Project Update: May 2019

The training programme ran for 5 days in Narayantha Village within Gaurishankar Conservation Area with approximately 6 hours of activities per day (Monday to Friday, 17 to 21 December 2018) which included a total of 4-5 hours fieldwork. Five sequences are presented chronologically below to describe the programme activities. Finally, we discussed the success of training by summarising feedback from the trainee nearly 3 months (6 April 2019) after the programme was conducted.

Sequence #1: Introduction to pangolin (Day 1, lecture ~4 hours)
Sequence #2: Threats and legal provision of pangolin along with the talk programme (Day 2, lecture~3 hours)
Sequence #3: Building research question (Day 3, group discussion)
Sequence #4: Field survey (Day 4, lecture ~2 hours)
Sequence #5: Field survey and session ending (Day 5, field work)

Data Analysis:
Bayesian paired t-test was used to compare the effectiveness of people's knowledge before and after the training. We produce two model for the analysis: the null hypothesis that mean of people knowledge before and after the training of the participants were equal (mean $_{before}$ = mean $_{after}$) and alternative hypothesis that the mean of people knowledge after the training was greater than people attitudes before the training (mean $_{after}$ > mean $_{before}$) (JASP team 2018). The classification scheme adopted by JASP (Vanpaemel 2010) which is an adaptation of Jeffery's scheme (Jaffreys nd), proposes a series of labels for which specific Bayes Factor values can be considered "anecdotal", "moderate", "strong", "very strong" or "extreme" relative evidence for a hypothesis (Figure 1). Here, we mention Lee and Wagenmakers' classification scheme (Lee and Wagenmakers 2014), given its use in JASP, its relevance in many research contexts, and to provide a preliminary frame of reference for readers that are new to Bayes Factors (Quintana and Williams 2018).
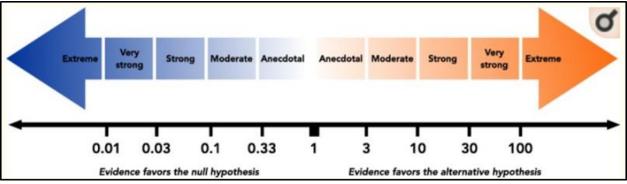

Figure 1. Lee and Wagenmakers' classification scheme for interpreting Bayes Factors (BF10)

Results

Pre- and post-questionnaire:
Among the participants, pre-questionnaire graph showed highest number of trainees (exactly 40%) believed pangolins were reptiles. Similarly, only one type of pangolin (around 47%) was reported from Nepal with only few (nearly 27%) trainees having sighted a pangolin burrow. Likewise, equal number of participants (about 27%) thought pangolins were either shy and diurnal or only diurnal or active all the time. Additionally, 100% of the participants did not know the types of pangolins reported from the training location (Figure 2).

After the training, post-questionnaire data analysis showed 100% of the respondents were able to answer that pangolin was a mammal. All the trainees also knew that two types of pangolins were reported from Nepal and also all of them had sighted pangolin burrows. Likewise, all were also able to answer that pangolin was shy and nocturnal nature. Similarly, 100% were able to say Chinese pangolin was reported from the training location (Figure 2).
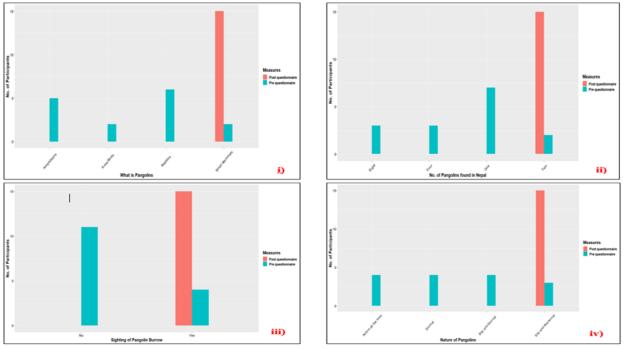

Figure 2. Participant's knowledge before and after the Training

Comparing the effectiveness of the training
Data analysis revealed, increased knowledge after the training (mean=16.600, SD=0.5070, credible interval ranges of 16.319 to 16.881) compared to before the training (mean=2.667, SD=1.397, credible interval ranges of 1.893 to 3.440). Similarly, the Bayes Factor was 3.789e+12 in favour of the alternative hypothesis, meaning that alternative hypothesis predicts the data 3.789e+12 times better than the null hypothesis. Likewise, inferential plot showed posterior distribution falls on larger positive values of the effect size. On the other hand, the dot on the prior distribution was higher than the dot on the

posterior distribution, meant the Bayes Factor supports the alternative hypothesis. Likewise, the corresponding Bayes Factor provided extreme evidences for alternative hypothesis (BF$_{10}$=3.789e+12; Figure 3i) with a posterior median of 9.568 and 95% credible interval ranges of 8.758 to 10.511). Bayes Factor Robustness Check showed, as the width of the Cauchy prior gets bigger so too does Bayes Factor (above 1e+12) which considered extreme support for the alternative hypothesis (Figure 3ii).
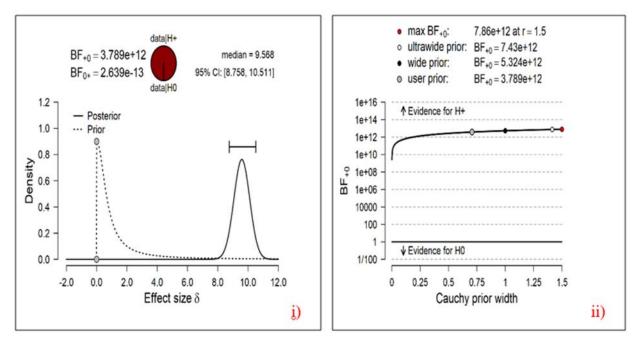

Figure 3. Comparing the effectiveness of the Training i) Inferential plot ii) Bayes Factor Robustness Check

Undergoing activity

1) Entry of data of questionnaire in Excel sheet
2) Analysis of questionnaire

Picture 1. Participants of training

Picture 2. Group discussion in Training on Pangolin Conservation

Picture 3. Sensitizing the trainee in the field