Conservation of Threatened Lemurs in Andilambologno Forest, western Madagascar: Biological research, Habitat Restoration and Community Outreach

(Project N° 24521-B)

Final Technical Report of Rufford Small Grants Foundation

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I. Introduction

We discovered the forest of Andilambologno in 2015 which is not far from the Sahamalaza-Iles Radama National Park where we conducted research and conservation project since 2013. We conducted a rapid biological survey within the forest in order to find out the biodiversity richness of the forest. Our study revealed that the several animal species occur within the forest including four lemur species. The blue-eyed black lemur (*Eulemur flavifrons*) which has a very limited distribution inhabits within the forest of Andilambologno. This species occurs only in the north-western part of Madagascar and the Sahamalaza-Iles Radama National Park is its unique protected habitat. As unprotected forest, without doubt the local communities surrounding the forest of Andilambologno exploit the natural resources. Therefore it is an urgent need to implement a conservation project in Andilambologno.

This project aimed to protect the lemur species in Andilambologno forest by assessing the lemur species, restoring the forest habitat and raising local community awareness about the importance of the conservation of lemur species.

II. Methodology

Project duration: The project lasted two years, from 1 June 2018 to May 2020.

1. Local community training

At the beginning of June 2018, we informed the local community from the Andilambologno forest that we are conducting training on lemur survey and forest patrol and participants who are interested on the training can enroll. The criteria of the training are ability of reading and writing but a capacity for a long walk is an advantage. Thirty five (35) people enrolled to the training and a primatologist trained the local community to become guides.

Photo 1 During the theoretical training

Photo 2 Explanation on the use of a GPS

Photo 3 Practical training on lemur survey within the forest

2. Lemur survey and forest patrol

Selected participants guides conducted permanent lemur survey and forest patrol within the forest. They worked in a group of two people and in a rotational schedule. One group starts from 7:00am until 12:00pm and another group works from 12:00pm until 16:30pm. The local guides follow the blue-eyed black lemur and the western lesser bamboo lemur species. It is noted that these two species are still wild as thus it was a bit difficult to habituate the group at the beginning of the survey. During the forest patrol, the local guides record any anthropogenic activity within the forest and destroy any encountered lemur trap. We recorded the number of individuals of each lemur observed and activity during daily observation.

3. Education and outreach

Different techniques such as environmental quiz, film documentary, environmental education training and T-shirts were used to raise all sex-age classes within the villages. Four events took place between June 2018 and September 2019.

4. Reforestation

At the beginning of the project in June 2018, we informed the tree nurseryman to prepare native and exotic young seedlings. Native tree serve to restore the forest and planted within the forest border and exotic tree are for basic needs for the local communities such as house and boat construction and firewood. One week prior the reforestation we informed the local communities and schools. The reforestation took place in January 2019. Our team conducted the reforestation monitoring in December 2019. The reforestation monitoring consisted to evaluate the survival rate of the young seedlings planted.

Photo 4 Young seedling in October 2018

Photo 5 Young seedling in December 2018

III. Results

1. Local community training

Seventeen (17) people were selected to attend the training they are composed of 15 men and 2 women from the village surrounding of the forest of Andilambologno. The training included 4 days of theoretical training and one day of practical. During the theoretical training participants learnt methodology on lemur survey and forest patrol. They also learnt methodology use of GPS and filling in a data sheet. At the end of training, participants were evaluated and only three (3) people failed to the test. Overall the training went well and participants were happy getting knowledge. Among the 17 participants, 8 were selected to be local guides.

2. Lemur survey and forest patrol

Eight (8) local guides worked in a rotational schedule and 15 days per month. They conducted only diurnal lemur survey including the blue-eyed black lemur (*Eulemur flavifrons*) and the western lesser bamboo lemur (*Hapalemur occidentalis*). The guides followed two transects of 1.5km and 2km during each survey. In total, the two transects 150 times during the reporting period. Four (4) groups of western lesser bamboo lemur were counted and the group size ranged from 2 to 4 individuals. Six groups of the blue-eyed black lemur species were recorded within the forest; the mean group size is about 7 individuals. It is noted that we are the first conducting biological research within the forest of Andilambologno thus it is still difficult to find the lemur species are they are still wild. The guides spent more time searching lemur during the dry season as the animal travel a lot for food searching. It is noted that the dry season coincided with the food scarcity. On the other hand, during the rainy which is the fruiting season several groups gathered in one place thus it is easy to find the animal. The forest of Andilambologno is rich in high trees (more than 15m) thus the blue-eyed black lemur are travelling or taking rest close to the canopy most of their time. The guides have to use binocular to count the individual in a group. The local guides destroyed 2 lemur traps found within the forest.

Photo 6 Female blue-eyed black lemur with her baby resting close to the tree canopy

Photo 7 Male blue-eyed black lemur travelling close to the tree canopy

3. Education and outreach

Our goal is to increase the local community awareness about the importance of the forest protection and biodiversity conservation. We carried out 4 educational and outreach events during the project period.

Two events were conducted in 2018 during the local celebration of the World Environment Day on 20 June in the village of Marovato sud on 22 June in the village of Mahitsihazo. Different activities were carried out including film documentary about the forest protection and lemur conservation; environmental quiz; carnival and environmental song. All sex-age classes from the two villages watched the film documentary. Children participated to the environmental quiz, they enjoyed replied the questions that are related to the forest, lemurs. Those that answered the right answer received a small prize such as pen or copy book or toy. About 500 persons from the two villages attended the 2 events (200 people from the village of Marovato Sud et 300 people from the village of Mahitsihazo).

Photo 8 Carnival surrounding the village

Photo 9 Traditional song by the teachers

Photo 10 Film documentary projection

Photo 11 Environmental quiz

In 2019 we also carried out two events. The first education event was held in June 7th during the local celebration of the World Environmental Day. All teachers from primary schools within the 3 villages close to the project site including Mahitsihazo village, Marovato Sud village and Ambodimanga village were gathered within the village of Mahitsihazo. They were sensitized about the richness and importance of the biodiversity of Andilambologno mainly lemurs and the protection of its forest habitat. It is the first time that teachers were trained about importance of the site. A total of 20 teachers attended the environmental education training, the goal is that the teachers are aware about the importance of the protection of the biodiversity and will educate pupils at schools. We also carried out environmental quiz for the children from the Mahitsihazo village. We highlighted our donor The Rufford Small Grant training during the education awareness. The second awareness raising was conducted during the celebration of the lemur festival in Antafiabe village within the Sahamalaza Iles Radama national park. We participated to the environmental quiz and had a meeting with the primary school teachers in order to inform them about the biodiversity of the Andilambologno forest.

Photo 12 Environmental education training for the primary schools teachers from village of Andilabologno

Photo 13 Sensitization of the school children from the Mahitsihazo village

During the Lemur festival held on 23rd and 24th of September, 2019 in Antafiabe, we distributed Tshirt to our partner and teachers. The awareness used environmental quiz and documentary film screening. A total of 1000 participants came during the festival including regional and local authorities and villagers.

Photo 14 Community teachers with Tshirt

Photo 15 Meeting with the primary schools teachers during the lemur festival held in Antafiabe village

4. Reforestation

Three (3) tree species composed of 2 native and one exotic tree were planted. The forestation took place on the 26th of January 2019 and 1500 young seedling were planted. About 90 people from the village of Mahitsihazo participated to the reforestation. The majority of the participants are school children (60%). We showed the children how to plant a tree before the reforestation. At the end of the reforestation, we provided refreshment for the participants as acknowledgment. The school children really enjoyed the reforestation and it was the first that they participated to the reforestation.

Photo 16 Transportation of the young seedling

Photo 17 Young seedling

Photo 18 Explanation about the reforestation

Photo 19 Children planted trees

Photo 20 A tree planted (exotic tree)

Photo 21 A tree planted (native tree)

Photo 22 Refreshment (distribution of juice)

Photo 23 Refreshment (distribution of biscuit)

The reforestation monitoring took place in December 19th 2019. Our team visited the reforestation site and counted all survival trees. Overall the trees survived and the mortality rate is about 20%. Exotic tree like grown rapidly compared with the native tree.

Photo 24 An exotic tree (Acacia) planted surrounding the village of Mahitsihazo

Photo 25 A native tree (Dalbergia sp.) planted at the forest border

IV. Conclusions and plans for the future

Overall the project went well. Members of local community from the village of Mahitsihazo were well trained to collect lemur data and to patrol the forest. Regarding the lemur survey, as we are the first to carry out biological research within the forest of Andilambologno, groups of the two lemur species (blue-eyed black lemur : *Eulemur flavifrons* and western lesser bamboo lemur : *Hapalemur occidentalis)* were still wild so they flee when seeing a human. Therefore the guides habituated the groups during 15 days. Forest exploitation was controlled through regular forest patrol within the forest. The local guides destroyed lemur traps found within the forest.

Due to the pandemic COVID-19 we were not able to carry out the fifth community outreach event which supposes to be held in April 2020. We will finish this remaining activity once the situation is safe using the remaining budget.

Following this project, we plan to continue all activities proposed in this project within the study site. We will continue to collect diurnal lemur data as long-term data on the lemur species will allow us to determine the lemur population dynamic. We will also collect data on nocturnal lemur. We will continue the forest patrol in order to control the human pressures within the forest. We will keep conducting community outreach to raise the local community awareness about the importance of the forest protection and biodiversity conservation.

We plan to implement alternative livelihoods project to prevent forest exploitation and to improve the local community living conditions. The pandemic disease COVID-19 had an impact on the biodiversity of the country. Forest exploitation and animal hunting has increased dramatically since the beginning of the COVID-19 crisis, therefore conservation project is an urgent need.

V. Acknowledgment

We express our gratitude to the Rufford Foundation for providing us funding, without their support this project would not have been possible.

The donor will acknowledge in our publication and conference.

We are hoping to get a second Booster grant in order to continue our conservation effort within the forest of Andilambogno.