Final Evaluation Report

Your Details	
Full Name	Adela Hemelikova, MSc.
Project Title	Community-based survey for assessing the domestic tortoiseshell trade and initiating conservation steps on Sumatra, Indonesia
Application ID	33202-1
Grant Amount	£5 735
Email Address	a.hemelikova@gmail.com
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1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Visit potential tortoiseshell trade spots based on information from previous monitoring, the proximity of nesting sites, or foraging areas of the hawksbill turtle, the proximity of coastal or maritime touristic places, and online investigation and based on data divide these spots into categories regarding the volume of tortoiseshell trade.				During our fieldwork, we have surveyed several places in each of 10 selected sites (Belitung, Lampung, Bengkulu, Padang, Mentawai islands, Sibolga, Nias, Pulau Banyak, Banda Aceh and Medan). Due to the government recommendations and regulations, we were not able to visit Simeulue. The sites were divided according to the type of trade/consumption (meat, egg, tortoiseshell), volume, and characteristics. To explain the issue in a broader context explanatory variable (education, sex, religion, etc) are used in the data analysis.
Describe the characteristics and mechanisms of trade based on at least 100 survey questionnaires, 20 interviews, and photos/videos from the field research in the trade spots.				During the fieldwork, in total 168 community questionnaires were obtained (target was 100). Based on obtained questionnaires and photo documentation, trade volumes are estimated. Conducted interviews (26) are essential for more detailed understanding and conservation planning. Overall characteristics of turtle use and trade are described, a detailed analysis will be finished in the upcoming weeks and results will be later in 2022 published in a peer-reviewed journal (Q1 or Q2).

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

The difficulties connected with COVID-19 restrictions were expected and few of them arose. The delays were expected already during the project planning so for stays in different sites always a couple of days were added to have a reserve and be able to finish all necessary fieldwork. For a couple of weeks during our fieldwork restrictions on travelling to several locations were applied by the Indonesian Government. We have adjusted the order and the time schedule of our travel

itinerary and visits to survey sites were planned according to the current government recommendations. This changed slightly costs of travelling – to some sites increased costs and, while other sites we were able to visit in lower costs. Before any travelling, we underwent a PCR/antigen test to eliminate any risks.

The Indonesian Government did not recommend travelling to Simeulue, and also transportation to the island was very restricted (only for residents). Due to this, we have decided to not conduct the survey on Simeulue island. The funding that was allocated for the survey in Simeulue we have used in Nias island (which is probably the largest tortoiseshell trade hotspot in Sumatra), where we were able to spend more time. Also, we used the money to cover the costs at Padang where we stayed longer too.

Thanks to our great team, we did not have any further difficulties during the project. Very helpful was involving one more research assistant for fieldwork in the Mentawai archipelago (the Mentawai archipelago has its own language that is different from the Indonesian language).

3. Briefly describe the three most important outcomes of your project.

1. We obtained complex data and information about tortoiseshell use and trade across Sumatra. We got information on "what, where, and why" in the tortoiseshell trade that was missing. Thanks to this, we are able to implement conservation steps that are based on robust data.

2. New partnerships with local organisations, universities as well as communities were created during the project implementation. This cooperation will be essential in the successful implementation of conservation steps. The conservation will be led by local organisations with the support of local community members.

3. We got missing information on hawksbill turtle nesting and foraging habitats from local fishermen. This information is especially valuable for planned genetic research, and in the future will help us to predict and characterising movement patterns of hawksbill turtles.

4. What do you consider to be the most significant achievement of this work?

Obtaining complex data and information on the characteristics of turtle use and trade across Sumatra and in general open the issue of sea turtle use and trade and motivating a wide range of stakeholders in hawksbill turtle conservation.

5. Briefly for inspection describe the involvement of local communities and how they have benefitted from the project.

The involvement of communities and different stakeholders was our priority in the project. In every survey site, we have approached community leaders and discussed sea turtle use trade and conservation during short seminars. In total, six seminars were held for 30 people. The participants received a booklet about sea turtles and a t-shirt with a hawksbill turtle and "Kita jaga alam, alam jaga kita" ("We

protect nature because nature protects us") slogan. Such awareness-raising about conservation issues and direct communication within communities we see as crucial for future conservation work and research in our survey sites.

In west Sumatra, we have started very nice cooperation with the Department of Biology at Andalas University and local NGO Yayasan Cahaya Maritim. The students got lectures about sea turtle use and trade, and sea turtle conservation. Furthermore, four students joined for the fieldwork and helped us approach the local communities and conduct community surveys. The students received certificates for their participation and the t-shirts. One student decided to write her bachelor thesis on the topic of turtle egg trade in Padang (the thesis defense in summer 2022) and I am the consultant of her thesis.

Another presentation on sea turtle use and trade was at Syiah Kuala University, Banda Aceh that is the main Indonesian counterpart of the research. Also, an information roll-up has been made and placed at the university library informing about the project and the importance of sea turtles.

6. Are there any plans to continue this work?

We are now preparing further conservation steps in Pulau Banyak, Padang, and Pagai (Mentawai archipelago) with local NGOs (Ecosystem Impact Foundation and Cahaya Maritim). Besides further conservation work, we plan to focus next year on the genetic research of hawksbill and green turtles in Sumatra. We plan to start the next nesting season (March/April 2022) and collect tissue samples from nesting females to obtain information on mitochondrial DNA.

Mitochondrial DNA characterises maternal lineages within and among species and is useful in distinguishing sea turtle rookery stock structures, defining conservation units, and characterising movement patterns. Moreover, this technique is useful in tracing the origin of tortoiseshell products, evaluating the exposure and the risk of bycatch and direct take. As such, genetic research of hawksbill turtles is a priority for their effective management as there is no previous study on the genetics of hawksbill turtles in Sumatra.

Thanks to our survey we know in which sites the sea turtles are taken in large numbers, unfortunately, without further research, we are not able to determine their origin (rookery) as turtles are taken from different habitats (foraging, feeding, breeding, nesting) and in different life stages (juvenile, immature, mature). The planned project will help us to determine and assess which rookeries are the most threatened. The combination of results from our community surveys and from genetic research will provide highly valuable information for effective hawksbill turtle protection and management in Sumatra.

7. How do you plan to share the results of your work with others?

The results of the survey will be shared with local NGOs, and government institutions (Nature Conservation Agency / BKSDA, Marine Conservation Agency/LKKPN). We

are currently working together with NGO Cahaya Maritim to prepare a proposal for conservation steps in MPA Pieh (under the LKKPN management) in Padang.

Secondly, the result will be shared based on PhD and academic requisites. I have already presented the project and its preliminary results as one of the speakers at the Global Biodiversity Conservation Conference in Prague (10.-12.11.). I plan to share the results also at the International Sea Turtle Symposium in March 2022 and at least one Indonesian conference in 2022 (International Conference on Animal, Veterinary and Environmental Sciences or International Conference on Environmental and Life Sciences). Furthermore, one paper in the AIS journal is planned (Q1 or Q2) in 2022.

Results are also continuously shared with the Czech as well as Indonesian public through presentations and lectures at universities and schools.

8. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

Grant was used in the period of April-December 2021 as planned. Data analysis is still ongoing, the publication of the results is planned for the next year.

9. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
leaflets	80	130	+50	Instead of leaflets, we have decided to make booklets with photographs and basic information about sea turtles and their threats. People usually tend to throw leaflets away while booklets they keep and show to others. Money that we saved on t-shirts; we have used to cover higher costs of booklet printing.
t-shirts	500	450	-50	T-shirts with hawksbill turtle drawing and slogan "Kita jaga alam, alam jaga kita" (We protect nature, because nature protects us). In total 100 t-shirts were printed. As we printed

				everything at one time, we got discount and the money were spent for booklets.
salary for an Indonesian research assistant	960	1221	+261	Salary of 7 months (instead of 6) for one Indonesian assistant (Ilham Nas), and one month salary for Indonesian assistant Stefanus who accompanied us in the Mentawai archipelago and helped us translate local tribal languages.
stay on Belitung Island	336	333	-3	Lower food expenses.
travel costs Belitung Island	135	81	-54	Due to changes in our itinerary, we did not take a flight to Belitung but travelled by car and ferry.
stay in Lampung	504	474	-30	Stay 17 days instead of 3 weeks.
travel costs Lampung	120	261	+141	Higher costs due to the change in the itinerary (flight Medan-Lampung and back).
stay in Bengkulu	336	158	-178	Stay only one week instead of 2 weeks. Sea turtle use and trade in Bengkulu is not as rampant as in other areas.
travel costs Bengkulu	120	86	-34	Lower costs – took a car from Lampung to Bengkulu instead of flight.
stay on Mentawai archipelago	504	350	-154	In Mentawai we mostly stayed with the community members or sleep in a tent, so we did not need to pay for the accommodation.
travel costs Mentawai archipelago	45	210	+165	Thanks to the low costs of accommodation, we were able to afford the rental of a boat in Pagai and Siberut and visit the most remote areas.
stay in Padang	336	564	+228	Higher costs than expected as we stayed almost 4 weeks (instead of 2) in Padang. Also, more costs were used to cover food for four students who joined fieldwork and helped us to approach communities. We have started very promising cooperation.
travels costs Padang	120	250	+130	Higher costs than expected as we stayed almost 4 weeks

				(instead of 2) in Padang. Also, we travelled also to areas around Padang by car to get more information about local sea turtle use and trade.
stay in Sibolga	168	158	-10	Lower food expenses.
travel costs Sibolga	40	59	+19	Higher costs due to necessary service of motorbike.
stay in Nias	168	297	+129	As we did not visit Simeulue, we were able to spend 3 weeks (instead of 2) in Nias and visit more parts of the island (Teluk Dalam, Lahewa, Afulu, Gunung Sitoli.
travel costs Nias	25	195	+170	Higher travel costs are connected with a longer stay and traveling around the whole island.
stay in Pulau Banyak	168	136	-32	Cheaper accommodation.
stay in Simeulue	240		-240	Traveling to Simeulue was not recommended by the Indonesian government. The funding allocated for the Simeulue survey was used for the survey in Nias and Padang.
travel costs Simeulue	270		-270	The funding allocated for the Simeulue survey was used for the survey in Nias and Padang.
stay in Medan	240	183	-57	Cheaper accommodation.
travels costs Medan	160	139	-21	Cheaper flight tickets from Jakarta.
travel costs Banda Aceh	160		-160	Travel costs were at the end covered by Liberec Zoo.
TOTAL	**5735**	**5735**		Exchange rate: 1£ = 18 995 IDR

10. Looking ahead, what do you feel are the important next steps?

Ensure implementation of recommended conservation steps with local partners. Continue the research and focus on genetics (described above) to provide more robust data and define which rookeries are the most threatened.

11. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

During the project implementation, we were happy to place Rufford Foundation's logo for materials that were made for the project's purposes.

At Syiah Kuala University that is the main Indonesian counterpart of the research, we have created a roll-up that is placed at the university's library. The roll-up informs about the project, its objectives, and planned outcomes for the conservation of sea turtles.

The logo was also used at booklets about sea turtles and t-shirts that were given to community leaders, government stakeholders, people with who we were cooperating during the project, and selected local students from Andalas University, and local community members. In total, we have distributed 100 t-shirts and 120 booklets.

Credits to Rufford Foundation are given in all presentations and conferences.

From January 2022, a banner informing about the project and sea turtle conservation activities in Sumatra will be placed in Liberec Zoo, Czech Republic.

12. Please provide a full list of all the members of your team and briefly what was their role in the project.

Adela Hemelikova: Adela was the main project leader and researcher. The results of the surveys will be used for her Ph.D. She was responsible for project management and implementation in the field.

Ilham Nas: Ilham's role was as a field research assistant. He was helping with conducting community surveys, approaching community leaders and local fishermen. Ilham has previous experience with research for Adela's master thesis as well as with sea turtle monitoring.

Stefanus Sattoton: Stefanus was our second field assistant in the Mentawai archipelago. He is from Siberut, Mentawai, and he helped us a lot as a guide and translator in the Mentawai archipelago has its own language that is different from Indonesian.

Teuku Reza Ferasyi: Dr. Reza's role in the research was as an Indonesian counterpart. He helped with the research permit process.

Nofri Yani: Yani from NGO Cahaya Maritim was helping us with the project's implementation in West Sumatra. She was responsible for meetings between Andalas University, the local government, and her NGO. Our cooperation will continue in the following year as well.

Pavel Zoubek: Pavel is from Conservation and Research Department, Liberec Zoo. His role was mainly as project support, and advisor for the fieldwork. He also partly joined for fieldwork in Indonesia for 3 weeks.

Jiri Vojar: Assoc. prof. Jiri Vojar is Adela's Ph.D. supervisor. His role is mainly providing academic guidance.

Michael Jensen and Christine Hof: Dr. Michael Jensen and Dr. Christine Hof from WWF Australia contributed to this project as advisors. Both of them have long experience in sea turtle research and turtle use and trade.

13. Any other comments?

On behalf of our small team, I would like to express thanks and gratitude to The Rufford Foundation for supporting our work in sea turtle conservation and research in Indonesia. Working on the project implementation was a great experience, I believe that I gained many skills and got better insights into sea turtle use and trade in Sumatra. Both new skills and knowledge will be crucial for my future conservation activities as well as for my academic career.