

# My Rainforest My World

Project Report







# My Rainforest My World



three graces *foundation*

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## Foreword

Being passionate about nature I studied biology, and always dreamed of applying my knowledge in Madagascar. I feel proud and lucky to have been given the opportunity to live this dream in the middle of Ranomafana rainforest, working with Centre ValBio and the local Tanala and Betsileo communities. During my three years managing the “My Rainforest My World” (“MRMW”) program I have been able to see how education can open your eyes to the uniqueness and importance of biodiversity. This awareness can lead to an engagement with conservation activities and a willingness to change behavior, both of which help to bring about a sustainable future for communities.

My Rainforest My World is an after-school science program serving Malagasy students in remote villages east of Ranomafana National Park. The program teaches young children in 20 remote villages, with a team composed of CVB educators, on-site intern teachers, and content creators who carefully designed a curriculum and bespoke educational tools.

Within the first three years, the program organized nine teacher trainings, trained 40 intern teachers and 40 primary school teach-

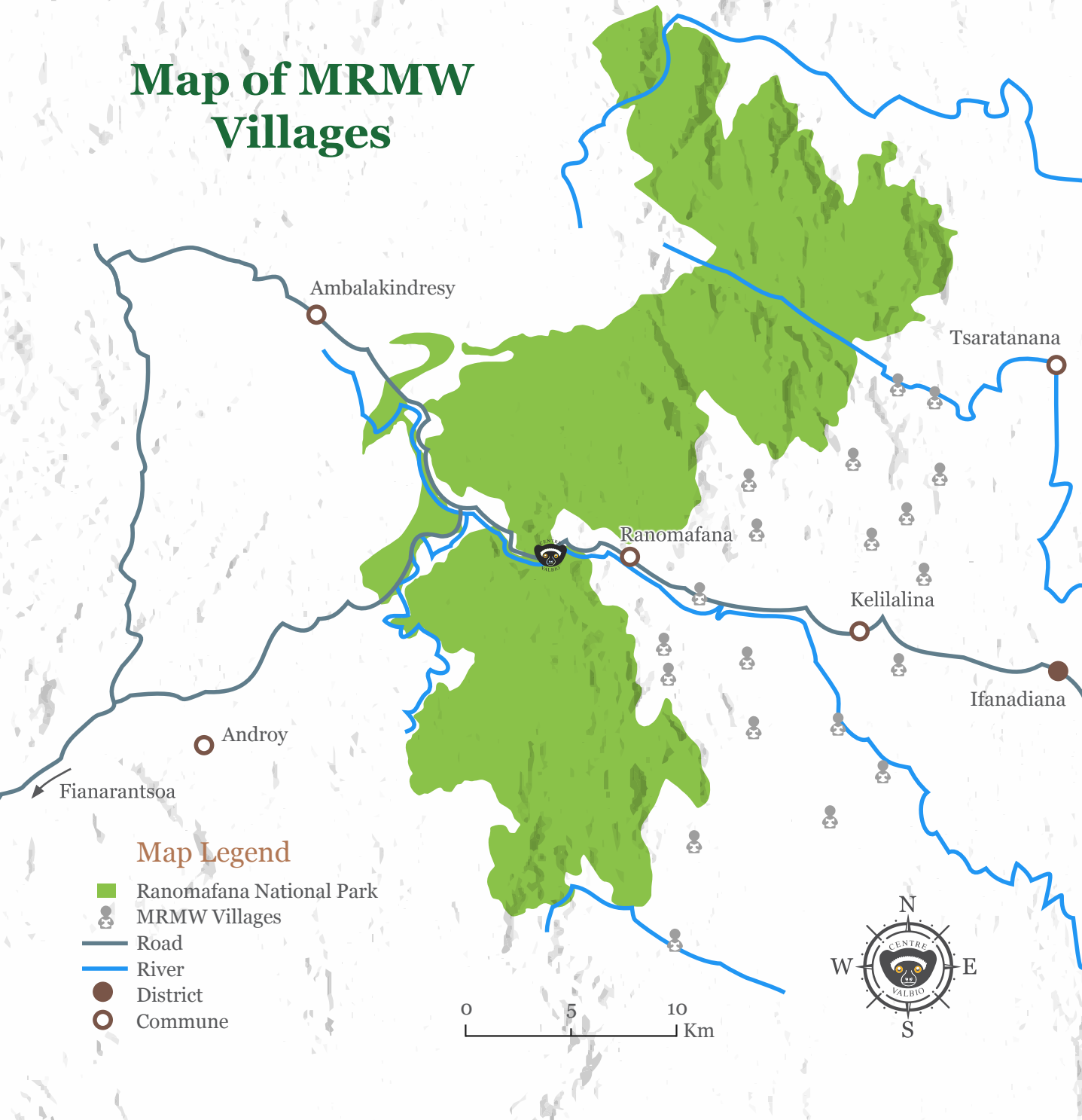
ers, taught 862 students and made 249 site visits in order to follow up and monitor the program. “My Rainforest My World” students complete three project presentations and experience one park visit per year, and each school takes care of a garden, tree nurseries, and fully-grown trees.

This report outlines the accomplishments and challenges faced during the first three years of the “My Rainforest My World” program and reflects on what we have learned to help guide future efforts to educate young Malagasy people.

I am exceptionally proud of the entire Centre ValBio team and profoundly grateful to the Three Graces Foundation for their support of the program these last three years. Because education is a continuous process, our hope is to build on what we have started. Learning from the past will allow us to achieve a greater impact on Malagasy students and build a better future for Madagascar. Continuing and expanding our training, teaching, and educational activities is the firm focus of the entire team.

- Lovasoa Razafindravony, MRMW Manager

# Map of MRMW Villages



*I think that “My Rainforest My World” complements the regional training program... we are interested in collaborating with Centre ValBio in the future on training, the exchange of documents, and the planting of seedlings of native trees.*

*- Pentecos Rabenahary, Head of the teaching institute in Mananjary*



## The Starting Point of MRMW...

### *Local Context*

The district of Ifanadiana contains 196 ‘fokontany’ (villages) served by 380 primary schools, 22 secondary schools, and 3 high schools, all public. One of the most pressing concerns for the region is the lack of government support for the education system. This lacuna results in a high rate of student dropout during primary school, often occurring when children become strong enough to begin helping their parents with manual labor in the field. Other reasons are because families cannot afford the cost or do not

value education highly enough. Compounding these issues, of the 1,235 teachers in the region just 43% are fully paid for by the government. The remaining 57% are only paid small stipends, and even these only on an irregular basis, resulting in schools where the teachers have not been paid in months. This has predictable results on motivation and class continuity.

Another major issue with the education system in Madagascar is the state of school infrastructure. Of the ten schools that hosted an MRMW student teacher during the 2015-2016 school year, only half had buildings made from cement. The remainder were constructed with mud and other traditional, non-durable, materials.

### *Number of public school teachers in the district of Ifanadiana*

(Data from the CISCO of Ifanadiana, 2015-2016 school year)

	<i>Number of parent-paid teachers</i>	<i>Number of government-paid teachers</i>	<i>Total</i>
<i>Pre-school</i>	18	3	21
<i>Primary school</i>	617	343	960
<i>Secondary school</i>	68	136	204
<i>High school</i>	1	49	50
<i>Total teachers (%)</i>	704 (57%)	531 (43%)	1235



### *My Rainforest My World*

My Rainforest My World is an innovative educational program that began in 2015, targeted at fourth graders in community schools in rural villages around Ranomafana National Park. The program placed intern teachers at ten remote villages during the first two years and expanded to 20 villages in the third year. Teachers are provided with training, support, and a curriculum designed around environmental learning in order to help students engage with ideas related to conservation and develop the skills necessary to become active and conscientious citizens. This unique

learning experience helps students to understand the environment and their place within it and ultimately prepares children to live in harmony with the landscape that defines their lives.

This program treats conservation not as a burden but as a resource for rural children and communities. MRMW invites children to connect with places, ideas, and resources, building on their existing knowledge and everyday experiences, and engaging multiple perspectives to foster hope in a sustainable future for everyone.





*“I applied for the teacher internship at CVB because I was seeking experience, and I was interested in a wide variety of fields. My experience here made me realize how wonderful nature is, and I wanted to share that with children. Now I work at CVB as an MRMW education assistant.”*

*- Onjaniaina Rafanomezantsoa*

## Concept and Methods

### *Training*

My Rainforest My World aims to empower teachers so that they in turn can empower students. To accomplish this, every school year three training and strategy sessions are organized. These events bring together local MRMW participants and education experts from Madagascar and overseas to collaborate on generating a truly engaging curriculum. Representatives from the local authorities are also invited during the opening and closing ceremonies to encourage the exchange of ideas and foster mutual understanding.



By bringing together professional trainers, the CVB education team, and the teachers themselves, MRMW has been able to develop and refine a curriculum focused on five central themes:

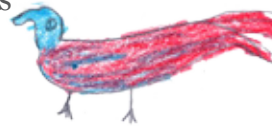
- Grow Your Own Lunch (16 lessons)
- Echoes of the Forest (11 lessons, with additional practical sessions on tree nurseries and reforestation)
- Biodiversity (28 lessons)
- Water Sanitation and Hygiene (11 lessons)
- Environmental Storytelling (16 lessons)





### *Site Visits and Expeditions*

Site visits are the primary method used to monitor the project. As they live in such remote areas, the teachers receive regular visits from the My Rainforest My World education team. These visits allow the team to mentor the student teacher, to discuss collaboration with the local communities, and to evaluate the school. Each MRMW site is visited at least once a term. In addition, at the end of each term the education team visits each school in order to attend project presentations by the students. This is a fun activity which connects the students to the wider community!





*“I’m president of the tree nursery, and I have one child in the MRMW Program. In my own garden I grow vegetables and trees. My message for people is that you should grow trees as children so you will have shade from the tree when you are an adult.”*

*- Ernest Rakotovao, parent of a student in Kianjanomby*

### *Parent Participation*

Parents and communities play a crucial role in the MRMW project - by involving the whole village, a local support network is developed. As part of their contribution, the local community or school provides a house for the intern teacher. All villages that are able (13 out of 20) devote land for vegetable gardening and tree planting. Parents are also encouraged to cook lunches for the students four days a week. Parents are also engaged in the school renovations by donating materials and helping the local tradespeople hired by MRMW to perform school repairs.



### *Educational Materials*

In order to illustrate lessons and encourage students to explore the natural world, engaging educational materials are created - see next page. Malagasy and foreign artists designed posters, herpetology education packs, and coloring books, among other educational tools, in collaboration with researchers at Centre ValBio, allowing MRMW students to benefit from their expertise. In addition to this, novel school supplies are provided, such as microscopes and drawing materials, to help the children to explore the world using their natural curiosity.







## Classes and Activities

The daily MRMW classes are not only an excellent source of environmental knowledge for the students but also an opportunity to develop their general academic skills. Methods used in MRMW classes were designed to give students support in skills relevant to the standard government-organized curriculum. In addition, the classes are designed to inspire a passion for learning that will hopefully encourage the children to continue their educational career longer than normally happens in rural communities.

The five themes taught over the year are:



### 1) *Biodiversity and Science Class*

Through this topic, students are encouraged to understand their connection to the natural world. They learned about animals and their importance both to the ecosystem and to the students' own well being. As with most of the MRMW lessons, the aim is to develop critical thinking skills in the students so that they can apply the lessons learned in all of their future interactions with the environment. Many of the students develop newfound appreciation for a plant or an animal once they understand its role and importance. In each session, classes start with an ice breaker which is followed by activities or games related to the day's topic. For each topic, students use a wide variety of educational tools such as posters, education packs, coloring books. They are also given the opportunity to use art to express their biodiversity experiences.

Lessons from this theme include:

- Who I am
- Where I am
- Reading a compass
- Mapping the village
- What is a scientist?
- Comparing, contrasting, and classifying
- Invertebrates
- Insect life cycles
- Amphibians
- Importance of amphibians

- Reptiles
- Importance of reptiles
- Birds and feathers
- Birds and feet
- Birds and nests
- Mammal characteristics
- Mammal families
- Primates
- Lemurs of Madagascar
- Plants' needs
- Plants' parts
- Soil
- Photosynthesis
- Pollination
- Seed dispersal
- Plants that we can eat



*“I want to work at Centre ValBio because of the lemurs and the forest... and we all know that Centre ValBio takes care of the forest.”*

*- Rodin, student from Ranovao*



*“I enjoyed learning, especially because the lessons include drawing, reading, and writing... I want to be a teacher when I am older because I want to help children learn writing, reading, and how to grow trees.*

*- Safidy, student from Ranovao*

## 2) “Grow Your Own Lunch” School Gardens

In this theme, students learn to grow healthy food in an efficient way by using compost. As a class, the students decide what to grow and engage in practical gardening by tending to their chosen vegetables in the school yard or the community-donated land.

The main topics discussed are:

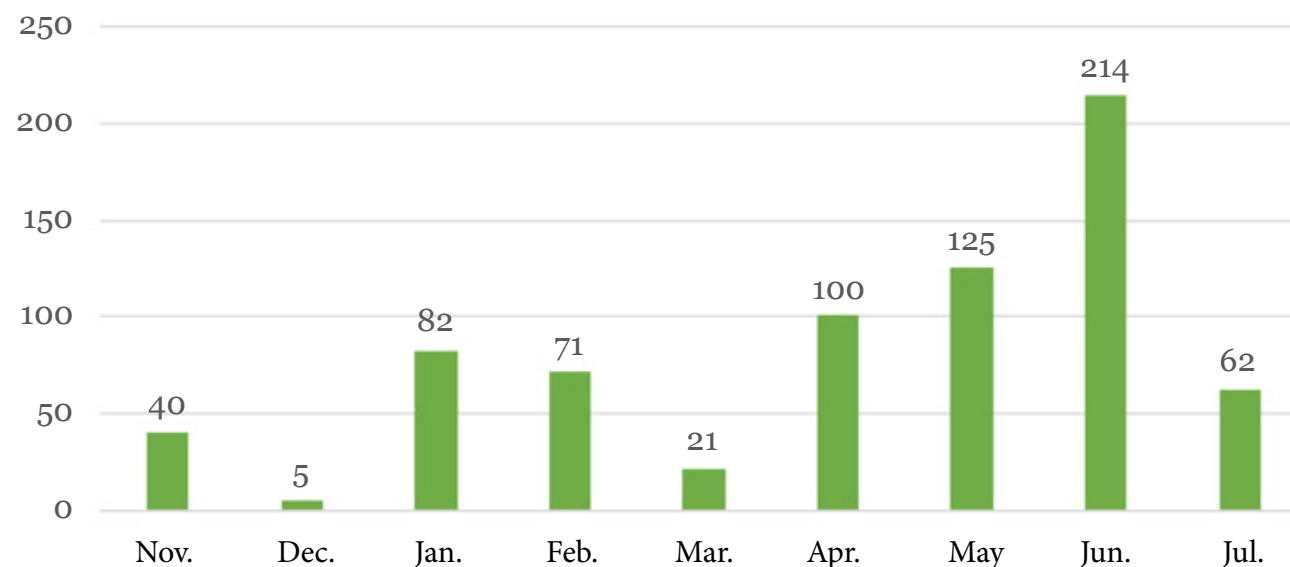
- What shall we grow, and what do these plants need to grow?
- Designing the garden, and preparing the ground
- Sowing and nurturing seeds and garden management
- Designing our own lunch menu

Below is the list of species used in the school gardens:

- Cucumbers
- Tomatoes
- Onions
- Green beans
- Pestsay
- Anamamy
- Ramirebaka
- Anamalaho

The goal was not only to train students in how to grow vegetables but also to show them how to give their villages more food independence, by using their vegetables to make school lunches. In addition to this, 612 fruit trees were given to the schools for community planting. Amongst these were lychees, tangerines, lemons, and two species of oranges.

**Production of vegetables in kilos, 2017-2018**



### 3) “Echos of the Forest” Radio Program

Echoes of the Forest (“Akon’ny Ala”) is a radio show focused on lemur stories and is broadcast in the Tanala villages around Ranomafana National Park (‘Tanala’ is the name of the local tribe). Funded by IUCN-Save Our Species, Echoes of the Forest comprises a ten episode podcast series along with a physical education pack. These materials were created during the second year of MRMW. The show aims to connect rural listeners with the lemurs who shape their living world. The stories are designed to capture the daily life of the Tanala people, while incorporating folk stories from the community. The education pack was developed to complement the podcast series by providing tools and activities that help deliver an engaging environmental education

program. The show airs on local radio in Ranomafana, “Radio feon’I Ranomafana”, as well as a regional radio station called “Radio RFOne”.

One of the units of the education pack discusses seed dispersal by the red fronted brown lemur. In order to understand seed dispersal, students plant native trees in their village tree nursery, take care of them, and then plant them around their school and village. The pictures on this page show the results of these efforts by the students.

This reforestation project benefited from a collaboration with the Reforestation team at Centre ValBio. So far, students (with the help of their parents) have planted 3, 899 native trees around their villages, with 2,767 more seedlings to be planted once they reach the right age.





#### *4) Water Sanitation and Hygiene*

The goal of this theme is for the students to learn about the water cycle, water sanitation, hygiene, and the importance of water to life. As a practical application of the theme, students build a hand washing facility in their school yard. Students also gather daily climatic data at a station in their village that has a rain gauge and thermometer. This activity not only fosters an understanding of rainfall and seasonal variability but also gives the students experience of scientific methods in field research.



#### *5) Environmental Storytelling*

In the final theme, Environmental Storytelling, students and teachers have the opportunity to integrate all their learning and also to practice how to convey ideas. The goal is to learn to apply different storytelling techniques in environmental education, while also learning to apply questioning techniques and critical thinking. This theme also helps student to distinguish between positive and negative consequences for the environment and learn how these impact human health.

Through this theme, students explore stories from everyday life, report events, and create original narratives.



### *Park Visits and CVB Facilities*

In addition to the five themes, once per year MRMW organizes park visits for all the students. This gives the students the chance to visit Ranomafana National Park. For the majority of the students, it is their first time visiting the Park and Centre ValBio. Students enjoy seeing many kinds of lemurs, birds, and the forest itself. Students are asked to paint their experience, including their favorite animal.

At the same time, students also visit Centre ValBio. During, students are given a tour where My Rainforest My World team explains some of the history of the Center and

its mission, as well as the various activities in which it engages: research, education, health, and much more. Students are amazed seeing such a dynamic place very close to their village.

In the last year of the project, in addition to the Ranomafana National Park visit, two schools were brought to Anja (a community-managed forest near Ambalavao) to visit a different kind of forest. Anja is a dry forest where ring-tailed lemurs lives. These students were amazed to see ring-tailed lemurs in such a unique landscape! For all of them, it was their first opportunity to travel more than 50 miles from they were born.



*I don't want to kill animals anymore! For example, rats cause problems in my village but the snakes eat rats. Also, because they help provide rain, you should not cut down trees without a good reason.*

*- Firmin, student from Anosy*

# Evaluation

## Overcoming Challenges

### Remoteness

Remoteness is one of the reasons why rural areas in Madagascar are sometimes neglected, and it was one of the most challenging aspects of the program. Initially the monitoring of teachers was more limited than planned, with less support given than was desired. To combat this, two additional staff were hired. With six staff in year three, the project could meet all monitoring targets.

### Monitoring and Evaluation

In order to guarantee quality and reassure stakeholders, external evaluators were brought in to assess the capacity of the students and teachers. More details can be found in the “External Evaluation” section.

### Sustainability

During school vacations, activities sometimes did not continue because the intern teacher was not present in the village. In order to solve this problem, the team held discussions with the communities. It was agreed that parents would take turns to reinforce lessons and continue taking care of the vegetable gardens and native trees.

## Student Records

In order to maintain minimum levels of achievement, students must either demonstrate proficiency in studied subject or repeat the class. This is evaluated using a portfolio created for each student that documents their progress. This information about the student is shared with their parents.



## External Evaluation

In the third year of the program, “Vinako for Madagascar”, an association of teachers from the National Teaching School in Antananarivo, undertook an external evaluation of MRMW. The goal of the evaluation was to explore the acquisition of knowledge, intellectual competencies, and attitudes of both the MRMW and non-MRMW schools near Ranomafana.

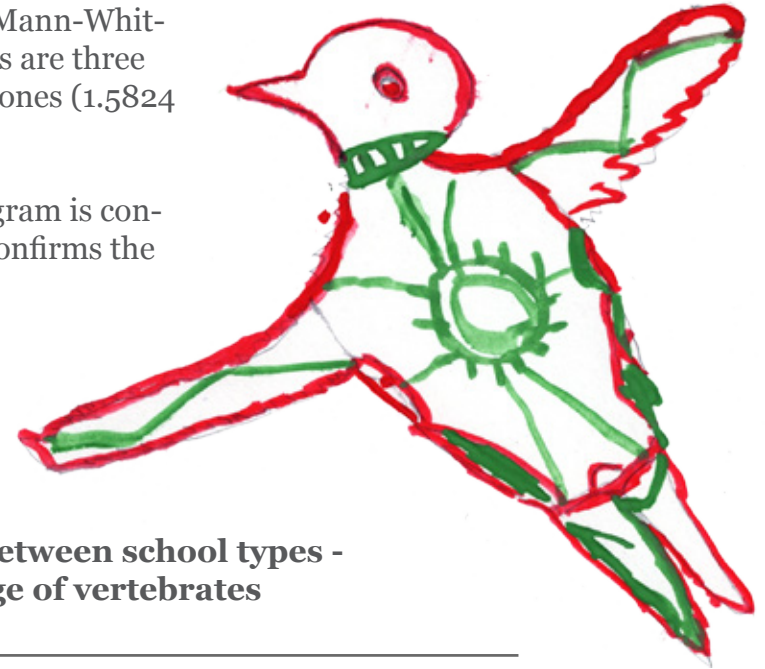
When comparing MRMW students with non-MRMW students, there was a significant difference between the two groups - MRMW student were demonstrably more successful.



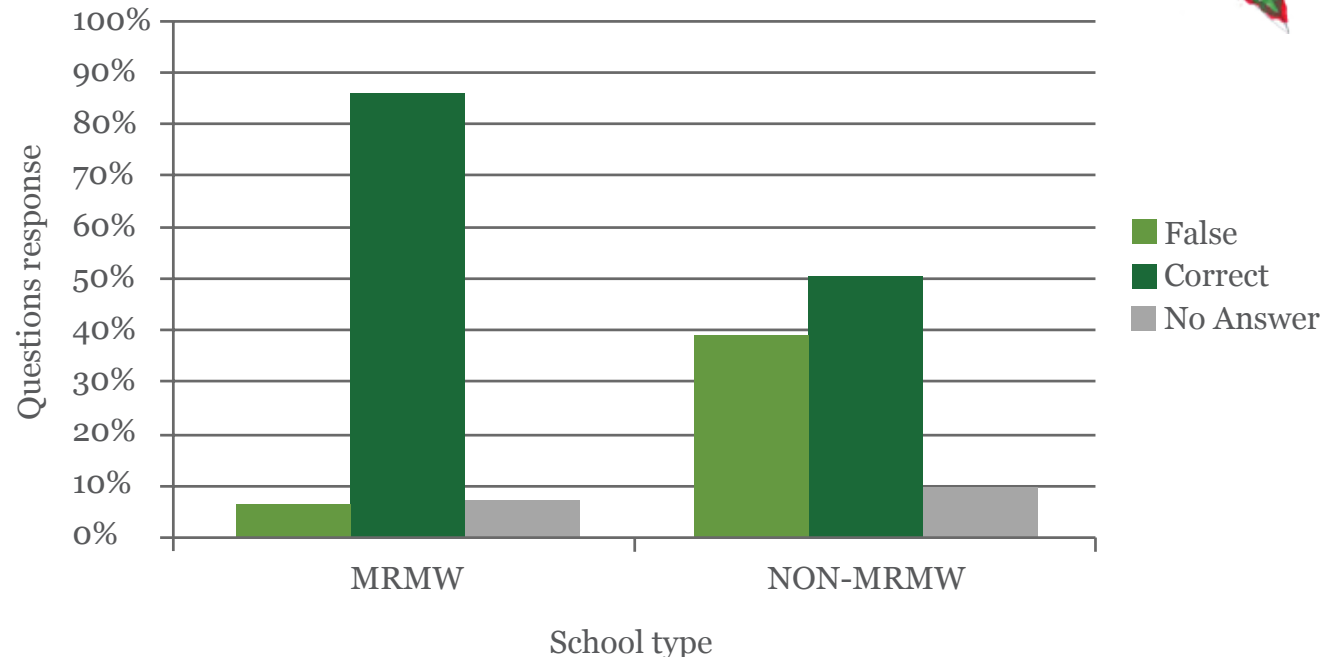
To quote from the report: “According to Mann-Whitney test / Two-tailed test, MRMW schools are three times more successful than non-MRMW ones (1.5824 vs 0.4583;  $p < 0.0001$ )”.

While the internal monitoring of the program is considered robust, this external evaluation confirms the efficacy of the methods adopted.

Vinako’s approach included asking students, teachers, parents, and MRMW staff questions. Below are results from sample questions posed to students, on vertebrates.

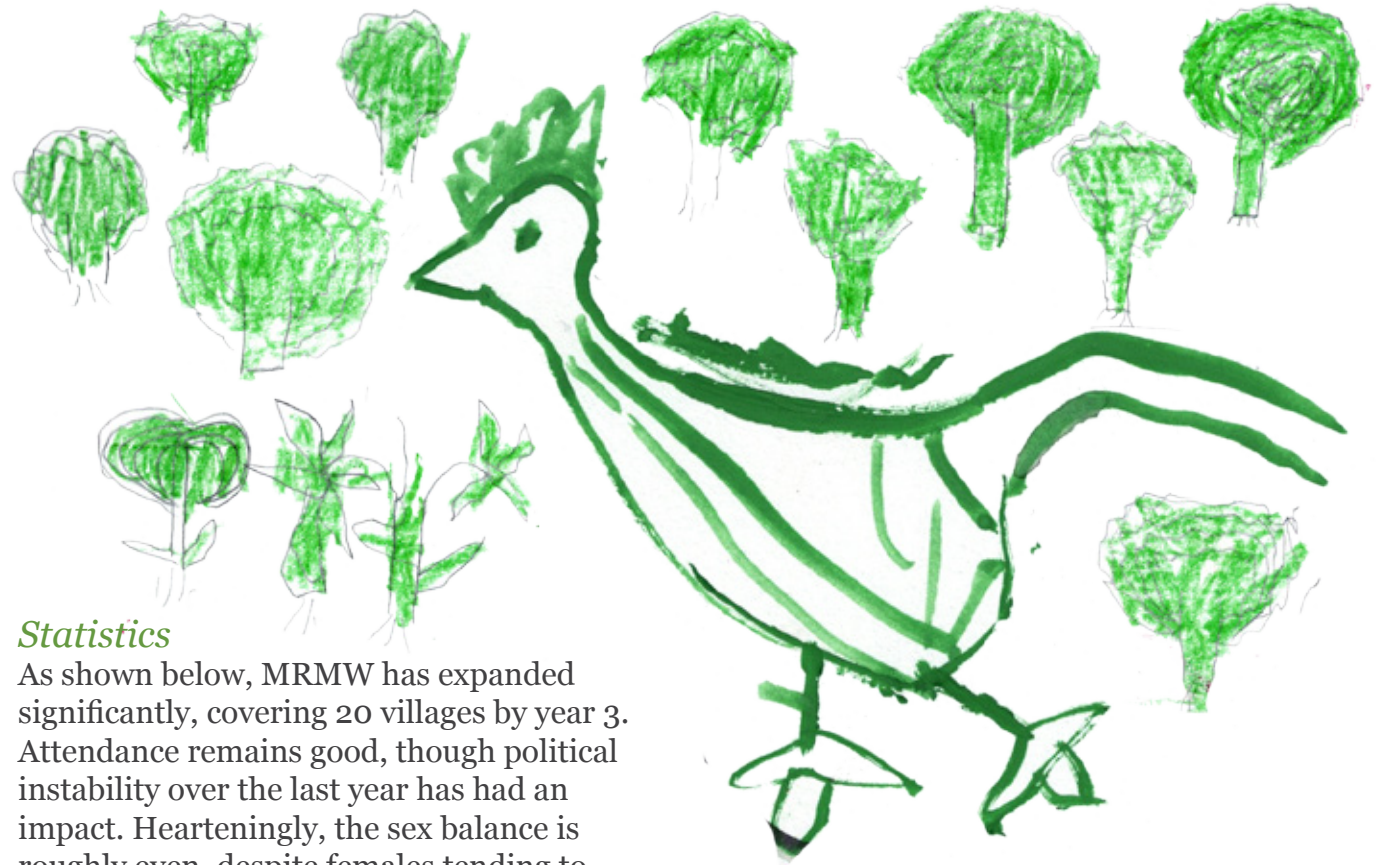


Comparison between school types - knowledge of vertebrates



## Impact Numbers:

- 862 students taught
- 9 teacher training workshops
- 40 intern teachers and 40 primary school teachers trained
- 8 university interns trained
- More than 3,500 native trees planted
- Over 720kg of vegetables grown in school gardens



### Statistics

As shown below, MRMW has expanded significantly, covering 20 villages by year 3. Attendance remains good, though political instability over the last year has had an impact. Hearteningly, the sex balance is roughly even, despite females tending to leave education earlier in Madagascar.

	Year I	Year II	Year III
Number of MRMW students enrolled	199	222	441
Attendance	93%	90%	75%
Drop-out rate	16%	5%	15%
Sex ratio	45 % F 55 % M	45 % F 55 % M	49 % F 51 % M

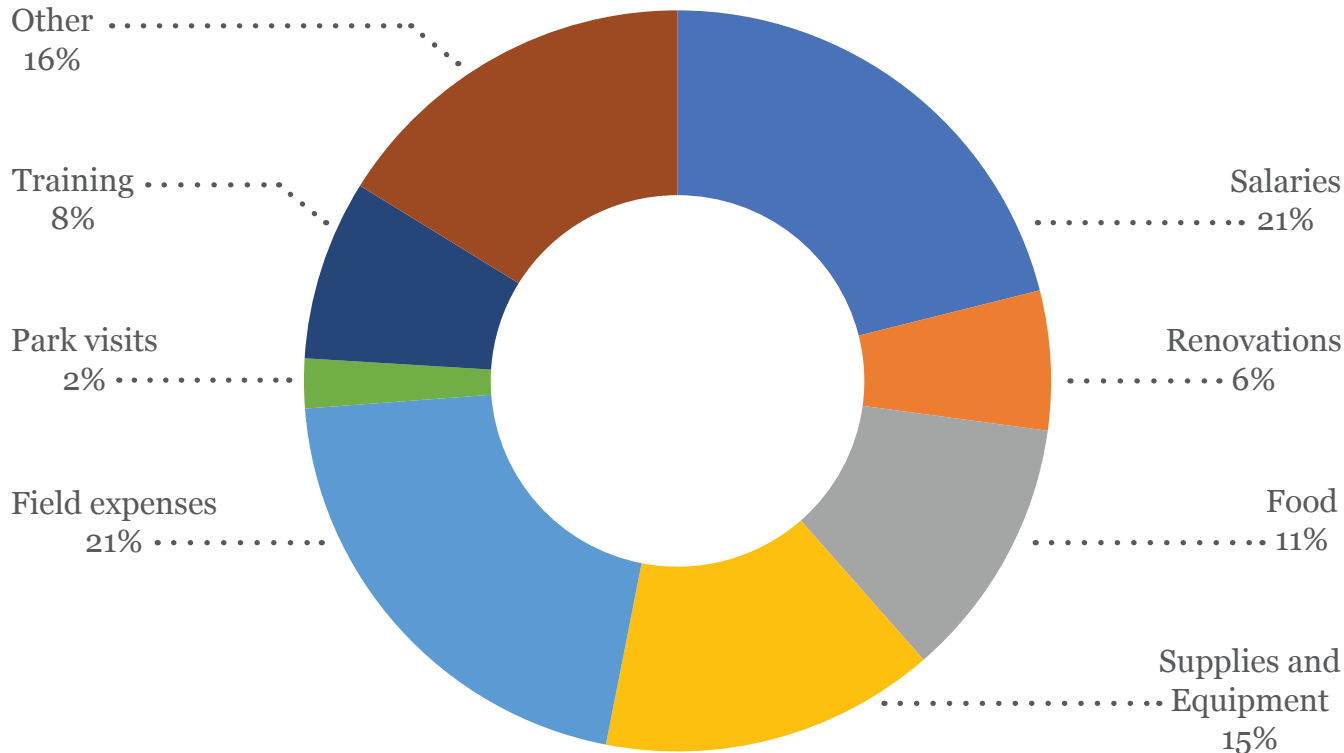


# Budget Summary - 3 years

The aim at all times with the MRMW budget is to deliver the maximum possible impact given the resources available. For this reason, the primary expense over the first three years was staff salary. This, along with training, was an investment in the knowledge and skills present in the participating communities. Closely following salary were field expenses, as providing support to teachers and monitoring progress was seen as vital to the development of the program. Renovations, supplies, and equipment took up another fifth of the budget and helped remediate the infrastructure issues plaguing the region.



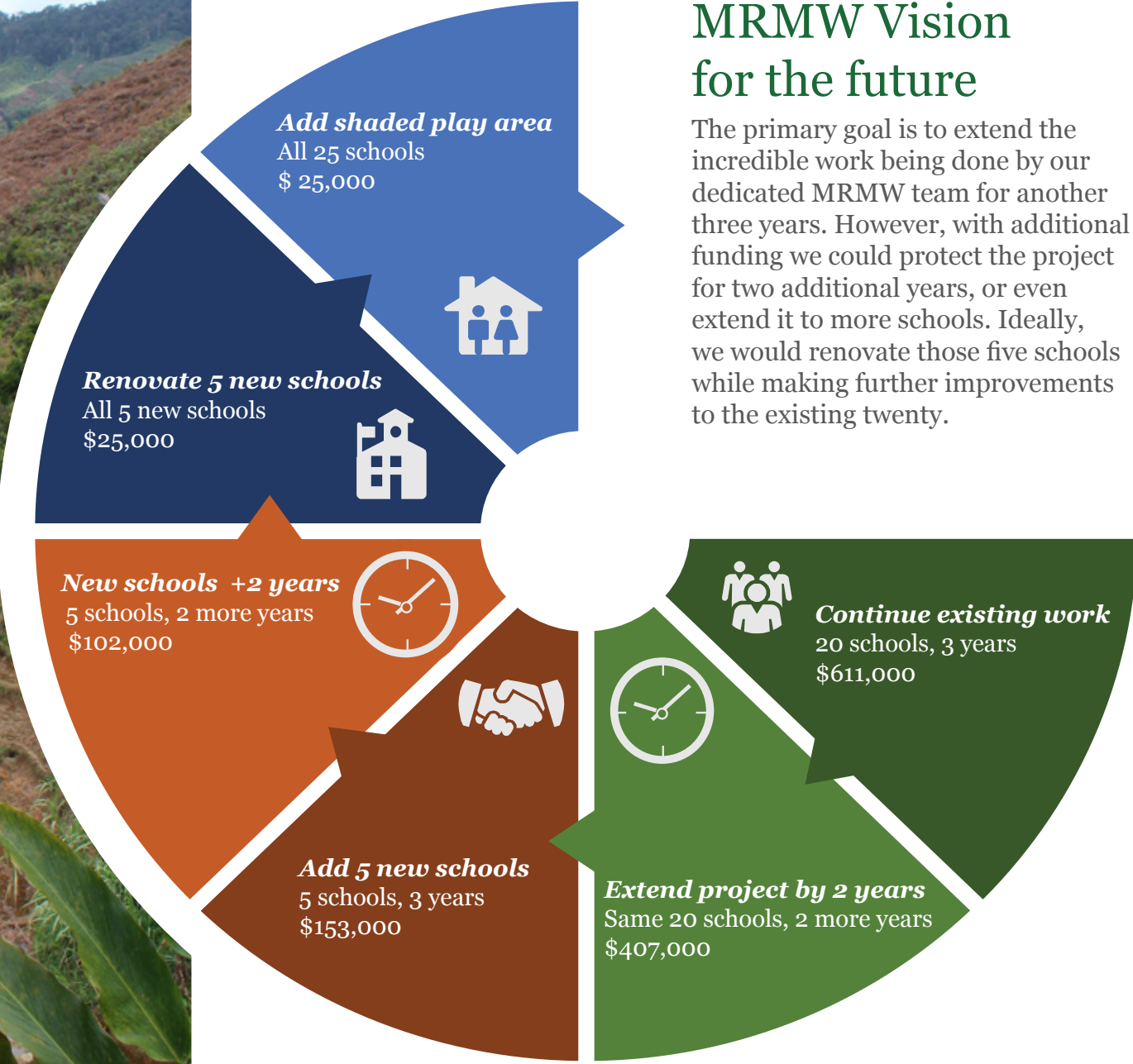
*MRMW Expense Breakdown*





# MRMW Vision for the future

The primary goal is to extend the incredible work being done by our dedicated MRMW team for another three years. However, with additional funding we could protect the project for two additional years, or even extend it to more schools. Ideally, we would renovate those five schools while making further improvements to the existing twenty.





**106,026**

*Classroom hours*

Over the three years of the MRMW project, over 850 pupils have had lessons in five different areas, along with art classes and visits to national parks.



**\$10,184**

*Per school, per year*

Just over \$10,000 covers all project costs to run MRMW at a school for a year, including all administrative and support costs.

**Classroom hours**

**Schools**

**20**

*Schools*

MRMW's operations span across over 100 square kilometers of Ranomafana National Park and surrounding areas, with 20 actively participating schools.



**MRMW:**  
**\$3.81 per student hour**

**Cost per school**

**Attendance**

**86%**

*Attendance*

By inspiring students and engaging with parents, MRMW manages to have an 86% attendance rate, far higher than other schools.

# MRMW Donor Acknowledgments



*three graces foundation*





# Acknowledgments

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- The 20 local communities, led by the kings and chiefs of the fokontany
- The MRMW intern teachers
- Madagascar National Parks
- CRINFP Mananjary and Fianarantsoa
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- Centre ValBio
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- Centre for International Education, Sussex
- Seneca Park Zoo

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