling method with all fifteen tourist guide.

Descriptive quantitative approach was used in this research. The research used experimental method to respondent with one group pre-test post-test design without comparison. Experimental method is observation to the respondent under artificial condition set by researcher (Nazir, 2003; Runtunuwu et al., 2019). Artificial condition in this research is accompaniment towards Timor deer reproduction.

Interview and observation was done for taken data. Interview were used for taking the primary data about knowledge, attitude and skills of tourist guide. Questionere were used for interview with *Likert* scale. Categorization for every aspect with score 1 to 5. Secondary data was gathered from head of village and owner of the Timor deer captivity.

Knowledge, attitude and skills were used as variabe to explain about behavior of tourist guide. Tourist guide was given pre-test with 4

indicator (sex differentiation, gestation, parturition and administration) consist of 8 question (sex differentiation of kid Timor deer; sex differentiation of adult Timor deer; nourishment of pregnant hind Timor deer; feed for pregnant hind of Timor deer; length gestation of hind Timor deer; litter size of Timor deer; recording and certification of Timor deer) and followed with treatments of accompaniment and simulation practice. After that, post test was given with the same indicator and question to measured the alteration of behavior.

Next step is:

1. Range value = Highest Score – Lower Score
= 5 – 1
= 4 (range 4)
2. Class interval (k) = $1 + 3.3 \log n$
= $1 + 3.3 \log 15$
= $1 + 3.3 (1,17)$
= $1 + 3.86$
= $4.86 \approx 5$ (number class is 5)
3. Length of class interval = Range value/Class interval
= $4 / 5$
= 0.8 (Length of class interval)
4. Class knowledge, attitude and skills.
 - a. Not know at al/very negative/very unskilled = $1.00 \leq x \leq 1.80$
 - b. Not now/negative/unskilled = $1.80 \leq x \leq 2.60$
 - c. Quite know/quite positive/skilled enough = $2.60 \leq x \leq 3.40$
 - d. Know/positive/skilled = $(3.40 \leq x \leq 4.20)$
 - e. Very know/very positive/very skilled = $(4.20 \leq x \leq 5.00)$
5. Effectivity = increased knowledge or attitude or skills/gap x 100%

Information:

Increasing knowledge/attitude/skills =
Average of PostTest - Average of PreTest

Gap = Maksimum Score x Number of Question

Criteria:

- a. Effective = >66,66 %
- b. Effective enough = 33,33-66,66%
- c. Less effective = <33,33%

Descriptive analyses were used in this research. Santoso (2014) stated that descriptive analysis used for simplify data, presented on the table and make conclusion. The stage of data

analysis is editing, coding and data tabulation. Descriptive analyses were used to know the knowledge, attitude and skills of the tourist guide in Margorejo village toward Timor deer reproduction.

RESULT AND DISCUSSION

The Knowledge of Tourist Guides Before and After Accompaniment towards Timor Deer Reproduction

Knowledge of tourist guide were reviewed from 8 aspects: (1) Kid sex, (2) Differentiate Sex of mature Timor deer, (3) Nourishment of Pregnant Hind, (4) Feed of Pregnant Hind, (5) Length of Gestation, (6) Litter size, (7) Recording, and (8) Timor deer Certification. The results of the research showed that knowledge of tourist guide toward Timor deer reproduction still very low (1.33) before accompaniment It was indicate that their knowledge classified to not know at all. The tourist guide in the Margorejo village showed did not know about differentiate sex of kid Timor deer. Furthermore, their knowledge about differentiate sex of mature Timor deer, nourishment and feed of pregnant hind, length of gestation, litter size, recording, and Timor deer certification. This condition happened because developments of Margorejo as edutourism village just start on 2016. Besides that, Timor deer captivity in Margorejo was unknown by the community before the development of Margorejo edutourism village. That is the reason why the knowledge about Timor deer, nourishment and handling still low.

The knowledge of tourist guides before and after accompaniment toward Timor deer reproduction is shown on Table 1.

The low knowledge of tourist guide was improved by sustainable accompaniment toward Timor deer along with or without edutourism activity. Besides material guidance, technical and practice guidance also share to the tourist guide. The technical and practical guidance was shared, such as hind Timor deer pregnancy diagnosis and nourishment, feed and supplement for Timor deer, newborn kid of Timor deer nourishment, and recording. Accompaniment was affected to the behavior of tourist guide. The tourist guides are known about Timor deer reproduction. The average of posttest shown on 3.85, include knowing categorized. Event though, some aspects are needed to improve such as pregnancy diagnosis and nourishment of hind Timor deer. If the knowledge of tourist guide was left with quite know will affected to uncompleted information to the tourist especially kindergarten and elementary student. This condition affected to their knowledge about reproduction of Timor deer and the application of the student after being adult. If the pregnancy diagnosis and nourishment of hind Timor deer was not well applied will affected to the reproductive disorders. Reproductive disorder was happened because of bad management such as feed, social and stress management (Samsudewa et al., 2017; Samsudewa et al., 2018).

Table 1. The knowledge of tourist guides toward timor deer reproduction before and after accompaniment

Indicator	Knowledge			
	Before	Class	After	Class
Sex Differentiate of Kid	2.06	Not Know	3.53	Know
Sex Differentiate of Timor deer	1.60	Not Know At All	4.53	Very Know
Nourishment of Pregnant Hind	1.20	Not Know At All	3.26	Quite Know
Feed for Pregnant Hind	1.13	Not Know At All	3.06	Quite Know
Length of Gestation	1.06	Not Know At All	4.00	Know
Litter size	1.53	Not Know At All	4.73	Very Know
Recording	1.06	Not Know At All	3.80	Know
Timor deer Certification	1.00	Not Know At All	3.93	Know
Average	1.33	Not Know At All	3.85	Know

Table 2. The alteration knowledge score and percentage of tourist guides towards timor deer reproduction before and after accompaniment

Knowledge	Accompaniment				Diferentiation	
	Before	%	After	%	Score	%
Sex Differentiation						
Kid Timor Deer	31.00	41.33	53.00	70.67	22.00	29.34
Adult of Timor deer	24.00	32.00	68.00	90.67	44.00	58.67
Gestation						
Nourishment of Pregnant Hind	18.00	24.00	49.00	65.33	31.00	41.33
Feed for Pregnant Hind	17.00	22.67	46.00	61.33	29.00	38.66
Length of Gestation	16.00	21.33	60.00	80.00	44.00	58.67
Parturition						
Number of Kid	23.00	30.67	71.00	94.67	48.00	64.00
Administration						
Recording	16.00	21.33	57.00	76.00	41.00	54.67
Timor Deer Certification	15.00	20.00	59.00	78.67	44.00	58.67
Average	20.00	26.66	57.87	77.16	37.87	50.50

Furthermore, in detailed from fifteen respondents, the knowledge of tourist guide was increased comparing before and after accompaniment (Table 2). The knowledge of tourist guide was increased 50.5%, from 26.66% to 77.16% after accompaniment. Before accompaniments, the highest knowledge of respondent is about sex differentiation of kid Timor deer and the lowest is certification of Timor deer. After accompaniment, significant difference on knowledge has shown on litter size and sex differentiation of adult Timor deer. The knowledge was still needed to improve from tourist guide is about feed for pregnant hind of Timor deer. The expectation is the tourist guide can be shared to the tourist about feed for pregnant hind of Timor deer completely. The complete knowledge of tourist guides will improve the knowledge of kindergarten and elementary school student as a tourist in Margorejo edutourism.

Tourist guides need to improve the knowledge towards Timor deer reproduction. The increasing of knowledge of tourist guides be expected will increased the attitude and skills of tourist guides toward Timor deer reproduction. A low skill of tourist guide was affected by low of knowledge. Therefore increasing skill of tourist guide was start from increasing knowledge. The low of knowledge of tourist guides before accompaniment was influenced by low information of Timor deer in their village. The low of literation about Timor deer reproduction was overcome by accompaniment and support the tourist guides to increase their knowledge.

The low of knowledge was identified affected by many factor. The factor was included internal and environment. Prafitri and Damayanti (2016) stated that the improvement the knowledge of tourist guide in Ketenger tourism village, Banyumas affected by ages, education, social

status and the courage to take the risks. The younger tourist guides with the high education level will has more courage to take risks to learn about Timor deer reproduction compare with the older one. Environmental factor such as information access, accompaniment frequency, and infrastructure is affected to the knowledge of tourist guides. Timor deer was not a livestock like goat, sheep or cow. The accompaniment of local government unit was not intensive. The accompaniment towards Timor deer reproduction was needed to increase the knowledge of tourist guides.

The Attitude of Tourist Guides Before and After Accompaniment towards Timor Deer Reproduction

Analysis of the indicator attitude of tourist guides before accompaniment has shown very negative with average score 1.46. The attitude of the tourist guides was very negative for pregnancy diagnosis, nourishment and length of hind Timor deer. Very negative attitude of tourist guide also shown on litter size, recording and certification. Negative attitude has shown on sex differentiation of kid and adult Timor deer. The negative attitude was affected by low of the knowledge toward Timor deer reproduction. Score for every aspects shown on Table 3.

The negative attitude of tourist guide was improved to the positive attitude along with increasing knowledge. The attitude of tourist guide is positive about Timor deer reproduction after accompaniment. Average score posttest is 3.42 and categorized positive. Even though, some aspects is need to be increased, such as feed and supplement for pregnant of hind Timor deer, recording and certification.

In detail, from fifteen respondents, the attitude of tourist guides towards Timor deer

reproduction was increased. The attitude of tourist guides was increased 39.17%, with the initial percentage 26.66% increased to 77.16% after accompaniment. Before accompaniment, the highest attitude of respondent is about sex differentiation of kid Timor deer and the lowest is about certification. After accompaniment, significant difference was shown about attitude of litter size and sex differentiation of adult Timor deer. The attitude that needs to be increased is about feed of pregnant of hind Timor deer. This attitude needs to be increased because they need to give example to the tourist. The alteration attitude score and percentage of tourist guide towards Timor deer reproduction before and after accompaniment shown on Table 4.

On pretest, the highest aspect is about sex differentiation of kid Timor deer with score 49.33%. The lowest is about length of pregnancy with score 20%. The other indicator was very negative for the low score for every indicator. After accompaniment, the highest increasing attitude is about litter size with 46.67% difference. The lowest increasing of attitude is about sex differentiation of adult Timor deer with 16% difference. Some aspects are still in quite positive

because of some reasons. Walgito (2003) stated that personal experience, culture, mass media, education and emotional level is some reasons that prohibited increasing attitude of tourist guide.

Knowledge was directly proportional with attitude, as a result before accompaniment the attitude of the tourist guide also low. After accompaniment, the attitude was changed about Timor deer reproduction. The highest score changing is about identification of length pregnancy of hind Timor deer and litter size. They are realized that identifying of length pregnancy of hind Timor deer is important for provision of feed, nourishment and support birth assistance. This condition was along with knowledge because both of them was the highest increased in knowledge. The lowest changed score of attitude is about sex differentiation of adult Timor deer. The lowest increasing in this indicator because of for the knowledge of sex differentiation of adult Timor deer already has high score in initial. The lowest increasing of this indicator was connected to the passion to apply the knowledge of tourist guides. From here it can understood that attitude is everything that can be change, formed and learned.

Table 3. The Attitude of tourist guides towards timor deer reproduction before and after accompaniment

Indicator	Attitude			
	Before	Class	After	Class
Sex Differentiate of Kid	2.33	Negative	3.86	Positive
Sex Differentiate of Timor deer	2.46	Negative	3.26	Quite positive
Nourishment of Pregnant Hind	1.06	Very negative	3.13	Quite positive
Feed for Pregnant Hind	1.20	Very negative	3.60	Positive
Length of Gestation	1.00	Very negative	3.80	Positive
Litter size	1.20	Very negative	3.53	Positive
Recording	1.33	Very negative	2.86	Quite positive
Timor deer Certification	1.13	Very negative	3.33	Quite positive
Average	1.46	Very negative	3,42	Positive

Table 4. The alteration attitude score and percentage of tourist guides towards timor deer reproduction before and after accompaniment

Attitude	Accompaniment				Diferentiation	
	Before	%	After	%	Score	%
<i>Sex Differentiation</i>						
Kid Timor Deer	35.00	46,67	58.00	77.33	23.00	30.66
Adult of Timor deer	37.00	49,33	49.00	65.33	12.00	16.00
<i>Gestation</i>						
Nourishment of Pregnant Hind	16.00	21,33	47.00	62.67	31.00	41.34
Feed for Pregnant Hind	18.00	24.00	54.00	72.00	36.00	48.00
Length of Gestation	15.00	20.00	57.00	76.00	42.00	56.00
<i>Parturition</i>						
Number of Kid	18.00	24.00	53.00	70.67	35.00	46.67
<i>Administration</i>						
Recording	20.00	26.67	43.00	57.33	23.00	30.66
Timor Deer Certification	17.00	22.67	50.00	66.67	33.00	44.00
Rata-Rata	22.00	29.33	51.37	68.50	29.37	39.17

The Skills of Tourist Guide Before and After Accompaniment Toward Timor Deer Reproduction

The results of the analysis showed that before accompaniment, the skills of tourist guide towards Timor deer reproduction classified to the very unskilled with score 1.30. Very unskilled is found on almost all indicators. Only skills on sex differentiation of kid Timor deer showed unskilled. Low of the skilled was affected by low of the knowledge and attitude. After accompaniment, skills of the tourist guide was increased to skilled classification with score 3.34. Even though unskilled still found on recording and quite skilled was found on indicator of certification and estimate the length of gestation of Timor deer. Score for every aspects shown on Table 5.

In detail, from fifteen respondents, the skills of tourist guide towards Timor deer reproduction increased 40.84%. The initial skills of tourist guides before accompaniment are 26.16% and after accompaniment become 67.00%. Before accompaniment, the highest skills shown on sex differentiation of kid Timor deer (37.33%) and the

lowest is the skill about certification (20%). The results of skills of tourist guides are together with attitude of tourist guides toward Timor deer reproduction. The knowledge is influence to the skills and attitude of tourist guides toward Timor deer reproduction. The negative attitude will affected to the low skills. After accompaniment, the highest skill is about feed for the pregnant hind of Timor deer (57.33%). However, recording is one of the indicators of skills that need to increase from the tourist guides. The alteration skills score and percentage of tourist guide towards Timor deer reproduction before and after accompaniment shown on Table 6.

Accompaniment will improve the behavior of tour guides. Improvement behavior of tour guides towrd Timor deer reproduction start from improving the knowledge of the tourist guides. The increasing of knowledge will cause the positive attitude and improved the skills (Fadhilah et al. 2018). Baliarti et al. (2020) stated that improving behavior (knowledge, attitude and skills of community can be reach through intensive counseling and mentoring.

Table 5. The skills of tourist guides toward timor deer reproduction before and after accompaniment

Indicator	Skills			
	Before	Class	After	Class
Sex Differentiate of Kid	1.86	Unskilled	3.46	Skilled
Sex Differentiate of Timor deer	1.60	Very Unskilled	3.73	Skilled
Nourishment of Pregnant Hind	1.20	Very Unskilled	3.86	Skilled
Feed for Pregnant Hind	1.13	Very Unskilled	4.00	Skilled
Length of Gestation	1.06	Very Unskilled	2.93	Quite Skilled
Litter size	1.53	Very Unskilled	4.00	Skilled
Recording	1.06	Very Unskilled	2.06	Unskilled
Timor deer Certification	1.00	Very Unskilled	2.73	Quite Skilled
Average	1.30	Very Unskilled	3.34	Skilled

Table 6. The alteration skills score and percentage of tourist guides towards timor deer reproduction before and after accompaniment

Skills	Accompaniment				Different	
	Before	%	After	%	Score	%
Sex Differentiation						
Kid Timor Deer	28.00	37.33	52.00	69.33	24.00	32.00
Adult of Timor deer	24.00	32.00	56.00	74.67	32.00	42.67
Gestation						
Nourishment of Pregnant Hind	18.00	24.00	58.00	77.33	40.00	53.33
Feed for Pregnant Hind	17.00	22.67	60.00	80.00	43.00	57.33
Length of Gestation	16.00	21.33	44.00	58.67	28.00	37.34
Parturition						
Number of Kid	23.00	30.67	60.00	80.00	37.00	49.33
Administration						
Recording	16.00	21.33	31.00	41.33	15.00	20.00
Timor Deer Certification	15.00	20.00	41.00	54.67	26.00	34.67
Average	19.62	26.16	50.25	67.00	30.63	40.84

Table 7. Evaluation of knowledge, attitude and skills of tourist guides towards timor deer reproduction

Description	Knowledge		Attitude		Skills	
	Amount	%	Amount	%	Amount	%
Maksimum Score	600	100.00	600	100.00	600	100.00
Pre-Test	160	26.67	176	29.33	157	26.16
Post-Test	463	77.17	411	68.50	402	67.00
Alteration of Behaviour	303	50.50	235	39.16	245	40.83

Accompanimet Effectivity of Tourist Guide towards Timor Deer Reproduction

Accompaniment effectivity was observed from knowledge, attitude and skills of tourist guides towards Timor Deer Reproduction. The knowledge, attitude and skills of tourist guides towards Timor deer reproduction was increased 50.50%, 39.16%, and 40.83%, respectively. The alteration was indicate that accompaniment change the behavior of tourist guides towards Timor deer reproduction. The evaluation of pre- and post-test shown on Table 7.

The evaluation was used for observed the effectiveness of the accompaniment and the achievement of the aim of the accompaniment. The evaluation results of accompaniment effectively of tourist guides towards Timor deer reproduction can be seen as follows:

$$\begin{aligned}
 \text{Accompaniment Effectively} &= \\
 &= \frac{(Ps-Pr)/(N.5Q)-Pr}{(1.276-493)/(15.5.24)-493} \times 100\% \\
 &= \frac{783/1.800-493}{(783/1.307)-493} \times 100\% \\
 &= 59.90\%
 \end{aligned}$$

The accompaniment effectively of tourist guides towards Timor deer reproduction was categorized to the effective enough with percentage 59.90%. This percentage showed that the accompaniment towards Timor deer reproduction attract interest of tourist guides. The evidence is increasing of the knowledge, attitude and skills of tourist guides towards Timor deer reproduction.

Increasing the knowledge, attitude and skills of tour guides about Timor deer reproduction hopefully can improve the behaviorur of the student that leran in Margorejo edutourism. Putri et al (2019) stated that increasing knowledge of the community about deer in Bumi Patria deer park will increase their perception. So in this study, improving the behaviour including knowledge of the students who learn in Margorejo edutourism will increase their perception to the reproduction of Timor deer and support the Timor deer conservation.

CONCLUSION

The conclusion of this research is the accompaniment of tourist guides was success to improve the knowledge, attitude and skills of tour guide in Margorejo village toward reproduction of Timor deer. The knowledge is the basic improvement behavior of tourist guides.

CONFLICT OF INTEREST

There is no financial, personal, and organizational conflict of interest related to the material discussed in this article.

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