

‘Education is the most powerful weapon which you can use to change the world’

(Nelson Mandela)

Introduction

Among the seven macaque species of the Sulawesi island (Indonesia), the crested macaque (*Macaca nigra*) endemic to North Sulawesi, is Critically Endangered. In the past three generations, the crested macaque population has been reduced by more than 80% due to habitat loss and hunting pressure (Supriatna & Andayani, 2008). The species is also part of the IUCN list of the world’s 25 most endangered primates (IPS/ASP Congress, 2016) and according to Palacios et al (2012), the crested macaque could even become extinct in Tangkoko within 46 years if the situation does not change. Conservation actions are therefore urgently needed (Hilser et al., 2013). *Act for Crested Macaques project* was part of the on-going conservation work started by Tangkoko Conservation Education (TCE) in the province of North Sulawesi in 2011 and focused on conservation education activities among local population, including adults and children.

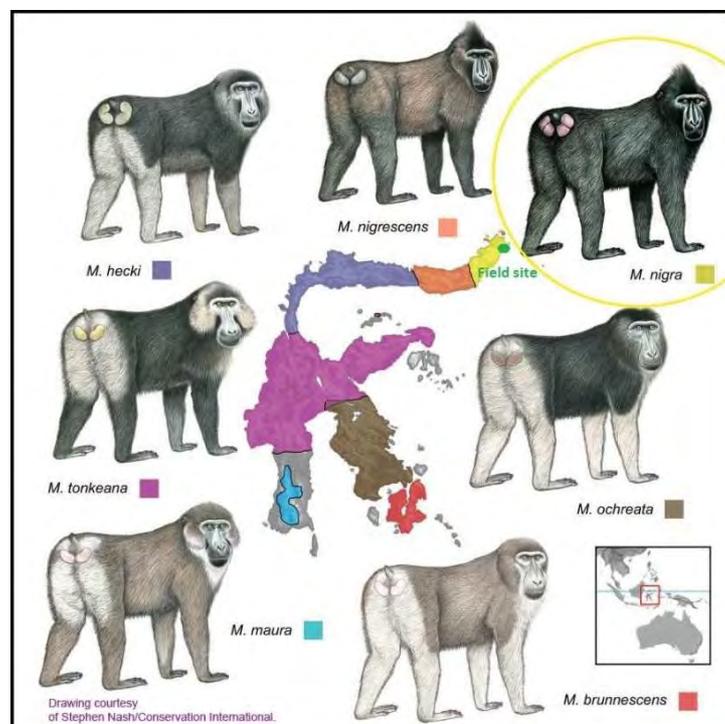


Figure 1: The 7 species of macaques in Sulawesi (source: Stephan Nash/ Conservation International, map modified by the author)

The aims of the study

The 1st aim of this study was to implement conservation education events among local population of North Sulawesi to enhance the conservation of crested macaques. The events included two conservation education tools: a movie screening and participatory theatre. The 2nd aim was to assess the evolution of the conservation knowledge of the participants before and after the conservation activities, with a free-listing exercise.

The conservation tools and the assessment

The 1st conservation education activity: movie screening

It was a 15 minutes BBC movie (2013) in Madonese language (local language spoken in the region of Minahasa in the province of North Sulawesi) describing the social behaviour of crested macaques (playing, grooming, resting, foraging), explaining the main threats faced by crested macaques (hunting, pet-trade and habitat loss), presenting the conservation education activities of Tangkoko Conservation Education (TCE) in schools and stressing why crested macaques are so important to forest and people.



Figures 2 and 3: Movie screening at Makawidey

The 2nd conservation education activity: participatory theatre

This activity was inspired from the forum theatre of Augusto Boal (1996) who used theatre as a way to promote social and political change through participatory reflexion.

Local actors from *Act for Crested Macaques project* have presented some plays including a problem and the public was asked to suggest solutions to the problem and invited to come on stage to play their solutions if they wanted. We have created five plays to raise awareness about the conservation of crested macaques:

- 1. Habitat loss and the risk of the overexploitation of natural resources
- 2. The decline of crested macaques related to habitat loss and hunting pressure and their role in seed dispersal and the regeneration of the forest
- 3. Crested macaques as pet and why it is wrong
- 4. The cultural habit of the consumption of macaque meat
- 5. Human-Crested macaque interactions: how to react when you find a macaque stealing your crops



Figures 4, 5, 6: Participatory theatre

The free-listing method

Free-listing is an interview technique whereby applicants are asked to list possible items belonging to a domain (Puri, 2011; Gravlee et al., 2013; Nijman & Nekaris, 2014). For this study, the domain was “crested macaques”. Free-listing sheets were distributed before and after the conservation education activities, asking people to give their age, gender, last school level (primary school/secondary school/university/no school) and saying if they have already participated in TCE conservation activities before.

A photo of crested macaques in their natural habitat was projected and we asked them to write down the **first 5 words they thought of**, seeing this picture:



Figure7: Crested macaques photo used for free-listing activity. Copyright: Jérôme Micheletta



Figures 8 and 9: Free-listing exercise at Manado

Location of the study

Seven events were implemented between June and July 2016 in villages and schools surrounding Tangkoko-Duasudara Nature Reserve: Madidir, Batuputih Atas, Pinangunian, Dua Saudara, Makawidey, Manado and Airmadidi.

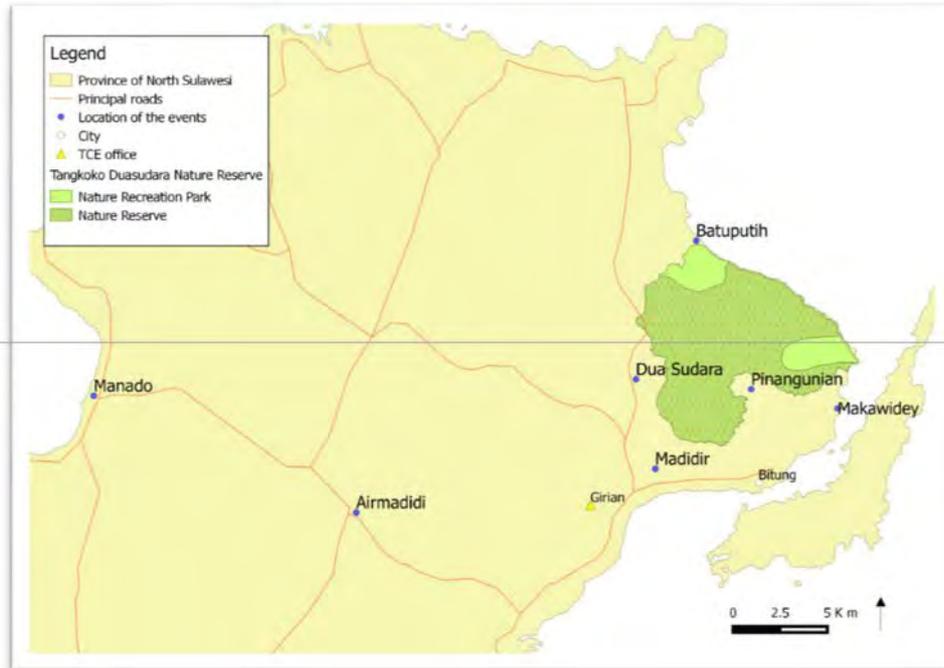


Figure10: Map of the location of the events



Figure 11: Event at Pinangunian

Results

A total of **42 participations** were obtained for the participatory theatre across the seven events and a majority of men (40%) and pupils (26%) made many **pro-conservation statements**:

“Killing and eating crested macaques are forbidden by law” (a pupil from Makawidey) *“Crested macaques help preserving the forest by spreading tree seeds”* (a teacher from Manado) *“Crested macaques are nearly extinct, let’s preserve what we have left”* (an official from Dua Saudara)

However, some topics as the macaque pet-trade and the stealing of crops seemed to bring some confusions and the law was not clearly understood for these situations. Opinions were particularly divided regarding the issue of stealing crops and people made several anti-conservation statements related to that topic.

“Make a trap around our garden and when the macaque is trapped, it will surely die” (a woman from Batuputih)

Concerning the assessment of the study, **422 people** (mean= 17.4 years old [4;72], median = 11, s = 13.8) participated in the free-listing activity before the conservation activities and **263 people** (mean= 18.3 years old [6;71], median= 12, s= 13.3) after the activities. Data collected were analysed using SPSS 23 and inferential statistics (Fisher’s exact test) showed that **knowledge about the conservation of crested macaques has significantly evolved throughout the conservation activities.**

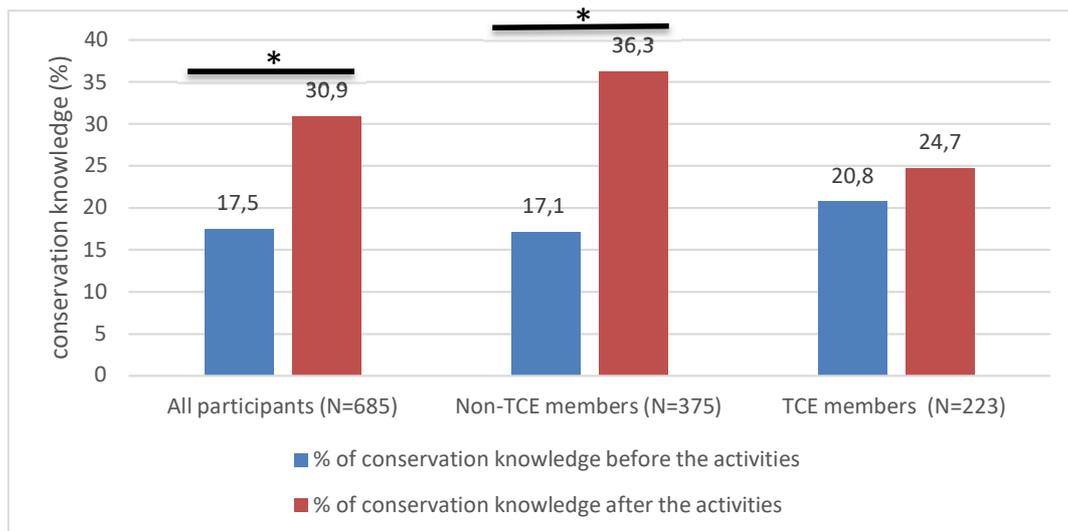


Figure12: Percentage of conservation knowledge before and after conservation activities among all participants (N=685), non-TCE members (N=375) and TCE members (N=223): TCE: Tangkoko Conservation Education; *: significant data

Discussion and conclusion

Participatory theatre has become a common trend in international community development (Cornwell & Brock, 2005) and should be implemented carefully to really include local people in the participatory approach. With *Act for Crested Macaques project*, it was the first time that participatory theatre was implemented in North Sulawesi and even if we obtained a good rate of participation and **many pro-conservation statements**, it is not possible to have a complete representation of the suggestions from the whole audience.

Thus, participatory theatre could be considered as a **pilot study to explore issues** pointed out during the activity and used as an **education tool to reinforce conservation messages**, as many respected people as officials and teachers spoke out for crested macaque conservation. It is also an **interactive, educative and funny way to involve the local population** (adults and children) in finding solutions to preserve the crested macaques.

About the assessment, there was no academic paper in the literature mentioning the use of free-listing technique to assess conservation education activities: it was therefore something original and quite new to test in this study. And it was successful as the analysis showed that **knowledge about the conservation of crested macaques has significantly evolved throughout the conservation activities**. Thus, free-listing technique as an assessment method is an **easy tool** to set up and can quickly determine if the words related to a conservation topic or if some conservation messages have been understood and adopted among participants. Nevertheless, to assess the success of conservation education activities, other approaches are needed as well as a long term assessment.



Local team of the participatory theatre

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To know more about the project: www.facebook.com/actforcrestedmacaques