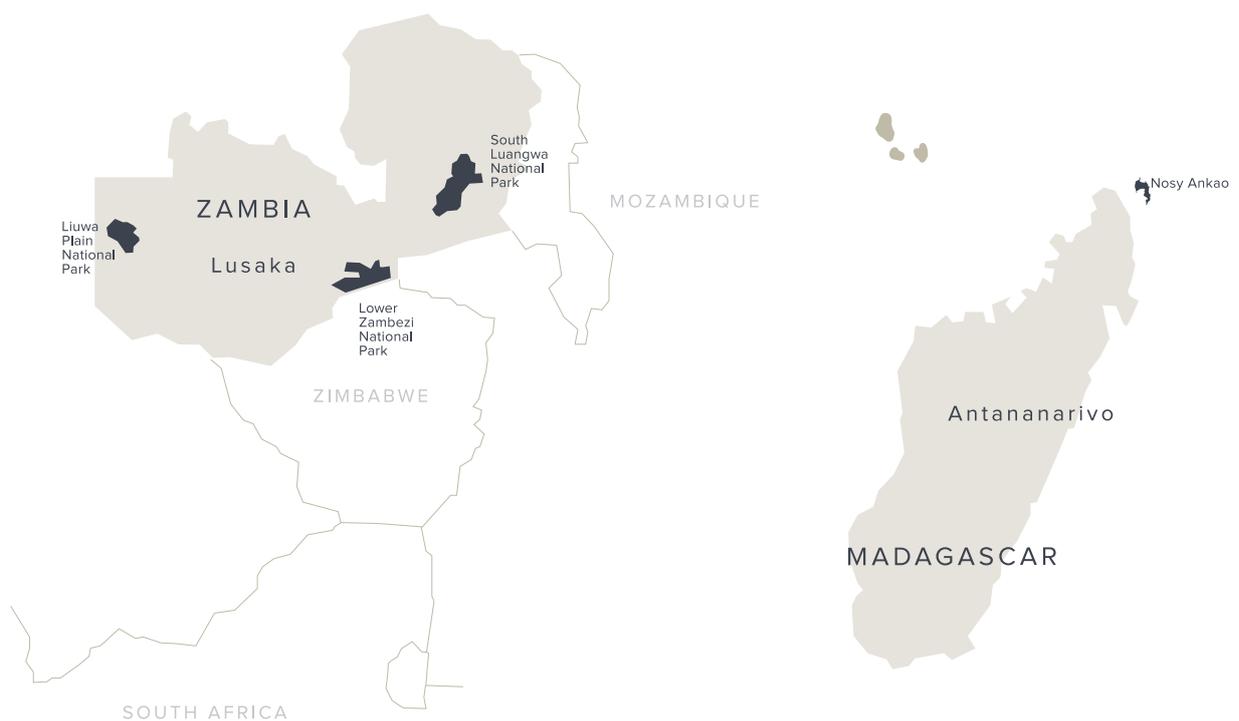


Annual Report 2018



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2018 Highlights



LIUWA PLAIN:

- The number of female Grade 7 students at Sibemi Community School increased by 44% in 2018.
- In 2018, 100% of Grade 7 students from Munde Primary School passed their government exams, an improvement from 84% in 2017.

SOUTH LUANGWA:

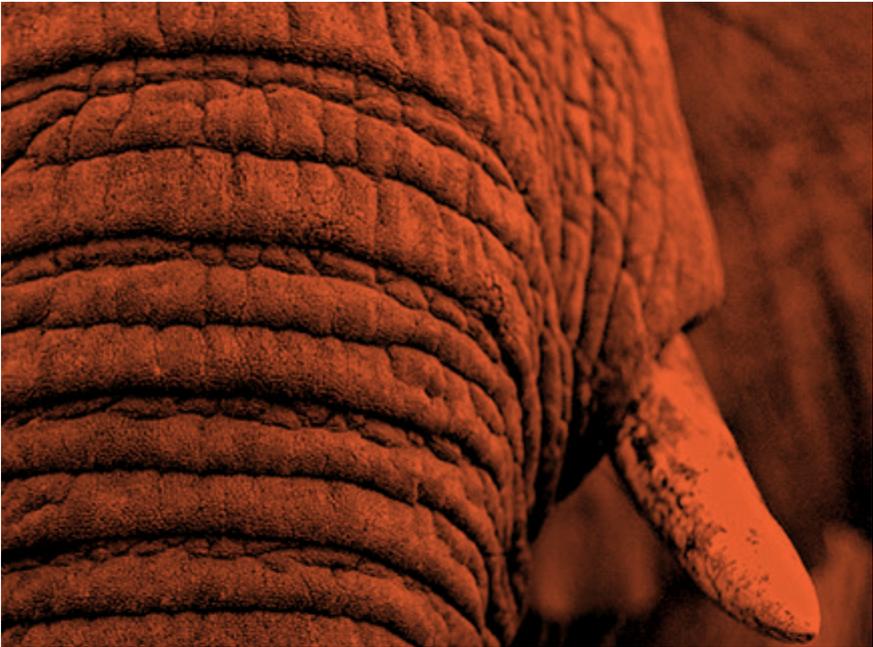
- In 2017, 88% of surveyed residents reported actively avoiding disabled children in their communities; in 2018, this figure dropped to 6%.
- 89% of the girls attending Yosefe Girls Club scored as functionally literate at the end of 2018, compared to only 59% in the beginning of the year.

LOWER ZAMBEZI:

- 96% of students in the environmental education programme agreed that tourism helps to protect the region's natural resources.
- 100% of theatre students recommend going to school in a protected, wildlife area.

NOSY ANKAO:

- The Crowned Lemur population on Nosy Ankaao increased by 40% with the birth of 3 baby lemurs in October 2018.
- 240 kgs of washed-up waste were removed from the beaches each month by the environmental team.





Scale in Depth

In late 2018, following a strategic planning workshop, we decided to ‘scale deep’ by investing more in the projects that measurably contribute to our goal of enriching protected area communities.

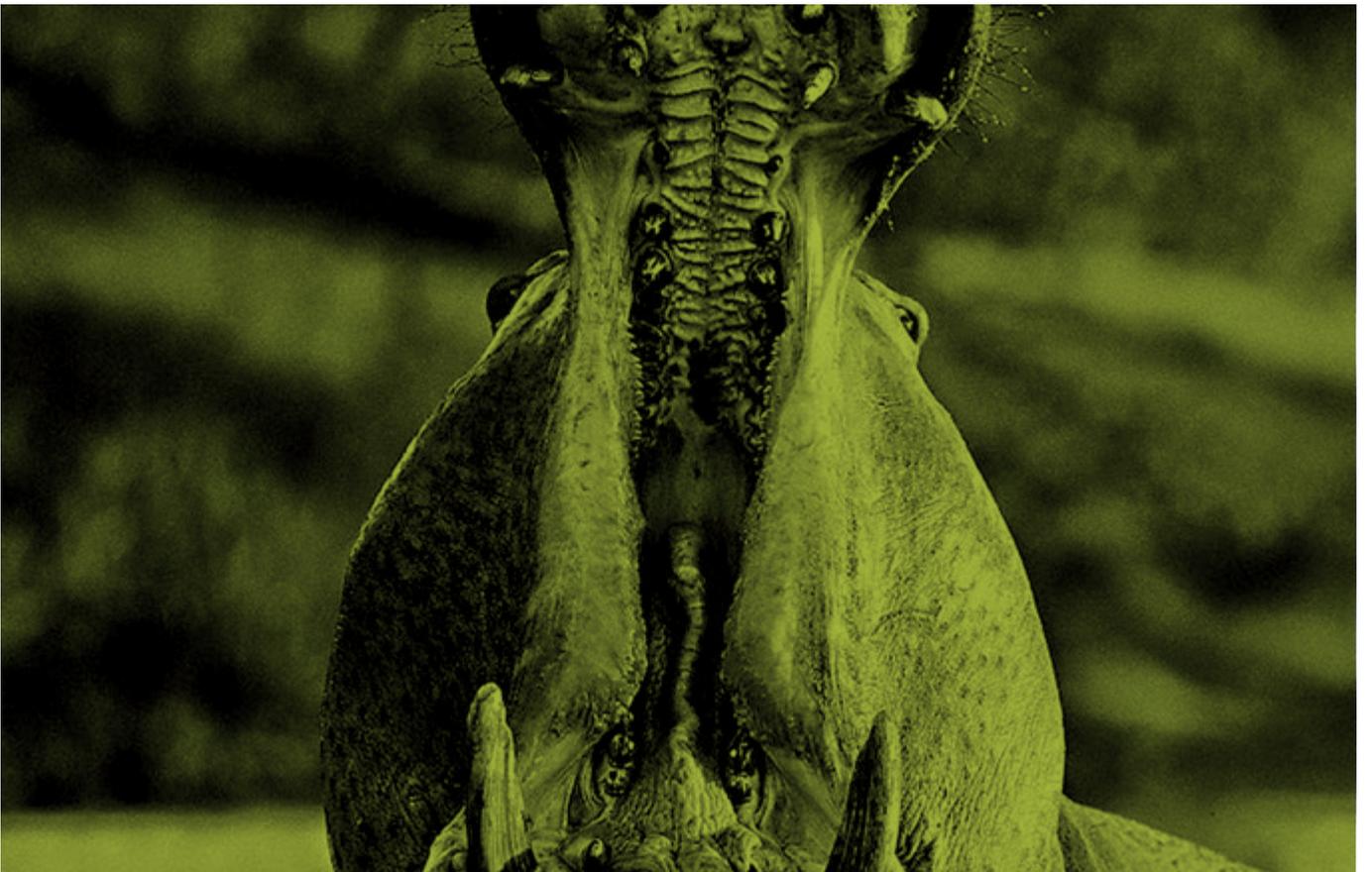
Through immersive research, we learned that residents are increasingly frustrated with the poor quality of local education, which in turn inhibits their children from breaking the cycle of poverty. For especially disadvantaged youth, such as girls and disabled children, this opportunity is nearly impossible. Over the next three years, we have resolved to improve the chances of consistent schooling and future employment for all children equally.



For us, scaling is a process of re-framing, the impacts from which can take years to accrue. For example, after two and a half years of our home-based education programme, we are now successfully challenging the stigmas surrounding disabilities. By implementing support structures for vulnerable children, we are both increasing their access to formal education and deepening local perceptions on who is worthy of social investment. Sustainable development

requires commitment from diverse members of local society, and we aim to prove that not only able-bodied youth are capable of inciting generational change.

This report summarises our activities over the course of 2018, with an emphasis on how scaling deep in educational innovations can help broaden local knowledge, develop new skills and lead to fresh ideas for economic growth.





Note from the Foundation Council



I was born in Malawi (then Nyasaland) and lived in Nigeria and Uganda, and so I have experienced first-hand the educational challenges in Africa. In many countries, class sizes range from 70-80 students to one teacher and there are incredibly high rates of teenage pregnancies and young marriages; in Zambia 30% of adolescent girls become pregnant before the age of 18, forcing them to leave school. When this happens, there is minimal if any support for re-enrolment, which leads to widespread illiteracy for women and few possibilities for employment.

This year, we decided to focus the strategic direction of the Time + Tide Foundation on

providing education to girls and young women, disabled children, orphans, and those whose parents have no opportunity for income. In the remote, wildlife areas where we work, the gaps in social and educational services are extensive and we unfortunately do not have the means to address all of them. We have chosen to concentrate our efforts on vulnerable children because without our support, they would remain indefinitely excluded from any chance of formal education. Moreover, we know we can make a real difference: for 2 years in a row, 100% of girls in the Yosefe Girls Club have advanced to secondary school, the percentage of Grade 7 female students at Sibemi Community School jumped from 26% in 2017 to 70% in 2018 and 77% of the first intake of children in our home-based education programme are now enrolled in formal school. You can read more about our impacts throughout this report.

We wish to thank all of our donors, partners and stakeholders for their support over this past year and through the process of refining our strategic direction. All of us at the Time + Tide Foundation and Time + Tide are working for social and environmental sustainability in these exceptional and faraway corners of Africa. At present, we believe that providing education to highly disadvantaged young women, men and children will be our most meaningful contribution to achieving this aim.

Sincerely yours,

Sir John Rose
Chairman
Time + Tide Foundation





Institutional Information



FIELD-BASED TEAMS:

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ZAMBIA:

Inonge Liboma: Home-based Education Manager
Josie Matterson: Monitoring and Evaluation Manager
Charity Mushokabanji: Programme Officer
Mwaka Mwitangeti: Assistant Programme Officer
Kalinda Zimba, General Manager for the Kapani School Project

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PO Box 100
Mfuwe
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ADMINISTRATION AND FINANCIAL TEAM:

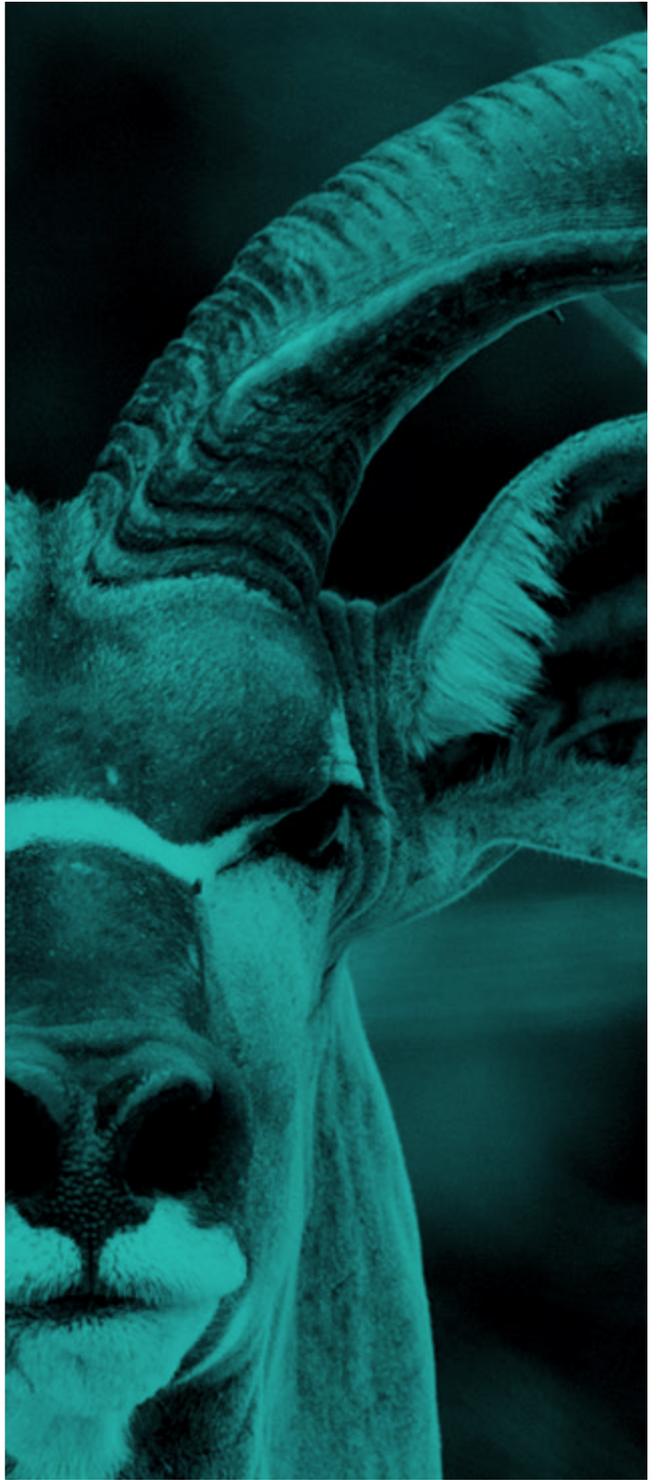
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Sir John Rose (Chairman)
Mark Carnegie
R. Thierry Dalais
James Orford
Elizabeth Ellis (Director)





Project Summaries



LIUWA PLAIN

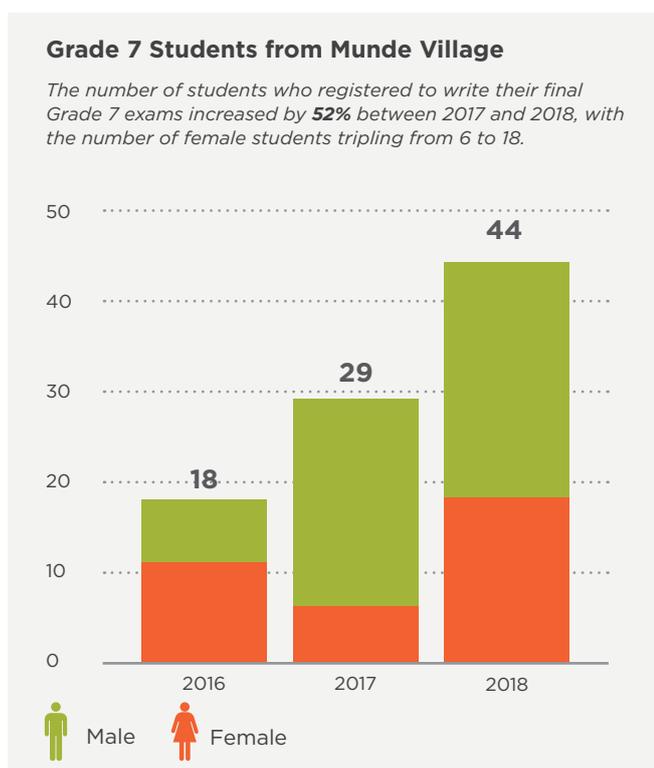
Found in the upper Zambezi floodplains of Zambia's Western Province, the remote and little known Liuwa Plain National Park spans an area of 3,660 km². The former King of Barotseland (as Western Province was previously known), King Lewanika, allowed his people to reside within the reserve to protect wildlife. As a result of this tradition, today Liuwa Plain is the only Zambian national park that accommodates permanent residents, schools, clinics, subsistence farming, and commercial fishing. The primary source of income for Liuwa residents is through freshwater fishing in the park's rivers and pans. Local traders enter the park regularly to purchase the fish, with North African catfish (*Clarias gariepinus*) as the species most commonly caught and traded. The fish is then re-sold at double and triple the price in Mongu, the capital of the Western Province, and as far away as the border with the Democratic Republic of the Congo.

MUNDE SPONSORSHIP PROGRAMME

We increased our sponsorship programme from 7 students at Kalabo Secondary School in 2017 to 15 in 2018, accepting Grade 7 graduates from both Munde and Sibemi Primary Schools in Liuwa Plain National Park. Over the course of the year, Chinyama Mukinda continued to perform at the top of his class in Grade 10, and Mubita Simasiku came first in his Grade 8 class. We did, however, face challenges with some of our sponsored female students: 2 girls in the programme dropped out of school due to pregnancy and marriage. In these especially remote villages, pregnancy and marriage are common for girls between 12 - 16 years of age, often derailing their chances at secondary school education. In order to ensure that girls have equal opportunities to complete secondary school, we consulted the Parent Teacher Associations of both Munde and Sibemi Villages to ask their advice on how to protect girls. The parents explained that for their generation, pregnancies and marriages traditionally occurred at young ages, and

they in turn asked for our support in introducing alternative life paths.

In order to reinforce our approach, we partnered with a local non-profit called Adolescent Reproductive Health Advocates (ARHA) to hold awareness campaigns and regular interventions with students from Sibemi and Munde on the topic of early pregnancies, marriages and sexually transmitted infections (STIs). From August – December 2018, ARHA educators visited both Sibemi and Munde villages twice and made three trips to see the sponsored students at Kalabo Secondary School, encouraging them to remain focused in school despite the challenges of their unfamiliar and often intimidating new surroundings. In 2019, we will strengthen the partnership with ARHA by stationing two full-time female educators in both Sibemi and Munde villages, whose sole focus will be to build girls' self-esteem, literacy levels and provide daily, active encouragement to stay in school. As a result of their involvement, we expect to see the number of girls qualifying to Kalabo Secondary School significantly increase in 2019.



SIBEMI COMMUNITY SCHOOL

In 2018, 25% of the Sibemi students who sat for their final Grade 7 exams were selected for sponsorship to Kalabo Secondary School compared to 11% in 2017. The school was also awarded partial government support this year with a full-time qualified teacher assigned in June 2018. Additionally, this was the final year of college for Gerald Namuchana, the Sibemi resident whom we have sponsored since 2016. He will return permanently to Sibemi in January 2019 as another qualified teacher at the school. In September 2018, a second well was installed in

Sibemi Village, thanks to generous guests at [Time + Tide King Lewanika](#) and [African Parks](#). With both wells fully functioning, residents of Sibemi no longer have to collect water from nearby pans and can easily access cleaner, clearer ground water within a short distance from their homes.

Towards the end of the year, our newly recruited Home-based Education Manager, Inonge Liboma, travelled to both Sibemi and Munde Villages to identify handicapped children. In 2019, we will expand our home-based education programme to Liuwa Plain, which requires a preliminary analysis of the number of handicapped children and their disabilities. Thereafter, we will recruit and train volunteer caregivers, replicating the community-based intervention model in the South Luangwa.

SOCIO-ECONOMIC RESEARCH

This year, we piloted an immersive, six-week research approach in our Liuwa and Nosy Ankaos sites to strengthen our understanding of local land use practices, social service gaps and resource use in the protected areas. Over the months of April and May 2018, Kalimukwa Kalimukwa and Inonge Liboma, University of Zambia graduates who originate from the Western Province, were based in Munde and Sibemi villages respectively to live alongside residents and, through participant observation and interviews, learn about ways of life inside the national park.

Through their research, they recorded 51% of local income from fishing, with fishermen earning on average \$92 USD per month from selling and/or bartering fish with traders. Approximately 800,000 kg of fish are estimated to be harvested per year between the two villages, with 30% of off-take consumed and 70% sold. As fishing is the primary livelihood for national park residents, the annual fishing ban from December to March proves an exceptionally challenging time of year, especially because these are also the months when farmers plant the majority of their crops and children need uniforms and materials for the start of the school year.

While both villages have primary schools, other social services are limited: the closest clinic is 12-15 km away and often staffed by technicians and volunteers as opposed to medical professionals. The laborious nature of visiting the clinics results in reliance on traditional healers, especially for treatment of sexually transmitted infections. Traditional interventions can be costly for residents, with some healers charging the equivalent of \$400 USD for consultations and remedies.

This data informs how we structure our social intervention and allows us to advise [Time + Tide King Lewanika](#) on local purchasing opportunities. In 2019 the lodge will begin procuring as much local produce and protein as possible from Sibemi and Munde, working with individuals and co-operatives, in order to complement our educational initiatives with direct economic support.

LOWER ZAMBEZI

Downstream from Victoria Falls and across the river from Mana Pools in Zimbabwe, the Lower Zambezi National Park stretches over 4,000 km², from the Chongwe River in the West to the Luangwa River in the East. For over twenty years Time + Tide Chongwe Camp has hosted guests on the banks of the Zambezi, exemplifying their conservation philosophy through low-impact infrastructure and activities. The closest residential area, the Chiawa Chiefdom, is situated adjacent to the national park with a population of approximately 8,000 people, 43% of whom are estimated to be under the age of 14. In 2018, the Time + Tide Foundation focused its support on environmental education, with an emphasis on conservation messaging through theatre.



CONSERVATION THEATRE

This year, the specific focus of the Conservation Theatre programme at Chitende Secondary School was to teach students and residents about the importance of safeguarding the Lower Zambezi ecosystem. Ninety-six percent of theatre students were able to correctly define the term 'conservation' by the end of 2018, an improvement from 70% at the beginning of the year. Under the leadership of Barefeet Theatre, the students performed two plays over the course of the year: *The School of Geniuses* and *The Land of the Mighty Haka*.

The latter was showcased at Rubatano Day, an educational and athletic event hosted by Conservation Lower Zambezi. The theme in 2018 was the importance of combating the illegal trade of pangolins, the most highly trafficked animal in the world. Through *The Land of the Mighty King Haka* (haka means pangolin in the local Goba language), the students highlighted the ecological importance of pangolins as soil caretakers and organic exterminators for their crops. Incredibly, a live pangolin confiscated by the Department of National Parks and Wildlife was relocated to the Lower Zambezi National Park during Rubatano Day. Before the release, the wildlife scouts showed the animal to the children at the event so they could observe first-hand the species around which the day was centred.

Benefits of Conservation Theatre



70%

Building confidence



67%

Acquiring theatre skills



61%

Learning about conservation



17%

Teamwork

ENVIRONMENTAL EDUCATION

In 2017, the Time + Tide Foundation sponsored environmental education across the whole of the Chiawa Chiefdom, implemented by Conservation Lower Zambezi. In 2018, we measured the conservation and ecological knowledge of students in Chiawa directly benefiting from this programme against control students. At Mugurumeno Primary School, the school located closest to the Lower Zambezi National Park and Time + Tide Chongwe Camp, we found that 100% of conservation club students were able to define conservation compared to only 60% of their non-conservation club peers; 90% of conservation students were able to give an example of a carnivore compared to 35% of control students; and 80% were able to define tourism, while only 65% of control students could explain the term. Additionally, 65% of students in the conservation club were able to specify actions that help to protect the environment compared to 40% of the control group, and 30% of conservation students cited the importance of teaching others about conservation, a sentiment that was completely lacking from their non-conservation club peers.

Impact of the Field-Based Education Centre on Conservation Students

Teamwork

"We learn to cooperate when working as a group, We learn to respect each other"



Academic Concentration

"When writing exams...keep calm, follow instructions, focus and manage your time"

Importance of Conservation

"We understand what would happen if we didn't conserve nature"



Increased Confidence

"We learn not to be afraid to try, and to have fun"

The South Luangwa National Park is the second largest of Zambia's parks and the most prominent wildlife destination in the country. The park occupies 9,050 km² of the mid-Luangwa Valley and is bounded by the Mchinga Escarpment on the western side and by the Luangwa River on the east. Six Chiefdoms border the national park, and the activities of the Foundation are focused primarily in the Kakumbi and Mnkhangya Chiefdoms, which are closest to the Time + Tide lodges. Like the Chiawa Chiefdom of the Lower Zambezi, nearly 50% of residents are estimated to be under the age of 14, resulting in average class ratios of 70-80 students per teacher. In both chiefdoms, the Foundation focuses on the academic advancement of particularly vulnerable children through sponsorships to boarding schools, developmental and social support to handicapped children and increasing both the self-esteem and English literacy levels of girls in primary school.

FIELD-BASED EDUCATION CENTRE

This year, we continued to support local school field trips to the Field-based Education Centre run by Chipembele Wildlife Education Trust. Over the second and third academic terms of 2018, 38 all day sessions were held at the Centre, providing environmental education to 760 students from the Kakumbi and Nsefu Chiefdoms, for a total of 228 hours of environmental education courses. The conservation theme in 2018 was "Conserving the Luangwa River," with a specific focus on lakes and rivers of Africa and riverine trees of the South Luangwa. Additional subjects taught included: food cycles in the South Luangwa, tourism, lakes and rivers of Africa, and the bushmeat trade.

HOME-BASED EDUCATION PROGRAMME

In 2018, the Home-based Education Programme grew to include 97 handicapped children and 73 volunteer caregivers across two chiefdoms in Mfuwe.

The volunteer caregivers received over 100 hours of specialised training in physiotherapy, the biological and environmental determinants of disabilities and the best way to structure individualised education plans. In May, we introduced an alternative health technique called body stress release, which is designed to unlock tension in the body. Body stress release practitioners visited 67 children in the programme over three weeks in May 2018 and then again in September 2018, generously donating 125 hours of their time. While body stress release is not a method of diagnosing or treating conditions, the technique offers a complementary healing approach, one that proved remarkably effective in providing relief to the disabled children of Mfuwe. During their second visit, the practitioners mentored Inonge Liboma, a newly recruited member of the Time + Tide Foundation team, whose role is to manage the Home-based Education Programme. After the mentorship, Inonge applied and was accepted to attend the Body Stress Release Academy in South Africa for their six-month training course in mid-2019.

The primary objective of the Home-based Education Programme is to prove to parents and members of the community that handicapped children are worth their investment. By FY21, our goal is to see 70% of the disabled children who have been involved in the programme for three consecutive years enter into formal primary schools. We know we are on track to achieve this impact since 77% of the children in our 2016 intake and 38% of our 2017 intake are already enrolled in primary school. In 2018, we began sponsoring disabled children to private primary school, with an initial group of 8 students attending nursery at Sellah Academy in the Kakumbi Chiefdom. This is the first time the school has accommodated students with handicaps and has now employed one of the volunteer caregivers as an assistant teacher in the nursery classroom. Early education in private school provides these children with the support structures they need to integrate into the government school system for Grade 1.

97 children enrolled in the programme

27% have a combination of physical and cognitive disabilities

25% have exclusively physical disabilities

38% have exclusively cognitive disabilities

10% have speech, sight and/or hearing impairments

72 volunteers across Mnkhanya and Kakumbi Chiefdoms

110 hours of specialised training received in 2018

95% retention rate of volunteers

92% of parents feel that their children's involvement in the programme is enabling them to developmentally progress



Before the programme

77% of volunteers attributed disabilities to witchcraft



After more than two years in the programme

92% of volunteer caregivers are able to cite the biological determinants of disabilities

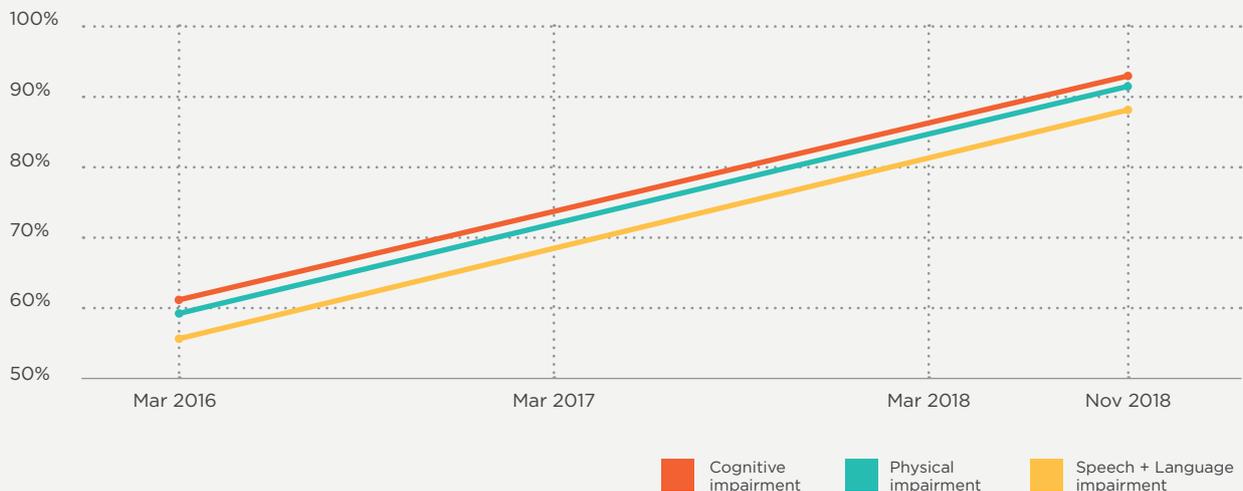
0% attribute witchcraft as a cause

2018 →

53% of home-based parents demonstrated knowledge about the biological determinants of disabilities compared to only 25% in 2016

The Development of Children Ages 3-8

100% indicates fully able to complete tasks





**EMMANUEL BANDA, 5 YEARS OLD
CONDITION: CEREBRAL PALSY**

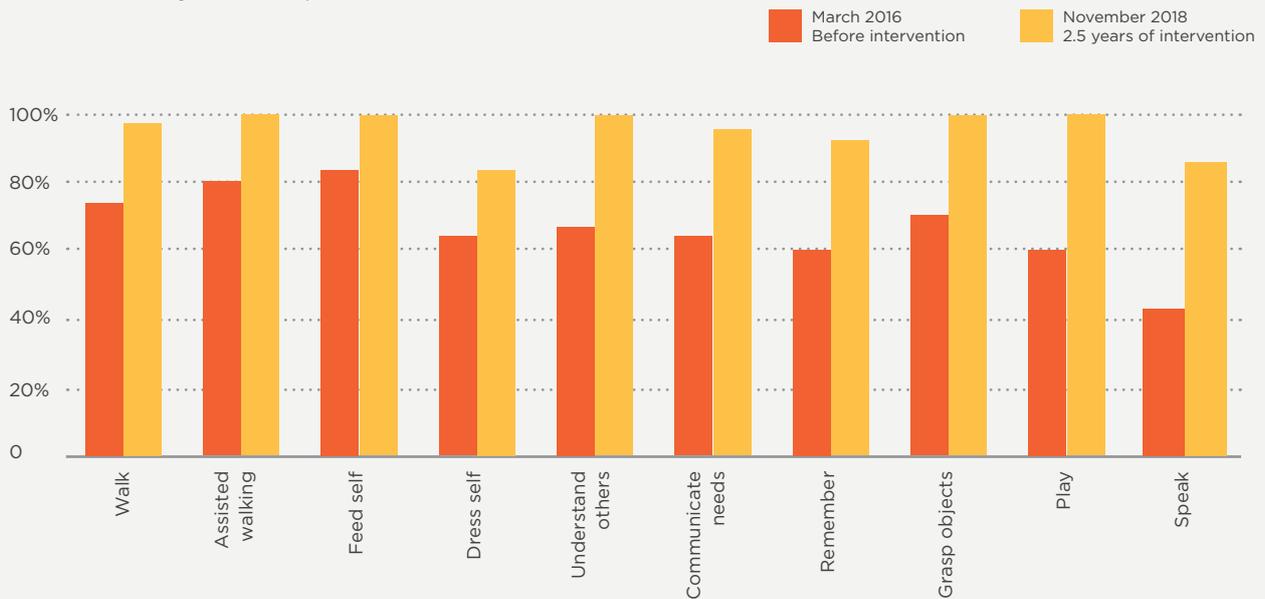
Prior to joining the home-based education programme, neighbours of Emmanuel said he would never be able to walk. Emmanuel enrolled in March 2016 and, after 2.5 years of home-based intervention, he is now walking and attending nursery school, much to the surprise of members of his community. Over the course of 31 months, Emmanuel has improved in 8 developmental areas. While his social skills are still behind those of his peers, in a quantitative disability screening he scored within normal range for his conduct at school, level of attention, interaction with others, and emotional maturity.

“At eight months, I noticed Emmanuel wasn’t making baby noises and I knew something was wrong. I didn’t know what to do or how to help him till we joined this programme and noticed a few things started to change. Emmanuel only started crawling, feeding himself, and communicating when he was in the programme, and he was enrolled in school last year. He looks livelier, he plays a lot and he even started walking. He is also doing very well in school.”

- Selina Zulu, Emmanuel’s Mother

Developmental Progress of Students Sponsored at Sellah Academy

100% indicates fully able to complete tasks



KAPANI SCHOOL PROJECT

In 2018, the Kapani School Project sponsored a total of 85 students, with 13 at the college/tertiary level and 72 primary and secondary school students. Additionally, 4 college students who finished their coursework in 2017 underwent official graduation ceremonies, all of them receiving their teaching diplomas by mid-2018. Of the 85 sponsored students, we had 52% females and 48% males – the first time in Kapani School Project history with more female students on sponsorship. Since one of our strategic objectives is to support vulnerable children

through education, we will actively recruit more female students in the future as well as students coming from the most remote chiefdoms in the South Luangwa. In late 2018, we approached one of the primary schools in Malama Chiefdom (the residential area that borders the southern portion of the South Luangwa National Park) to encourage them to apply for sponsorship. We were delighted to meet Zelipa Banda in this recruitment process, whose commitment to continuing her education is inspiring for all women and girls.

" I got pregnant at 14 years old when I was in Grade 8. My parents decided that I should marry the guy but after having two children he wanted to marry another woman so I left the marriage and went back to my parents' home. In 2016 I thought about my future and the future of my children, I knew I had to do something about my situation. In 2017 I went back to school to continue from Grade 8 but they told me to repeat because my exam number expired. So, I took myself back to Grade 6 and last year I sat down for my Grade 7 exam, and I was the highest in the whole school. I cannot believe that Kapani School Project is giving me a chance to go back to school by paying for my school fees at Katete Girls Boarding School. When I complete school, I want to be a nurse."

- Zelipa Banda, 23 years old



YOSEFE GIRLS CLUB

The objective of the Yosefe Girls Club is to foster the academic advancement of primary school girls and to increase their acceptance into reputable secondary schools. Additionally, through the club, we aim to instil a positive sense of self by aiding the girls in recognising their strengths, abilities and their values as young women. We achieve this by working with girls to improve their English language and literacy skills, creating consciousness about gender related issues, increasing their school retention and attendance rates, encouraging informed decisions and healthy living, and providing girls with a safe environment in which to express their opinions, feelings and ideas.

Academic Performance



In term three of 2018, the Grade 7 girls of the Yosefe Girls Club scored an average of **78%** on their end of year English exams. By comparison, in term one of 2018, the average end of term English mark was **66%**.



100% of the Grade 7 and the Grade 9 girls in the club who wrote their final exams at the end of 2018 passed to Grade 8 and 10 respectively.



On a gender perception scale (which numerically defines feelings of gender equality), the girls scored an average of **90%**, indicating that the girls view both genders as equal.

MERCY MBEWE, 13 YEARS OLD

Mercy joined the Girls Club upon its formation in 2015 and has continued to be an active and outstanding participant in all club activities. Of all the girls in the club, she scored the highest reading level in her English literacy test in 2018 and received a distinction on her final English assignment at Yosefe School. At the end of 2018, she rated herself as 100% self-confident, an improvement from 80% in 2017. Because of her excellent academic performance, Mercy was accepted to one of the top all girls boarding schools in the Eastern Province for secondary school.

"I have always wanted Mercy to do well in school and become something in the future, I personally dropped out of school after I got pregnant and I prayed that my daughter should not follow my footsteps. I am grateful that she joined Yosefe Girls Club; it helped her keep her morals right. She passed [her Grade 7 exam] very well. I know she would have never passed this well if she wasn't in the club."

- Eunice Nkhoma, Mercy's Mother



NOSY ANKAO

At 360 hectares, Nosy Ankao is the largest island within the protected Levens Archipelago, the marine portion of the greater Loky-Manambato Protected Area. The entire protected zone spans 250,000 hectares, of which 15,000 hectares are the designated marine portion. As an International Union for Conservation of Nature (IUCN) Category V Protected Area, both subsistence and commercial activities are allowed within Loky-Manambato with the goal of simultaneously maximising natural resource use and safeguarding biodiversity. Over 46% of income for residents in the archipelago and along the coast comes from fishing, with each village harvesting an estimated 3,000 - 4,000 kg of marine resources per month. Similar to Liuwa, local traders visit each village regularly to buy fish and re-sell in urban centres.

CROWNED LEMUR CONSERVATION

The environmental team devoted 2,600 hours to lemur monitoring on Nosy Ankao over the course of 2018. We had phenomenal success with three baby crowned lemurs born on the island in October 2018, coordinating their arrival perfectly with World Lemur Day. While the mothers were initially protective of the new-borns, by 2 months old they were clearly visible to the environmental team and guests at Time + Tide Miavana. Infant lemurs are vulnerable for the first year of their lives; however, we are cautiously optimistic that the three babies will thrive on the island, where they are safe from predators and will have ample food in the island's endemic forest.

Unfortunately, we also lost one adult male lemur towards the end of 2018 due to suspected fighting between him and the other translocated lemurs. Establishing additional groups on the island will assist with both genetic diversity and also decrease the chances of isolated individuals becoming targets for one family group.

We visited the lemurs' native forest of Bekaraoka and neighboring village of Amparihirano three times in 2018 to continue our reforestation programme, meet with the community rangers and speak to residents about what they've gained from this project. The team spent a total of 11 days in Amparihirano,

planting the nursery seedlings around Bekaraoka Forest and successfully potting 460 seedlings in the nursery for a total of 500 cashew trees ready for re-planting in early 2019.

Over the course of the year, the community rangers spent approximately 2,000 hours monitoring lemurs in Bekaraoka Forest. As part of our social commitment to residents, Dr. Julien Andriamampianina, a medical doctor from the town of Ampisikina, worked 48 days in Amparihirano, offering over 900 free medical consultations. Since the onset of the project in April 2017, 43% of interviewed residents have reported an increase in their ability to meet their monthly expenditure demands and residents reported an overall decrease in the use of slash and burn agriculture.



ECOLOGICAL RESEARCH AND MONITORING

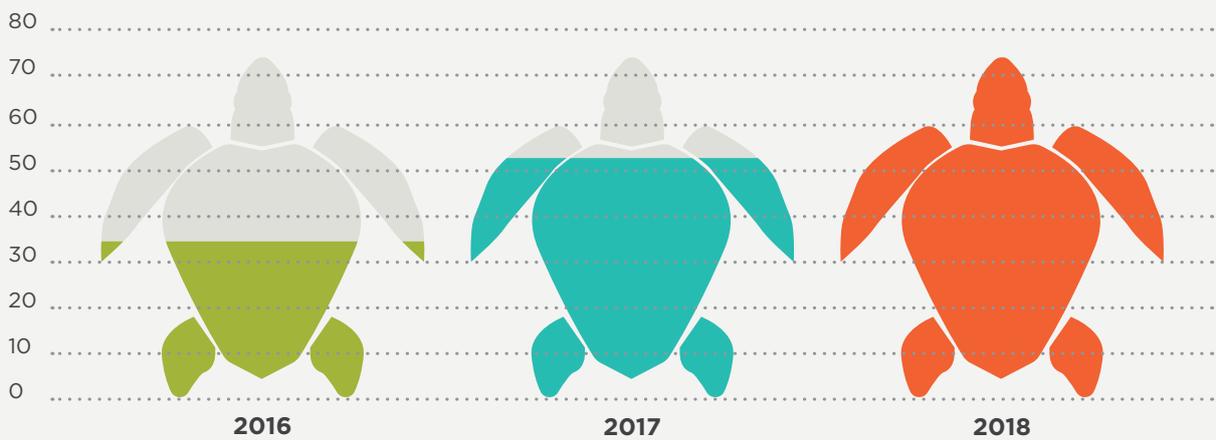
CORAL REEFS

Thanks to support from the [Critical Ecosystem Partnership Fund](#) and the [Tany Meva Foundation](#), in March 2018 we began a two-year project of educational outreach to fishing associations in the Loky-Manambato Protected Area and research into the biodiversity hotspots of the marine reserve. With the expertise of Professor Amélie Landy and Dr. Yann Fréjaville, we trained four students from the [University of Antsiranana](#) on how to effectively explain the rationale of conservation regulations to fishing association members and also to collect data on marine biodiversity and coral reef health. This project fosters technical training of young scientists from North-eastern Madagascar and implicitly involves them in site-based conservation actions. Over the year, the students collectively improved from 0% to 100% on their ability to name the main indicators of coral reef health, from 0% to 100% on their ability to estimate the level of fishing pressure on coral reefs and from 33% to 100% on their ability to name the scientific methods used to study marine ecosystems.

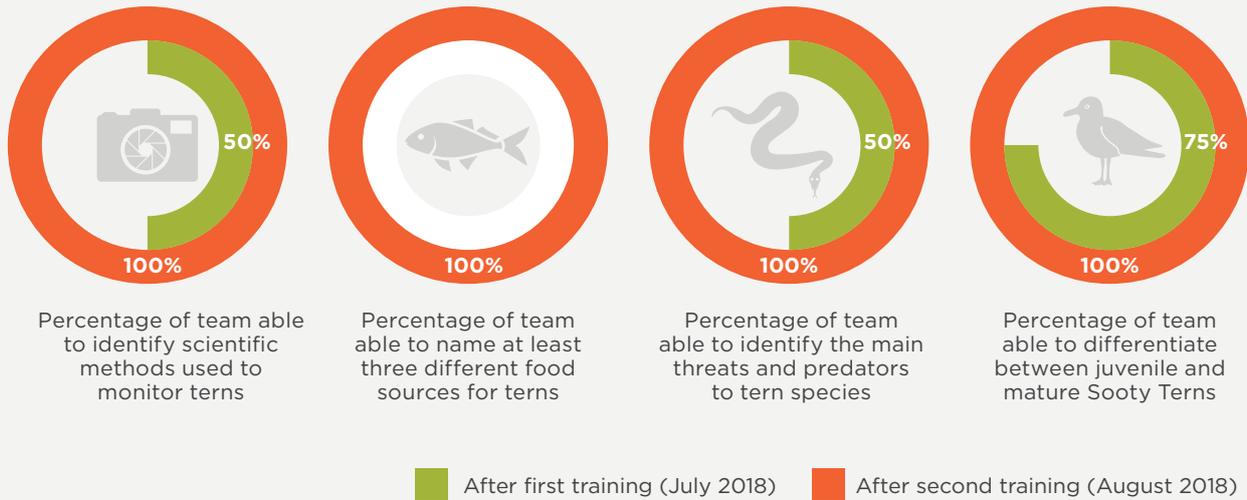
TURTLES

The environmental team on Nosy Ankao spent 2,340 hours monitoring nesting sea turtles on the island, recording a total of 73 sightings, 24 nests and 2,490 turtle hatchlings. The number of recorded sightings has steadily increased over the past three years, which reflects positively on the conservation management of the island. During their morning monitoring, the team also collects waste that washes up on the shores of the island, with a total of 2,198 kilograms collected and properly disposed of between February and October 2018. Hawksbill turtles (*Eretmochelys imbricata*) are one of the species that nest annually on Nosy Ankao, with the height of their nesting season from December to February. This critically endangered species is poached frequently for its meat, shell and eggs. We consistently collect and submit our data to the [Kélonia](#) research centre in the country of Réunion. The information is then added to the regional sea turtle database and assists with monitoring the status of this species in the Western Indian Ocean.

Number of Turtles Recorded on Nosy Ankao



Improved Knowledge of Scientific Monitoring and Tern Behaviour



TERNS

This year, a team of scientists from Réunion Island, Antananarivo and the [University of Antsiranana](#) introduced tern monitoring on the island of Nosy Manampaho. Over a total of 15 days in the classroom and field, the environmental team learned how to monitor tern colonies at the incubation stage of the breeding season. The most abundant breeding species recorded on Nosy Manampaho was the Sooty Tern (*Onychoprion fuscatus*), with smaller populations of the Greater Crested Tern (*Thalasseus bergii*) and the Roseate Tern (*Sterna dougalli*). Two additional species, the Brown Noddy (*Anous stolidus*) and the Lesser Noddy (*Anous tenuirostris*), were observed roosting on the island. The team used GPS tracking to estimate the area of the colonies, sampled small portions of the colonies to calculate nest densities and estimated total population size by extrapolation, recording over 48,600 breeding pairs of sooty terns. By comparison, in 2008 when tern eggs were legally harvested, ornithologists recorded 21,000 pairs using the same methods.

Over the second training period in August, the team learned how to estimate the productivity of a colony based on chick surveys, how to estimate the age of the chicks by measurements and how to calculate hatching dates and laying dates, which indicate the breeding phenology of the different species. A total of 101 adult sooty terns were banded along with 140 chicks, and an additional 81 chicks were measured. Each member of the environmental team measured at least 20 birds. Banding and recovery data of banded birds provide valuable information on individual survival, individual breeding frequency and the age at first breeding. These parameters are essential for population dynamics monitoring. An accurate population estimate allows us to track the demographic response to future conservation actions (e.g., rat removal or egg harvesting).



SPONGES

In mid-December, we invited sponge researcher Ann-Kristin Becker to evaluate the species of sponge that live on the coral reefs around Nosy Ankao and in the protected marine zone. Over her ten-day visit, Ann's objective was to collect sponge specimens and process them in order to determine if any species are commercially viable as bath sponges. In Zanzibar and Micronesia, farming sea sponges to be used as natural bath sponges has become an alternative livelihood industry that takes pressure off local fishing. Natural bath sponges are in high demand internationally as they are renewable natural resources and an eco-alternative to synthetic sponges or loofahs. In the process of harvesting live sponges, divers ensure that the bases of the sponges remain intact so the sponges can re-grow to their original forms. In 2019, we will continue to experiment with the collected sponges to see if we can identify an ideal species for sponge farming.

HEALTH LITERACY

In April and October 2018, peer educators from YES-TaFiTa returned to Nosy Ankao for their fourth and fifth health outreach programmes. For over four weeks, the TaFiTa team worked with members of the health committee on improving their public speaking and their overall approach to community sensitisation, providing 42 hours of training. The key topics covered for local outreach were sexually transmitted diseases and their symptoms, family planning, safe motherhood, nutrition and balanced diets, and hygiene. The health committee members went on to organise five community awareness events independently over the course of the year.

Two TaFiTa educators came back in December 2018 in order to evaluate the French literacy and self-esteem rates of students on Nosy Ankao. They found that girls in class 8 (ages 9 - 13) scored an average of 61% on the self-esteem scale and girls in class 7 (ages 11 - 14) scored an average of 58%. The same female students scored 0% on their French literacy assessment tests. Over the next three years, we aim to see 50% of girls qualify to secondary school. In order to achieve this, we must ensure that girls are literate in French (the official language of all Madagascar government exams) and are self-confident in both their personal and academic capabilities. Now that we know our baseline for girls' literacy and self-esteem levels on Nosy Ankao, we will partner closely with TaFiTa in 2019 to support female students on the island and help them advance beyond primary school.



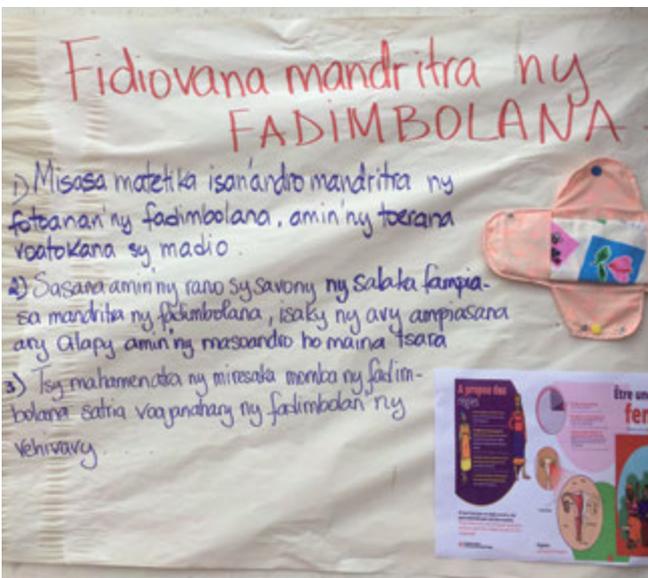
SOCIO-ECONOMIC RESEARCH

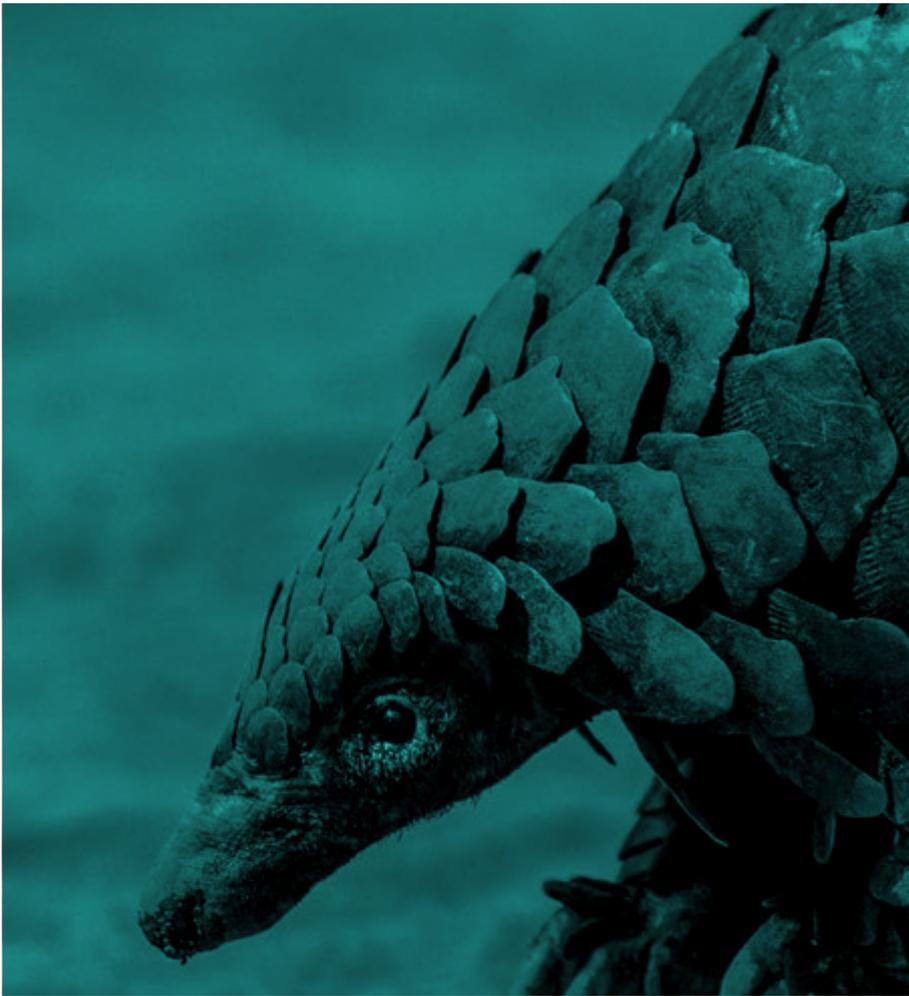
Over the months of February and March 2018, six students from the University of Antsirananana were placed in villages along the coast of mainland Madagascar, all of them within the protected archipelago. During this time, the students became immersed into village life and collected data on economic activities, social services, daily routines, and the histories and perspectives of individual residents.

The students recorded 46% of local income from fishing, with fishermen earning on average \$215 USD per month from selling fish to traders. Approximately 214,000 kg of fish are harvested per year between five of the villages, with 10% of off-take consumed and 90% sold. Additionally, fishermen catch significant amounts of shrimp, octopus, crabs, lobster, and squid, with approximately 11 kg of other marine species caught per fisherman per month together with 123 kg of fish.

Residents reported that 70% of their monthly expenditures per household are on food, with a further 20% on education, leaving very little for other needs. Three government primary schools exist between the six villages and the closest healthcare facility is 30 km away. Consultations with the doctor or nurses at the healthcare facility cost the equivalent of \$6.5 USD, which proves prohibitively expensive for many residents.

We used the same methodology in the coastal villages near Nosy Ankao as we did in Liuwa Plain, with the objective of gathering data that is both useful for the Foundation's interventions as well as for Time + Tide Miavana. In December 2018, we employed a Community Liaison Officer on Nosy Ankao whose primary role is to build community relationships on the mainland, facilitate local procurement for Time + Tide Miavana and integrate the Foundation's three year strategic educational plan in the primary schools and surrounding villages.



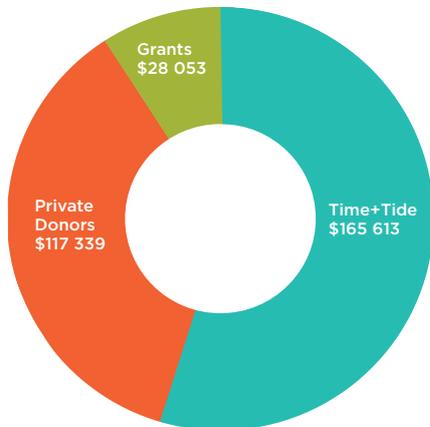




2018 Financial Overview

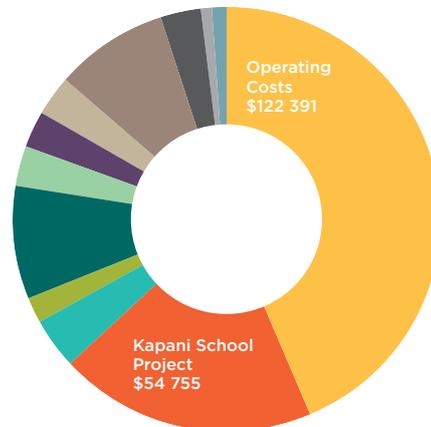


Income



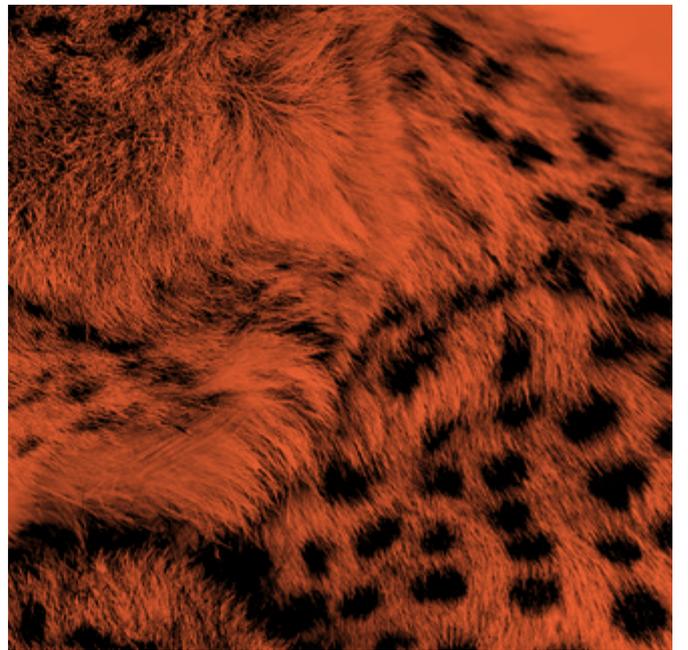
Grants	\$	28,053
Private Donors	\$	117,339
Time + Tide	\$	165,613
Total Income	\$	311,005

Expenditure



Conservation Theatre	\$	7,151
Crowned Lemur Conservation	\$	4,734
Ecological Research and Monitoring	\$	8,906
Field-based Education Centre	\$	10,000
Health Literacy	\$	2,190
Home-based Education Programme	\$	24,046
Kapani School Project	\$	54,755
Munde Sponsorship Programme	\$	6,969
Operating Costs	\$	122,391
Sibemi Community School	\$	7,728
Socio-Economic Research	\$	20,995
Yosefe Girls Club	\$	3,383
Total Expenditure*	\$	273,248

* All figures in US Dollars and based on preliminary analysis. Audited accounts will be available upon request from September 2019





Funders + Partners

The Time + Tide properties generously support all operational costs for the Time + Tide Foundation, as well as numerous in-kind contributions at the respective lodges.

Funding for our projects is provided through private donations and grants, with 100% of raised funds allocated to our projects on the ground. We wish to thank the below companies, organisations and individuals for their commitment to conservation and sustainable resource use in these four remarkable protected areas.

TIME
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TIDE



MAJOR PRIVATE DONORS

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