

## Final Evaluation Report

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Your Details	
Full Name	Novellia Triana
Project Title	Economic Valuation on Sumatran Tiger Conservation program and Strategy of Conflict Resolution in Gunung Leuser National Park, Indonesia
Application ID	27812-1
Grant Amount	£4,820
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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
Identification of Situation Human-Tiger Conflict in Gunung Leuser National Park				The identification of situation of human-tiger Conflict in Gunung Leuser National Park, as follows: <ol style="list-style-type: none"> <li>1. Location of existence of the tiger would imply the frightening of the villagers. Based on four village locations, I have found the existence of the tiger in the past 5 years. It was found by footprints and cow bones attacked by Sumatran tiger.</li> <li>2. Identically the frequency of the tiger presence in the four locations has been observed showed the seasonal patterns (94%). The tiger would move across the village 2-3 times a week before "Maulid" or "Durian" season.</li> <li>3. The three highest villager's assumptions of the cause of tiger existence are habitat loss (32,30%), passing the village in the season (21,53%) and to find the prey (16,92%).</li> <li>4. The relationship between humans and tigers in Gunung Leuser National Park is heading in a negative direction. There are direct conflict experiences (20%) and others do not have conflict experience (80%). However, they have less interest on tiger existence. Since the majority are farmers, the local community has to face the conflict frequently. On the other hand, local people have dilemma between conserving the tiger and will have chance to meet tiger and the threaten humans. Moreover, the villagers also still have less knowledge about tiger conservation management.</li> </ol>
Evaluation of Willingness to pay				The evaluation of willingness to pay for tiger conservation has been implemented by CVM Study has results

				<p>as follows:</p> <ol style="list-style-type: none"> <li>The 86.67 % respondents are willing to pay to the smallest bid level (\$0.71) and the lowest percentage for the highest bid level (\$7.14) is 26.67%.</li> <li>The mean WTP of people estimated 66,890IDR or equal to \$4.77 for one-time payment. People could pay the highest value is about 204,000IDR (\$14.5) and the lowest value for conservation program is about 20,000IDR (\$1.42)</li> </ol>
Identification the Factor Effects to the Willingness to pay of people				Based on model estimation the factors influence of WTP are income, location and household size.
Strategy for Human-Tiger Conflict in Gunung Leuser National Park.				Some villagers have been implementing the conflict mitigation in their own livestock land such as the barriers, fireworks and tiger-proof enclosure. Although it has prevented the loss of the villager temporarily the engagement of the village participation would me more effective. The concept of the strategy for human-tiger conflict can be applied by participation of villagers. It needs to build up the capacity building.

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

There were several unforeseen difficulties that arose during the project and have been tackled in the project implementation, as follows:

- We tried to reach the villages that have been conflicting with the tiger; meanwhile the location was not had signal for communication/COORDINATING. We had to wait longer for being able to connect with the local people assistant to contact us whenever he gets signal from the village. He needed to go to the top of the hill to reach the signal. Eventually, we were arranging the call meeting time in order to coordinate about the project activity in the dusk for several times before decided to go to the village.
- During the interview time in the villages, some of the local people were frightened to talk about tigers. They even could not mention tiger in the interview section. It was about something taboo or scares to be told in the public. They believed that the tiger would come to their village or house when they talk about it. So, we needed to adjust and give the initial terms to mention or talk about tiger in the village.

3. Time of interview in the city. We expected that the sample would be representative of all population including gender and social status level for the first interview in the daytime. But it was not. Then we changed the time for interview in not only daytime also in the night-time to get male respondents as the leader of the family have spare time.

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

The three most important outcomes of my project, as follows:

1. Identification of community characters livelihoods are farming and raising livestock. The livestock type such as chicken, ducks, buffalo, cows and agriculture activities for instance paddy, tobacco, candle nut, and pine whereas the 82% of the area is plantation (mixed garden, rubber, and oil palm). These need to be adapted to the seasonal pattern of tiger passing by the village area. Although the prevention has been implemented it needs more effective scheme of community participation due to harmonizing their livelihood around the national park. The communities have so much lack of resources to overcome threats.
2. Economic valuation of Sumatran tiger in Indonesia especially in Gunung Leuser National Park estimated \$4.77 per household by CVM study through willingness to pay calculation. Assuming the WTP scenario "preserving tiger and conflict resolution". We estimate that total population of 2 the capital of the provinces whereas GLNP is located is 4.6 million households and number of people who are living surround the Gunung Leuser NP is 4 million who presume would approaching conflict resolution as in the scenario, so the economic value of the Sumatran tiger existence in Gunung Leuser NP in average would be \$5.48 per year and the total \$21.9 million.
3. Educating local people about the role of the species in the ecosystem and raising their awareness to raise the tolerance of local people through the face to face interview, questionnaires and stickers. Based on the interview, the perception of local community on tiger demonstrated negative whereas some of local people experiences who have ever seen the tiger occupied the whole community perception (Pearson chi-square = 13.4551, Pr = 0.000). It means some of local people experiences who have ever seen the tiger and conflict occurred are a major intolerance. The survey provided brief information about Sumatran tiger in the questionnaire for instance Indonesian tiger species', why they are important, what is the benefit to have tiger population, what tiger can bring to the community through the WTP scheme etc. The respondents on WTP scheme (urban area) were also had that information.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project.**

Some of local community has been involved in this research project. The location of the research has been separately done in the city and local village. The observation in the local village was accompanied by some villagers which also was helping me for the local language. Then the local community such as village administrator, farm group, local youth group and women group of village (programme at village level to educate women on various aspects of family welfare) has been invited to the focus group discussion in order to deliver their aspiration for better management in the local site.

The field work team has been trained some local youth about the prevention of tiger attack to the husbandry and agriculture land. The training was providing the practical action to face the tiger presence in the village, who they can contact for the dangerous incident and what should they do if they see the tiger.

**5. Are there any plans to continue this work?**

Yes, I am actually interesting to do this research again in other six tiger landscapes or in the national scale whereas this research will bring up the practical and economic scheme solution to the local people who are facing the conflict with the tiger or any other flag species in Indonesia.

Moreover, I also would like to figure out the economic valuation estimation in all tiger landscapes in Indonesia. It is considering proposing the value of Sumatran tiger as the flagship species to the regulation credit. Meanwhile, through the interview and concept of WTP brought idea that there is potential funding mechanism that would possibly be applied if there is a certain regulation on it. This study was the preliminary study in order to figure out the value of the tiger and propose it into further National Strategy and Action Plan (NSP) for the Conservation of Sumatran Tiger

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

Regarding to the research has been used for Master Thesis in Vietnam National University of Forestry, I presented the research results to the panel. Also, I have shared the results to the Undergraduate Advanced Program in Vietnam National University of Forestry (VNUF) in biodiversity course. I delivered to the students about the results through presentation and provided the Thesis draft at the library of VNUF.

Moreover, I do have plan to share the results of my work with others such as:

1. Gunung Leuser National Park office by giving them the final draft of the thesis and I would like to organise the final presentation there to deliver some information and findings to the National Park officer.
2. Forestry Major University of Palangkaraya. The student organisation would organise the student seminars once a year in September. I have registered

this result to be presented there and sharing to the undergraduate student in Agriculture faculty especially forestry student.

3. Indonesian Conservation Cadre in Central Kalimantan region. I also have a plan to share the results to the member of conservation cadre in Central Kalimantan. The participant would consist of the member of cadre, high school students, college students and also the staff at Nature Conservancy Agency of Indonesia (BKSDA), Central Kalimantan Region. The seminar would be organised by BKSDA in September 2020.

Obviously, I am preparing the manuscript of international paper for updating the information in order to get better consideration to conservation strategy for Sumatran tiger.

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

The grant used for whole activities in the period May 2019 – April 2020. However, because of the religion activities, we postponed going to the field. It was started from June 2019 – May 2020. All expenditures of grant have been used in the field work activities to achieve the objectives.

**8. 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 for inspection at our discretion.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Local Accommodations	600	970	+370	The distance among the locations was far away, it took 5-8 hours by car, so the local price was different.
Aircraft ticket	550	530	-20	The economic class ticket was different due to the low travel season.
Room renting	400	400		Even though we stayed in the local house, but we paid the same price as standard.
Food	950	950		
Field work enumerator	1720	1555	-165	The enumerator was 7 people
Field Equipment (Questionnaire + recorder)	420	320	-100	Allocated the camera's budget for printing stickers and brochures.
Office Supply	100	130	+30	

Permit	80	80		
Meeting Consumption		45	+45	It was not had in the proposal budget however we had meeting activities such as FGD, short training in the village, meeting with local officer.
Total	4820	4980	+160	

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

1. Primary action is implementing the moratorium to the land expansion in any stakeholder nearby the national park.
2. As the economic value would be raised, then we can build the funding mechanism that suitable to the local community situation particularly in the conflict resolution overview. It is better to work out on mitigation of conflict between human and tiger through participation.
3. Engagement to the local people in terms of social, culture and local policy. Promoting ban the local regulation for less activity inside the forest. Also, can be practised with the culture aspect (gotong royong) to build the natural fence in each agriculture land.
4. Building up and strengthening the local group, for instance the Group of Village Conservation Concern under the legalised by chief of village and local government supervised by national park management by giving them the training such as intensive agriculture/livestock practice to increase the land productivity that leads to the less land conversion.
5. Collaboration the potential conservation business to local people to sustain the Group of Village Conservation Concern in every village.
6. Law enforcement and provide the quick response for any case related to the human-tiger conflict and being updated with the technology support for instance the one-way database from the responsible national park. The public would access due to monitor the funding and mapping the zone of conflict case in periodically.

**10. 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?**

Yes, I did. I used the RF logo in the banner and sticker (standard size) when I was doing field work. I made the stickers (In Indonesia language) which means "Only human who can saved me" and gave to all respondents.



Furthermore, I used the Rufford Foundation logo in my master thesis defence in Vietnam National University of Palangka Raya. I was acknowledged the Rufford Foundation for my master thesis and also, I used the Rufford logo in my presentation in the Undergraduate Advance Program at VNUF. Then I would keep using the RF logo for my presentation in the next coming seminar.

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

#### Main Team

**Novelia Triana:** Project coordinator and major researcher. I was responsible for whole activity of the project for instance planning, preparing the field material, coordinating the project to the other organization (permitting), data collection, and reporting.

**Nasibah Mamas** National Park staff (Ranger). He assisted us to reach the prone local village.

**Rina Artasari** Field assistant

#### WCS Member

**Bang Iqbal:** Field expert, he supported us for training in village (Gayo Lues regency)

**Bang Musir:** Field expert, he supported us for training in the village (South Aceh regency)

#### Enumerator

**Yosua aga:** Local people as field assistant in Medan city

**Rastika** Local people as field assistant in Pematang Siantar city

**Riris** Local people as field assistant in Banda Aceh city

**Pak Samsul** Local people as field assistant in Desa Berhut. He was helping us for local language

**Pak Panji** Local people as field assistant in Desa Terlis in Gayo Lues Regency He was helping us for local language

**Pak Bahri** Local people as field assistant in Desa Payadapur in South Aceh regency. He was helping us for local language

**Pak Abdul** Local people as field assistant in Desa Pantonluas in South Aceh regency. He was helping us for local language

## 12. Any other comments?

I would like to present my great gratitude to The Rufford Foundation. I am very grateful for this opportunity that Rufford has given to me for being able to do my master thesis research. This has been a big impact for me as an early career in conservation, I would more dedicate myself to work on wildlife conservation for my future career and keep learning for better contribution in Indonesia biodiversity.

**Figure 1 A. Livestock in the Village, B. Sumatran Tiger conflict, C. Team discussion in the city, D. Village Team**



