

# MAROMIZAHA PROJECT

Protecting the singing lemur and its forest

**FOURTH INTERIM REPORT – JULY-AUGUST 2022**



**SECOND SEMESTER – JULY-DECEMBER 2022**



## General information

### The project

The staff from the NGO U ONLUS (<https://www.uonlus.it/>), as part of the Ethology and Bioacoustics research group of the University of Turin, Department of Life Sciences and Systems Biology, is currently leading the first and only long-term indri population monitoring. Starting from 2008 we have habituated 12 family groups of *Indri indri* in the Maromizaha NPA. We currently have 4 research guides performing daily surveys on the animals, collecting behavioral and spatial data on each indri group, at individual and group level (no collars, each individual is recognizable thanks to natural marks on its pelage). In addition, a Passive Acoustic Monitoring of the indri population is ongoing, thanks to an array of 2 Wildlife Acoustics SM4 (<https://www.wildlifeacoustics.com/>) and 10 Audiomoth (<https://www.openacousticdevices.info/audiomoth>) recorders.

### Threats for the species

The species *Indri indri* is a highly distinctive lemur, endemic to the island of Madagascar where it inhabits the eastern rainforest habitats.

Illegal hunting is a major problem for the indri in certain areas. Although long thought to be protected by local *fadys* (traditional taboos), these do not appear to be universal and the animals are now hunted even in places where such tribal taboos do exist. In 2018, for example, in the Commune of Lakato (Alaotra Mangoro Region), 9 indris were killed by poachers in the Antavolobe forest (Ratsimbazafy, pers. comm.). Recent studies of villages in the Makira Forest indicate that indri have also been hunted in the past for their skins (which were worn as clothing), that indri meat is prized and fetches a premium price, and that current levels of indri hunting are unsustainable (Golden 2005, 2009; Jenkins et al. 2011; R. Dolch pers. comm.). The principal threat to this species is habitat destruction for slash and burn agriculture, logging and fuelwood gathering, all of which take place even within protected areas. Increasing levels of illegal hunting is also a major problem for the indri (Jenkins et al. 2011). Fady against the hunting of indri are becoming less respected, and hunting has thus worryingly increased since the political crisis, now posing a serious threat to this species. The corridors between Mantadia and Zahamena are an important Conservation Site, where wide conservation education and capacity building actions should be implemented, to eliminate hunting, with the indri as the flagship species. This species has never successfully been kept in captivity and thus captive breeding programs are highly doubtful.

In the next years it will be of great importance to support local forest management by improving the existing community-based approach (Randrianarison et al. 2015). Actions should include expansion of protected habitats to increase population connectivity (e.g. the Ankeniheny-Zahamena corridor) and to decrease lemur disturbance by rural communities. Without external support, the last remaining forest habitats will be devastated within a few years resulting in the local extinction of most lemur populations (Schübler et al. 2018).

Thanks to the collaboration between the WSO, Friend of The Earth, Friend of the Sea, U ONLUS, the University of Turin and GERP, the “Maromizaha 2022 Conservation Project” will carry out conservation activities targeting the population of indri lemurs in Maromizaha during a one-year project, starting from January 1, 2022.

The “**Maromizaha 2022 Conservation Project**” thus aims at protecting the indri lemurs, through two main activities:

### 1) **Indri population monitoring**

The project will foster conservation by:

- i. Implementing the number indri family group under the actual monitoring protocol;
- ii. Implementing the Passive Acoustic Monitoring population survey;
- iii. Building capacities among the local communities in the domain of biodiversity conservation and education;
- iv. Increasing awareness, facilitating and encouraging people’s involvement in conservation actions in the area.



### 2) **Habitat Restoration**

This action supports local forest management by improving the existing community-based approach and by expanding the network of protected habitats in the Ankeniheny-Zahamena corridor.





## Fourth bimonthly report

For the “**Maromizaha 2022 Conservation Project**” the team from the University of Turin, who is currently set at the Maromizaha Multipurpose Center and coordinated by Prof. Cristina Giacoma (in the field from July 22 to August 2) and by the PhD student Valeria Ferrario, carried on the following activities:

1. monitoring of the indri groups through direct observations, camera traps and passive acoustic monitoring;
2. habituation of 2 additional family groups of indris;
3. organization of a green class in the forest, with the kids from the EPP Anevoka;
4. organization of two training sessions for the research guides, in collaboration with Prof. Rabarison Harison (Mention en Biologie Vegetale, Université de Antananarivo) and Prof. Brigitte Annie Bezandry (Director of the PBZT and Professor at the Université de Toamasina).



## Indri monitoring

### *The indri survey*

In the Maromizaha NPA the 4 research guides follow and monitor a total of 12 indri family groups, whose composition and structure for 2022 was reported in previous reports. The research guides are able to identify each individual in each group, thanks to the color of the pelage and to the fur's natural marks. We reported the study protocol in the Attachment 1 and in the first interim report.

Within July and August, Gilbert and Naivo registered the presence of a newborn in the family group 10MZ, that was called Rano, meaning “water”.

The guides, in collaboration with the students, are annotating all the specific intra- and inter-group dynamics and are collecting spatial and behavioral data. They also recorded a total of 60 songs, that are emitted by the indris on a daily basis.



The 4 research guides monitored once all the indri groups. From mid-June Setra and Zafison started to visit the territories of unhabituated groups to find 2 new suitable family groups to follow and habituate.

From the beginning of July a set of 20 camera traps has been installed in the NPA, with the precise aim to monitor geophagy sites (where several lemur species feed on soil and clay), to target wild indri groups, to detect the predators' presence and to collect information about the Maromizaha fauna in general. A complete HOBO weather station has also been installed in the forest, in order to collect ecological data (temperature, humidity, rainfall, soil pH, wind speed and direction), to be used to monitor the quality of air, water and soil in the NPA. Climate data will be useful inputs also for GERP, to monitor the effect of climatic variation and to plan more effective management strategies for compensating negative effects on the Maromizaha faunistic and floristic communities.





The monitoring calendar is reported in the following Table.

<b>gruppo</b>	<b>guides</b>	<b>week</b>
1MZ	Gilbert/Naivo	11/07 - 15/07; 15/08 - 19/08
2MZ	Gilbert/Naivo	01/08 - 05/08
3MZ	Gilbert/Naivo	25/07- 29/07; 22/08 - 26/08
4MZ	Gilbert/Naivo	08/08 - 12/08
5MZ	Gilbert/Naivo	04/07 - 08/07 ; 18/07 – 22/07
6MZ	Setra/Zafison	04/07 - 08/07 ; 22/07 – 26/07
8MZ	Setra/Zafison	18/07 – 22/07
9MZ	Setra/Zafison	25/07 – 29/07
10MZ	Setra/Zafison	01/08 – 05/08
11MZ	Setra/Zafison	08/08 – 12/08
12MZ	Setra/Zafison	15/08 – 19/08
7MZ	Setra/Zafison	11/07 – 15/07

## Rising awareness

### Training sessions

On July 2022, the UNITO research team organized two training session at the Maromizaha Multipurpose Center, involving Prof. Rabarison Harison from the University of Antananarivo (July 9-13) and Prof. Brigitte Annie Bazandry, the Director of the Tsimbazaza Zoo in Antananarivo and Prof. at the University of Toamasina. Prof. Cristina Giacomini participated at the second training session, from July 26 to July 30.

The Prof. Rabarison training session targeted at improving capacities in the research guides (the 4 indri guides, the 2 bamboo and black and white ruffed lemur guides, the 2 diademed sifakas guides and a guide with expertise in botany) of the Association of Local Guides (AGAM), the UNITO students and 2 collaborators from the University of Antananarivo (Mention Biologie Vegetale, MBEV).

The training session improved the guides capacities around the following topics: data collection and storage (new protocol for field studies of botanical samples), plot for vegetation and phenological surveys, plant identification and the creation of an herbarium.



On July 26, 2022 the team from the University of Turin organized the second training session to train all the field guides on the importance of scientific knowledge for in- and ex-situ conservation of lemurs, carnivores and other species hosted in zoos in Madagascar and all around the world. Prof. Brigitte Annie BEZANDRY is a long term collaborator of the University of Turin, and would like to strengthen the collaboration in order to improve the conditions of the species

hosted at the Tsimbazaza Zoo (PBZT). The aim is also to create an axis to support the Maromizaha project by the creation of informative materials to be distributed to tourists in the PBZT structures.

Finally, the PhD student Valeria FERRARIO taught the guides to correctly setup and deploy Browning HP4 camera traps and started to install 20 devices in the Maromizaha NPA.

The next training session will be opened to all the AGAM research guides and will be delivered at the Anevoka *tranompokonolona*. We are planning to have the research guides and the students to teach the other guides in order to capitalize the knowledge emerging from the



previous training sessions. Prof. Rabarison is planning to be back to Maromizaha in September or October 2022.





## Habitat restoration

### *Maromizaha Restoration*



Thanks to the WSO/Friend of the Earth budget we will be able to contribute to extend the restored area, by enrolling two additional agents who will be in charge of both the tree nursery and the tree planting. The seeds of native species will be directly collected by women in the forest and/or obtained by the ongoing restoration project.

From July 27 to July 30, 2022 Dr. RANDRIANANTENAINA Tahina, the GERP's restoration coordinator, went to Maromizaha in order to monitor the advances of the restoration project and in order to inspect with the villagers and the restoration actors the landscape, finding a suitable degraded land to be restored. He has sent a revised detailed budget for the activities, attached in Annex V. With the support of GERP's local coordinator, Mr. RANDRIAMIALISOA, the restoration activities are continuing without difficulties.

The project intervention started with the restoration/building of two tree nurseries, that should reach the objective of producing 10,000 seedlings for 06 months. So far, 10,000 pots have already been transplanted with young autochthonous plants from the Maromizaha Forest.

A detailed restoration report is attached to the present document (in French, Annex VI).



## *Education*

The educational program in the Anevoka EPP started thanks to the collaboration of several international actors, like Fondazione ARCA, LVDI International, Green Teen Team Foundation, Chiesa Valdese, Rotary International and is now in synergy with Our Kids, Our Future Madagascar.

The team has organized the first green class on July 8<sup>th</sup>. Rovaharilala Zoeline Solotiana (GERP's Coordinator of the Education program) and Ranaivomanana Jean (President of the Association of the Guides in Marmizaha, AGAM) and one of the teachers of the EPP Anevoka participated in the daily activities organized for a total of 34 schoolchildren (6-13 years old) attending the primary school of the village of Anevoka (EPP Anevoka). The goal of the green class was to raise awareness among young people in local community about the biodiversity inhabiting the rainforest and the pressures to which it is subjected.

The green class started with a general introduction from Ranaivomanana Jean about the forest environment, the characteristics of a rainforest and the reasons making Maromizaha a Protected Area. Then, the guide walked the group through the forest, showing spotted animals and introducing the most important and special trees in the area. The group then visited the indri family group 4MZ, previously located by the guide Gilbert.

The two research guides helped the PhD student Walter Cristiano, from the UNITO team, to teach the kids about the species, its behavior and the meaning and function of the amazing indri song. Some of the kids had never entered the forest before, and were very impressed about seeing the indris by close distance. According to the adverse weather conditions the observation of the indris lasted half an hour, and then the group moved to the Multipurpose Center (CRPM).

Once at the CRPM Walter and the UNITO students reunited the schoolchildren to talk more about doing research on lemurs and about the importance of studying animals and plants to collect information aiming at protecting the forest.

The kids and the staff had lunch at the CRPM, after which the guides taught the kids on how to use the research equipment, how to follow the animals, etc.

At the end of the practical training, Rova and the teacher formed small groups of students that worked together to think about the notions learned, making questions to the guides and the students and reasoning on what they could do to become young actors in conservation.

The green class ended at around 16:00, allowing Rova, the teacher and the kids to come home at the village before sunset.

We will organize a similar event in the framework of the Lemur Festival, that will take place on October 31<sup>st</sup>, 2022, and will coordinate with Rova and the schoolchildren in order to foresee a restoration event with the kids during the festival.

Additional reports from Walter Cristiano and Rova are attached to this report (Annex IV and VII).





The different moments of the green class on July 8, 2022.

