

NEEDS OF EDUCATIONAL ACTIVITY FOR CONSERVATION OF TOGEAN BABIRUSA IN TOGEAN ARCHIPELAGO, CENTRAL SULAWESI

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Keywords : Togeian babirusa, conservation, education program

Introduction

The Togeian babirusa (*Babyrousa togeanensis*) is an endangered wild pig species, endemic to 4 islands of Malenge, Talatakoh, Togeian and Batudaka in Togeian Archipelago, Central Sulawesi. The babirusa has been protected under Indonesian laws since 1931. However, the conservation situation is alarming, because of combinations of some factors; low level of enforcement of control, high level of hunting pressure, habitat degradation and small litter size.

The population size of Togeian babirusa was estimated at 500 to 1000 individuals in 1978. Conservation status of Togeian babirusa was categorized as endangered by the IUCN/SSC Pigs and Peccaries Specialist Group (Macdonald 1993). After the previous report, there have been few studies on the status of Togeian babirusa (video-shooting and factors of declining populations by Ito *et al.* 2005; observation and attempt of questionnaire survey by Akbar *et al.*, 2007).

In this study, we aimed at investigating the co-existence between humans and Togeian babirusa using a questionnaire survey and making solutions of the wildlife damage management. Also we implemented educational activities using brochures to the residents in Malenge. In this report, we briefly describe the result of these activities and needs of further educational activities for the nature conservation

Study Area and Methods

Our activities were carried out on Malenge Island (00°16'S, 122°03'E, ca. 10km x 4km) in Togeian Archipelago during 5 days in August 2007 (Fig. 1). The human population in Malenge is 1,216 inhabitants in 2006. The terrestrial biodiversity includes a wide range of endemic species, such as Togeian macaque (*Macaca togeanus*), Togeian lizard (*Varanus salvator togeanus*). Togeian Tarsier (*Tarsius*

togeanus) and Togeian babirusa (*Babyrousa togeanensis*).

We conducted interviews using questionnaires with 30 questions with local inhabitants in order to gather the following data; respondent's attributes and the administrative countermeasures to the crop damage, the present situation, future prospects of agriculture, and their knowledge of babirusa.

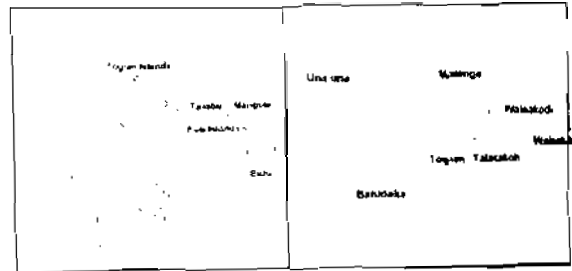


Fig 1. Sulawesi and Togeian Archipelago.

For our age-appropriate education program, we created 3 editions of brochures concerned with the vulnerability of babirusa. Using the brochures, we made special science classes at Malenge elementary school.

Results and Discussion

Crop damages by wild animals

Almost all (99.0%) answered crop damages by animals (alternative inquiry, N=216). When questioned about the species of animals that gave crop damages (multiple-choice Inquiry, N=211), 81.5% of the respondents answered "monkey", followed by 57.3% answered "babirusa", 46.5% answered "domestic cow" and 37.9% answered "domestic goat" (dual answers were accepted, Fig 2). This result showed that the most serious pest in the agricultural field was monkey rather than babirusa. It is necessary to investigate an actual condition of the crop damage caused by the babirusa.

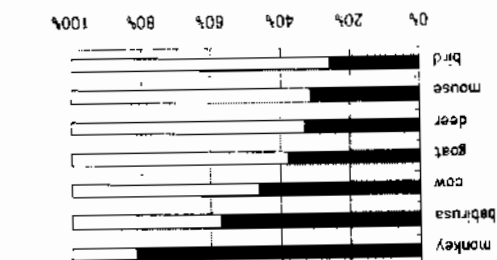


Fig 2. Answers about animal species that give crop damages

Of the 208 respondents, 176 respondents (84.6%) replied "coconut" as damaged crops by animals (open-ended). About the method of administrative countermeasures to the damage, 58.3% of 192 respondents answered "watching in the crop field" (open-ended). Although the method of "watching" is effective, however farmers usually execute the measure only in daytime. As local farmers reported, babrusa is active to forage in the early morning and evening. Therefore, animals might damage the crop during the absence of farmers in the field. Their negative attitudes of "watching" and "no countermeasure" are likely to allow the crop damage.

In spite of this situation of damages to crops, almost all (94.9%) of the 177 respondents was eager to expand agricultural area in future (alternative), willing to increase their harvests or incomes (open-ended, 93.9%). This data suggested the possibility of additional habitat degradation by local farmers in the future, giving rise to friction between local farmers and wildlife. In order to prevent the friction from taking place, more effective methods such as "fence" to protect the crop against wild animals should be used in this area. Furthermore, prior to deforestation by local farmers, land development to agricultural field should be planned carefully in the point of wildlife conservation.

Respondent's knowledge of the babrusa

One of the reproductive characteristics in the babrusa is its litter size. Much of the available data indicates that normal litter size is 1 or 2. This small litter size causes a difficulty to increase the population size of babrusa. Therefore it is important to investigate respondent's knowledge of the litter size. When questioned about the range of litter size, 48.9% of respondents correctly answered "1 piglet" as minimum size, and only 39.3% of

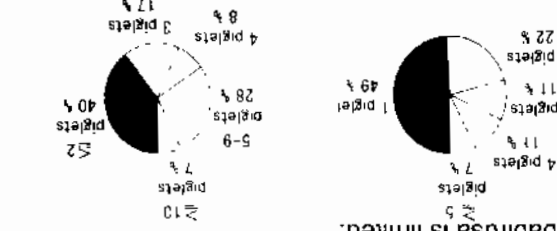
Conservation status of Togeian babrusa

Of the 206 respondents, 60 respondents (29.1%) had ever killed the babrusa (alternative). When the respondents were asked about the knowledge of Indonesian laws for the wildlife conservation, 55.3% of respondents answered "yes" (alternative, N=219). After the question about Indonesian laws, 83.1% replied "unwilling to babrusa hunting in future" (alternative, N=219). These results suggest that the local people have quite limited opportunity to receive social information from local and central Governments, though the Togeian islands National Park has been enacted in this area since October 2004.

Prior to the educational activity, pupils (N=133) were asked one question about their experience to observe Togeian babrusa in Malenge. Only 15.8% of pupils had the experience (alternative). According to the report by Malenge people, Togeian babrusa was populous before the long droughts and forest fire in 1997-98, suggesting even children could observe Togeian babrusa at their hamlets. Thus, the result of this question might reveal the decline in population size of Togeian babrusa as supporting data.

In this activity, many pupils showed their willingness to learn the endemism and biodiversity in Malenge. We believe that this program was effective to build awareness about the importance of nature conservation, and was a good opportunity to make a better human network between communities, local governments and other stakeholders. In order to measure the effectiveness of this activity,

Fig 3. Answers about minimum litter size (left) and maximum litter size of babrusa (right).



we will make a plan for the evaluation and a further programs in Togean Archipelago in the near future.

Conclusion

For the effective *in situ* conservation of Togean babirusa, a continuous dissemination of biological information and social changes to the local community is necessary.

Acknowledgements

We thank Mr. I.D.N.G. Yoga and Mr. S. Hendrawan of BKSDA, Mr. A. Sjarjanto of Surabaya Zoo, and Mr. Mustaming Syahrul of Togean Islands National Park for assistants in this fieldwork. This research was supported by

plan
the Charitable Trust Taisei Corporation Natural and Historical Environment Fund (Japan).

References

- Akbar S. *et al.* 2007. *Suiform Soundings*, 7: 17-26.
- Ito M. *et al.* 2005. *Kumpulan makalah seminar sehari. Peduli Anoa dan babirusa (Bogor Sept. 2005)*, 71-77.
- Macdonald A.A. 1993. *Status Survey and Conservation Action Plan. Pig, Peccaries and Hippos: Status survey and conservation action plan*, 161-171.
- Meijaard E. and Groves C. 2002. *Asian Wild Pig News*, 2: 2, 33-39.