

Year End Report 2020



Greetings from Sumba!

In 2020, the world faced a challenge on the scale of nothing we have seen in our lifetimes. Businesses and governments scrambled to adjust, and whole countries went on lockdown. Tourism, the backbone of Sumba's economy, shut down, and many of those who had jobs either lost them or were placed on reduced wages. In the midst of all of the pandemic-related struggles, people in Sumba still needed access to malaria diagnosis and treatment. The severely malnourished children still urgently needed food to save them, and people still needed access to clean water, one of the essential tools for protecting themselves and their families from the virus.

In March 2020, The Sumba Foundation, together with Nihi Sumba, created the *Sumba Crisis Relief Fund*. Our goal was to provide aid to families affected by the economic impact, to get medical and protective supplies to hospitals and clinics, and to keep our essential programs running. We had a fundraising goal of \$200,000, which was generously donated by our supporters, most of whom have been visiting Nihiwatu for more than 15 years. Their donations were matched by the owner of Nihi Sumba, Chris Burch, and within five months we raised more than \$400,000 to support our island wide COVID relief efforts.

Despite the setbacks for the year, The Sumba Foundation focused its efforts and was able to accomplish a great deal. We opened two new clinics in the Northwest corner of the island, we started a COVID testing lab in partnership with Oxford University, we distributed medical supplies to government clinics and hospitals, and we supplied tens of thousands of Sumbanese with better access to water, health, nutrition, and education programs.

Contained in this report are the details of those efforts, all of which have only been possible through the generous support and dedication of our donors. I thank all of you who helped us help the people of Sumba!

Thank you,

Claude Graves
Creator/Co-Founder
The Sumba Foundation

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THE SUMBA CRISIS RELIEF FUND



The Sumba Foundation, in partnership with Nihi Sumba, set up the *Sumba Crisis Relief Fund* in April of 2020. The goal of the fund was to help our local community, already struggling with the adverse effects of extreme poverty, prepare and cope with the coming challenges of a global pandemic. The support we received from donors across the globe helped us distribute food to those in need, protect frontline workers and the community, provide scholarships for students, and continue our core services.

Sumba Crisis Relief Fund Highlights

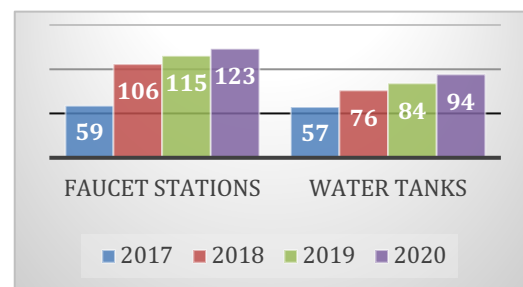
- \$401,429 raised from 200 different donors.
- 6,200 food packets distributed - including 156 tons of rice, and 8 tons of dried fish – enough food to provide 500,000 meals for families in need.
- 4,500 medical masks (N95) distributed to clinics and hospitals
- 3,000 cloth masks distributed to members of the community
- 300 face shields and 300 single use aprons donated to local clinics and hospitals
- 13 hand washing stations constructed and supplied with antibacterial soap
- 115 malnourished children received direct food support for the year
- 38 university students received scholarship assistance
- Maintained current water systems for 30,000+ people

WATER PROJECTS



With the whole world focused on improving hygiene standards and handwashing in 2020, the Sumba Foundation Water team pushed forward with its commitment to provide clean, potable water for the local community. The water program, which was one of the foundation's first project areas, has built wells and water systems since 2001 and over the years has provided improved access to water for 30,000+ people in two subdistricts of the island of Sumba. While the emphasis on handwashing this year has helped improve overall hygiene standards, it has also highlighted the lack of access to running water in many homes and public spaces here in Sumba.

In 2020, the team focused on working together with local government water committees to combine resources and technical knowledge for expanded reach and impact. Despite all of the setbacks of the year, we were able to finish 2 new projects and help 3 communities with material support to construct new wells. Through these projects, we increased the number of people with improved access to water by more than 2000 people.



Within the last five years alone, the water project team has renovated, maintained, and/or installed a total of 94 fiber water tanks and 123 water faucet stations bringing water to approximately 9,000 people in nearly 900 households across 87 villages.

As with many of our programs, the success of the program is inseparable from the active participation of the community in the implementation of activities and support from the water project and foundation management team. Community participation aims to strengthen the sense of belonging and responsibility for the program and ensure the clean water program's safety and sustainability at each program location.

Near the end of the first quarter, when lockdown began and travel began to shut down, the team focused our efforts on creating hand washing stations for COVID relief, maintaining existing clean water systems, and moving forward with planned handovers to local government water committees.

COVID-19 Handwashing Stations

In an early effort to prevent the spread of COVID-19, the local government set up roadblocks at major intersections and required all who passed to stop and wash their hands. The Sumba Foundation assisted this effort by providing handwashing stations, which consisted of a 650L tank, faucet, and sink basin, and offered antibacterial soap at these checkpoints.

The foundation placed 13 stations throughout our community, including locations at roadblocks, The Sumba Foundation clinics, and local markets. Through this initiative, which ran for months, we were able to help thousands of Sumbanese have better access to clean water and protect themselves during the pandemic. Over time as the government relaxed the local shutdown and allowed people to move more freely without requiring posts and checkpoints along the roads, these stations have been relocated to schools and other public spaces where they can still be used to help improve hygiene conditions.



The Bodohulla Project



In October 2020, we finished one of our largest water projects ever in the Bodohulla village area of West Sumba. The project was a collaboration between the Bodohulla Village Government and The Sumba Foundation, with each sharing cost and labor. The finished project currently distributes water for more than 1350 people from 79 households and 3 shared public areas: Bodohulla Middle School, Subaka Elementary School, and the Government Office building at Bodohulla. It includes a renovated natural spring, 10,600L capacity reservoir, 12 faucet station, 4 water stations, and 10km pipe network

Maratang Wawi

The Maratang Wawi project, which finished in Sept 2020, is another example of partnership and cost-sharing with the local government to improve clean water access for a collection of the small villages surrounding the Nihi Sumba property. The project included adding a submersible pump to an existing well, 2km of piping network, and 7 faucet stations distributing water to distribute water to 30 homes and helping nearly 300 people. The local community helped us by sharing in the labor efforts and contributing each month towards the cost of the electricity necessary to run the pump.



Handing Over Projects to Local Government



A key element to our program's sustainability is our ability to ensure the long-term maintenance and care of the water systems we put into place. This is done much more effectively if we partner together and share the responsibility with the local government and community. In 2020, one of our main goals for the water team was to renovate and handover existing projects officially to local governments that can use allocated funds to keep the projects maintained. During the year, we handed over 4 projects: Bodohulla, Maratang Wawi, BaliLoku Elementary and Middle School, and Wanukaka High School. Each of these handovers included a signed agreement dividing up future responsibilities of both parties to ensure the smooth delivery of clean water for the community.

HEALTH PROJECTS



Health Program Overview

The year 2020 has been the most productive year for The Sumba Foundation Health program to date. We diagnosed and treated more than 43,000 patients, including 5,000+ malaria cases, and saved many lives in the process. Even with the Covid-19 pandemic raging, we managed to open two new malaria clinics in the most remote part of Sumba and managed to keep all of our clinics open throughout this challenging period. We diagnosed and assisted the many patients through our various health programs, including 6 Malaria/Health Clinics, Village Malaria screenings, Sumba Eye program, Maternal Health program, Low Smoke Burner program, and our Tele-Dermatology program. We also started two research projects on Covid-19 jointly with Oxford University. One project is establishing the first Covid-19 diagnosis laboratory on Sumba, as the island so far has had no PCR capacity. The second project is studying the impact of Covid-19 on Health care workers and its effects on the private sector, including tourism. We have further distributed malaria consumables to the District Health Offices and thousands of washable facemasks to the communities. 2021 is lining up to become another fantastic year for Health Improvements on Sumba.

- Dr. Claus Bogh

Malaria/Health Clinic Developments and Impact

In 2020 we opened two new Malaria/Health Clinics in the extremely poor and remote area of Sumba called Kodi Belagar. This is an area known for its high disease burden, severe malnutrition, and high level of poverty; therefore, this is the most obvious area of expansion of our many health care programs.

Since the inception of The Sumba Foundation, our core service area has been focused on the areas closest to our base around Nihiwatu on the southern coast of West Sumba. Over the past two decades, this area has seen broad improvements in its socioeconomic, general health, and education levels. The malaria prevalence in the Hobawawi, Rua, and Lamboya areas has been reduced by around 95% and continues to decline. Government health care facilities have expanded



into this area, further improving the general access to Health care in the Nihiwatu area. We are extremely happy about these developments, and in April, we decided to close the Rajaka and Rua clinics to focus our healthcare team and its resources on new areas in need. The Rua Clinic structure has since become a *Sumba Foundation Learning Center*, and the Rajaka Clinic Structure is scheduled to become a community library in 2021.

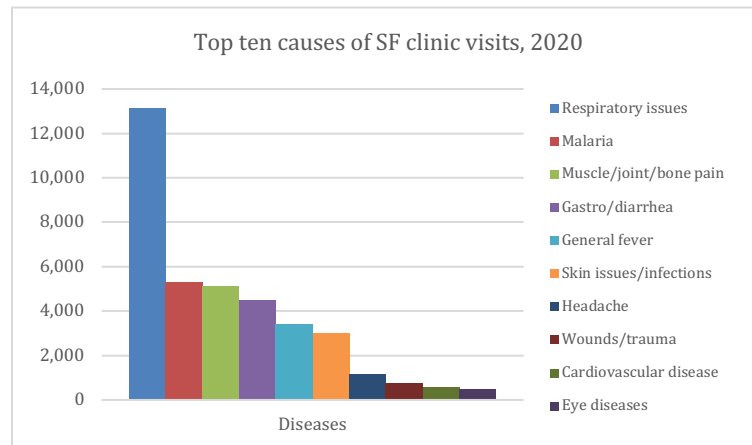
Over the past 12 years, Dr. Bogh has worked on malaria and mosquito research with the Eijkman Institute and Bill and Melinda Gates Foundation in the Kodi Belagar area in the neighboring district of Southwest Sumba. We know from this research that this area has the highest malaria incidence on the island, and the health infrastructure is extremely limited. Because of our long term goal of eradication malaria from Sumba, we branched out to this area to provide much needed malaria control and health services. The site is about 50km from our base, but due to poor road quality, most would have to make a detour of 120km on a 2.5-hour car/motorbike ride to reach the area. In 2020 we opened two new Malaria/Health Clinics in Kodi Belagar, jointly covering a population of around 50,000 people. We opened the Waipakolo Clinic on 10th January and the Karang Indah clinic on 8th December 2020.

Patient Numbers and Diseases Treated at Our Clinics

The two new clinics have proven to be highly successful. The year 2020 saw a more than 40% increase in the total number of patients compared to 2019, primarily due to the large healthcare demand in the earliest opened clinic in Kodi. It is abundantly clear that this area needs assistance at many levels, not just in health care but from other Sumba Foundation programs, such as our potable water program, malnutrition and education. We look forward to expanding our reach in this area over the coming years. Below are the total patient numbers and malaria cases treated at all our clinics in 2020.

| Clinic | Hobawawi | Lamboya | Rajaka | Rua | Waipakolo | Karang Indah | 2020 Total |
|----------------|----------|---------|--------|-----|-----------|--------------|------------|
| Patient visits | 8,442 | 9,651 | 1,003 | 544 | 17,173 | 566 | 37,379 |
| Malaria | 798 | 1,444 | 32 | 42 | 2,909 | 59 | 5,284 |

The leading cause of clinic visits in 2020 was respiratory issues, of which upper respiratory tract infections still made up the bulk. Upper respiratory tract infections are, for the most parts, harmless and self-limiting, but most Sumbanese do not understand the self-limiting concept of the disease and lack the resources/pharmacies to get over-the-counter medications to alleviate some of the symptoms, thus a lot of times, the issue mandates a trip to a clinic. Malaria is the dominant severe disease seen at our clinics, followed by general pain, gastrointestinal issues, general fever, skin issues, headaches, and wounds.



We always try to understand why certain diseases are prominent in our community and whether there are ways to better address some of the underlying causes of these issues. In 2018 we started our *Low Smoke Burner Program* as part of our efforts to combat respiratory diseases. In 2020, we saw the need to improve our diagnosis and treatment for skin diseases, which are consistently very prevalent throughout our areas and clinics. Together with a team of

dermatologists, we conducted a hands-on training session on diagnosis and management of common skin diseases for all our health care staff. Details of these new programs are described below.

Malaria cases treated at our clinics

We more than doubled the number of malaria cases treated at our clinics from 2,225 cases in 2019 to 5,284 cases in 2020. The increase was mainly caused by the massive number of malaria cases seen at the new clinic in Weipakolo/Kodi, which until now has not had access to good malaria diagnosis and treatment.

| Combined Clinics Malaria Summary Reports 2020 | | | | | | | |
|---|---------------|--------------|--------------|-----------|-----------|----------------|---------------|
| | Total Tested | PF | PV | PM | Mix PF PV | Total Positive | Positive rate |
| Hobawawi Clinic | 5,179 | 626 | 166 | 6 | 0 | 798 | 15% |
| Lamboya Clinic | 3,975 | 1,138 | 297 | 2 | 7 | 1,444 | 36% |
| Rajaka Clinic | 84 | 30 | 2 | 0 | 0 | 32 | 38% |
| Rua Clinic | 104 | 35 | 7 | 0 | 0 | 42 | 40% |
| Waipakolo Clinic | 10,012 | 1,868 | 916 | 63 | 62 | 2,909 | 29% |
| Karang Indah Clinic* | 320 | 22 | 20 | 16 | 1 | 59 | 18% |
| | | | | | | | |
| Total | 19,674 | 3,719 | 1,408 | 87 | 70 | 5,284 | 30% |
| *Opened on 8th December 2020 | | | | | | | |

In the Kodi area we found a total of 2,968 malaria cases throughout 2020, a positive rate of nearly 30% in those tested for displaying malaria symptoms (reported fever). The Lamboya area also showed a high incidence of 36% malaria among those tested. The Lamboya clinic covers a large area of 6 large villages (Desa), including Gaura sub-district at the border to Kodi Belagar in South West Sumba. The Gaura area has very poor health infrastructure; therefore locals travel up to 20km to get proper care at our Lamboya

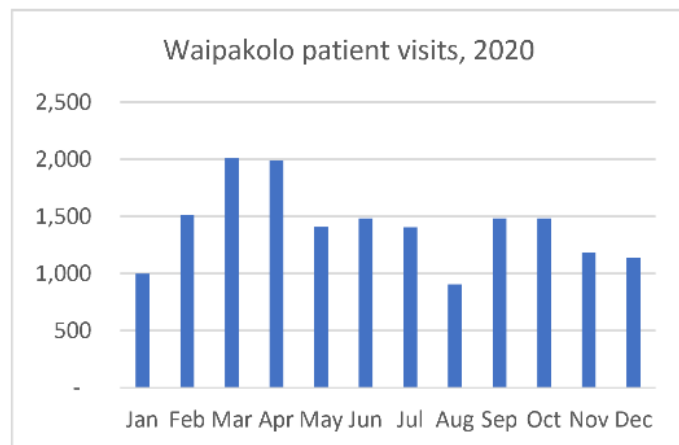
clinic. The area has a high malaria burden and contributes most of the malaria cases at the Lamboya clinic. The Karang Indah clinic, located halfway between Waipakolo clinic and the Gaura Government Health Center, is purposefully located here to help both the Gaura and Kodi Belagar sub-districts, thereby reducing the malaria burden in the two most malaria-endemic areas of Sumba.

Waipakolo Clinic

The Sumba Foundation was invited to open a new clinic in Kodi Balagar by the Regent of Southwest Sumba. Full development and multi-year operational funding has been generously provided by the US-based company *S.C. Johnson*. Like at all our health clinics, the malaria diagnosis and treatment is free of charge and the antimalarial medicine is supplied by the local government health office.



The clinic began operating on 10th January 2020. It was projected to cost USD \$26,000 for development with a projected annual running cost of around USD \$25,000 per year at about 600 patients per month. We have since had to significantly upgrade the staffing and supplies as patient numbers are approximately three times the original expectation. We often see more than 100 patients per day, with patients queuing from before sunrise. On average, the clinic now handles around 60 patients per day. In the first year of operation, the Waipakolo clinic treated a total of 17,173 patients (an all-time clinic record), 2,909 of whom were suffering from malaria. This is roughly the total sum of patients seen annually at our four original Sumba Foundation clinics. The clinic has definitely saved the lives of two children who suffered from cerebral malaria, but the thousands of treated malaria cases, plus the other severe ailments we treated have likely saved around 10-30 lives during 2020. The clinic operates from 8am to 4pm, six days a week, to accommodate the large number of patients. The Kodi area is rather rough, and that is why we only have male nurses stationed at these two clinics and one female MD. She is based at the Weipakolo Clinic and splits her time between the two Kodi area clinics.



Karang Indah Clinic (*All We Have Is Now Clinic*)

A German couple, Björn and Helena Keune visited Nihi Sumba Resort in January 2020 to experience the work of The Sumba Foundation. They visited the Waipakolo clinic on its second day of operation and were very impressed. They offered to fund the establishment and running cost of a new clinic in an area of need, and we jointly chose the Karang Indah area for this new Clinic. Bjoern and Helena returned to Germany, where they founded the Non-Profit organization: *All We Have Is Now Foundation*, to help Sumba in a more solid and long-term way. *All We Have Is Now Foundation* is registered as a Non-Profit in all of the European Union and may potentially serve as a vehicle for European donations to Sumba as soon as tax deductibility status has been achieved.

The Karang Indah Clinic is located near the border between Kodi Balagar in the Southwest Sumba District and Gaura in West Sumba District; both areas have very high malaria incidences and poor health infrastructure. The clinic is now serving both of these extremely poor areas, and we are sure that once the clinic's presence is well known, patients will come from a much larger surrounding area to get a solid diagnosis and care at our clinic.



The clinic was projected to cost USD \$52,000 for its development and first six months of operation, including procurement, health staff salaries, transportation, and consumables, etc. The clinic building was a government building lent to the foundation by the Regent of Southwest Sumba for free for five years, which we then renovated to include: a clinic area, laboratory plus living quarters complete with kitchen, bathrooms, running water, and solar panel power. In the future, we may develop a purpose-built clinic/infrastructure facility nearby that can serve both as a clinic and a logistic base for other Sumba Foundation projects in the Kodi Belagar and Gaura sub-districts



The Karang Indah clinic began operating on 8th December 2020, and that month alone saw 566 patients. Patient visits continue to rise in the early months of 2021 as locals from the immediate and neighboring areas discover the clinic. Now the clinic already averages around 1,000+ patients per month.

COVID-19 Impact on Our Outreach Programs

The health and safety of the community and our staff are always top priority. In April 2020, as COVID-19 began to arrive on the island, we had to temporarily pause our community outreach programs such as Village malaria screenings, Sumba Eye Care, and village pregnancy screenings to prevent acceleration of Covid transmission through the inevitable group gatherings when we do such screenings. We continue these programs at our clinics, including malaria diagnosis for patients, ultrasound screening and prenatal vitamin distribution, eye disease diagnosis, and eyeglasses distribution.

Malaria Control Program

Before the COVID-19 restrictions were implemented in April 2020, we were in the process of malaria screening and treatment for Watukarere village. Throughout the year, we have continued malaria screening at Nihi Sumba Resort, Haweri Resort, and our Sumba Foundation staff to make sure all people living in the Nihiwatu compound/area are safe from malaria. All of these groups are within our core intervention area, and the results reflect the years of malaria control by The Sumba Foundation, the Resorts, and the local government. Out of 4,507 tested, only 51 (1.13%) returned malaria positive

| Malaria Active Screening 2020 | | | | | |
|-------------------------------|--------------|---------------|-----------|-------------|-----------------|
| | Tested | P. falciparum | P. vivax | P. malariae | Total Positives |
| Desa Watu Karere | 458 | 8 | 4 | 0 | 12 |
| Nihi | 3,576 | 29 | 7 | 0 | 36 |
| Haweri | 82 | 1 | 1 | 0 | 2 |
| Sumba Foundation | 391 | 1 | 0 | 0 | 1 |
| TOTAL | 4,507 | 39 | 12 | 0 | 51 |
| Percentage tested | 61.99% | 0.87% | 0.27% | 0.00% | 1.13% |

Mama2Mama

2020 was our 7th year with our *Mama2Mama* program that is assisting pregnant women of Sumba. This year our midwife screened and gave prenatal vitamins through our five clinics to a total of 150 women across 106 villages in West and Southwest Sumba. Covid obviously severely limited our village outreach and we hope to return to normal operations during 2021.

We always try to train and maximize the potential of our staff. Before, we had one midwife and four nurses who are trained in pregnancy ultrasound. In early 2020 we sent Yovianus, a male nurse, and our medical doctor Jacklyn to the *Bumi Sehat Foundation* in Bali to receive pregnancy ultrasonography training by Dr. Sue Campbell Westerway from *The Australasian Society for Ultrasound in Medicine (ASUM)*. Both of them were very happy with the training they received, especially Yovianus, who will be stationed primarily in the Kodi clinic with one of our ultrasound units to assist with pregnant women in Kodi.



| Ultrasound screening, 2020 | |
|----------------------------|---------------|
| | Total Visited |
| Hobawawi Clinic | 34 |
| Lamboya Clinic | 74 |
| Rajaka Clinic | 11 |
| Rua Clinic | 7 |
| Waipakolo Clinic | 24 |
| Total | 150 |

The Sumba Eye Program

Over the past 13 years, we have held an annual eye screening and eye operation session with our dear friends from Australia and Makassar. Sadly, this year this was not possible due to the Covid pandemic, however we have done our best to keep the *Sumba Eye Program* operating at our clinics through 2020. Again, because of COVID-19, it was not possible to do the

usual large joint screenings at village level or the announcements for large gatherings of patients at our clinic. nevertheless, our local eye nurses continue to provide eye care, cataract and pterygium screening, and eyeglass distribution at all our clinics. A couple of village outreaches were done early in the year before COVID-19 cases on the island began to appear; details are in the table. One eyecare nurse was stationed in the Waipakolo clinic starting around mid-year, thereby dramatically increasing the number of patients screened and eyeglasses distributed, proving there is a large demand for eye care in the Kodi area. We plan to expand the outreach to the Karang Indah clinic as soon as another male nurse has been trained in eye care and can be stationed here

| Eye Care Program Summary Report 2020 | | | | | |
|--------------------------------------|----------------|------------------------|-----------|-----------|----------|
| Location | Total Screened | Eyeglasses distributed | Cataract | Pterygium | Scar |
| Hobawawi clinic | 243 | 222 | 14 | 6 | 1 |
| Lamboya clinic | 71 | 60 | 9 | 1 | 0 |
| Waipakolo clinic | 483 | 378 | 54 | 4 | 0 |
| Wanokaka Outreach | 22 | 18 | 1 | 1 | 1 |
| Anakalang Outreach | 18 | 11 | 1 | 1 | 0 |
| Total screened | 837 | 689 | 79 | 13 | 2 |

Malaria Training Center

The Sumba Foundation Malaria Training Center managed to run two malaria certification classes before we had to close the school because of Covid. In January 2020, our nurses gave an introductory class on malaria microscopy to the nursing school in East Sumba. The class was attended by 94 third year nursing students and 25 university staff as part of our effort to raise awareness and knowledge on this topic to frontline health personnel. The first full certification program was in March 2020 for a group of nurses and laboratory technicians from government health facilities sent by the local health office of West Sumba. The second certification program was in August 2020 and was a re-certification of the foundation's own microscopists. All Sumba Foundation Malaria microscopists must pass at WHO Expert level to qualify to do malaria diagnosis at our clinics.



| MTC Classes 2020 | | | | | | |
|-----------------------|----------|-----------|------------|------------|-------------|----------------|
| Program | Batches | Results | | | | Total Students |
| | | Expert | National A | National B | In Training | |
| Full malaria program | 1 | 4 | 3 | 4 | 0 | 11 |
| Short malaria program | 1 | 12 | 1 | 3 | 0 | 16 |
| Total | 2 | 16 | 4 | 7 | 0 | 27 |

The Low Smoke Burner Project

Our *Low Smoke Burner Project* was started in 2018. Since then we have procured 550 low smoke burners from a factory in Sumatra and we have surveyed villages in our core area to determine what villages have traditional houses and wood fired kitchen facilities. These villages were split into two groups, one to which the burners were distributed, the other as control group.



The first stove distribution and data taking in the form of questionnaires, spirometry tests, and cardboard disks hung inside the village houses, were done from October 2019 to March 2020. We evaluated each of the villages with the same method every three months in both of the intervention and control groups for one year, providing us with five sets of data for each house in the program. The last villages to be evaluated on the 1-year mark will be completed by March 2021.



Apart from having lower smoke emissions, the villagers found that the stoves cook faster due to them trapping heat, and they consume far less firewood. Since most Sumbanese homes are made of bamboo, wood, and grass roofs, the stoves also protect against house fires by containing sparks from the cooking fires. Throughout the year our health team has met enthusiastic villagers asking whether the stoves would be distributed to other villages and areas of the island.

In early 2021 we will wrap up the data we have from all participating villages we evaluated and then distribute the remaining stoves to control villages which have passed the 12-month trial period. By February 2021, all remaining stoves will have been distributed to the control villages. This pilot project has been a huge success and extremely appreciated by the families who received the stoves. Provided we receive funding, we now plan on ordering another 1,000+ stoves to allow us to expand this project to more villages throughout the island.

| Low Smoke Burner Summary 2020 | | | |
|--------------------------------|-------|---------|------|
| | House | Kampung | Desa |
| Intervention group | 228 | 18 | 3 |
| Control group | 224 | 13 | 3 |
| Stoves distributed per Feb '21 | 412 | | |

Dermatology Training

Skin issues have consistently been one of the most common problems seen at our clinics. In order to give better healthcare service, The Sumba Foundation collaborated with our dermatology colleagues from *Eijkman Oxford Clinical Research Unit (EOCRU)* and the *Indonesian Dermatovenereologists Association (PERDOSKI)*, supported by an *International League of*



Dermatological Societies (ILDS) DermLink Grant, to bring a four-day skin disease training course for our medical doctors and nurses.

The training was held from 3rd to 6th October 2020, and it was provided by: Dr. Marlous Grijzen (dermatologist at University of Oxford unit in Jakarta), by Prof. Hardyanto Soebono (dermatologist at University of Gadjah Mada in Yogyakarta) and Dr. Evivana Sri Sundari (dermatologist at Siloam Hospital in Kupang, Timor). All of our Sumba Foundation health care workers participated in the training, as well as two general physicians from nearby government primary health care centers. The first two days was theoretical training, while the third and fourth days were clinical bed-side teaching at Hobawawi and Waipakolo clinics. During the two days bedside teaching, the team saw 135 patients with skin issues.



After the workshop, we launched a Teledermatology WhatsApp group for the nurses to be able to consult and hence update their knowledge on real dermatology cases seen in the clinics. In the first three months of its launching, 85 cases have been shared showing a variety of cases, including skin infections, parasitic infestations, dermatitis, and leprosy. The Teledermatology consulting has proven to be a very effective way of getting expert advice to our Sumba Foundation clinics nurses and MDs to further improve the skin care at our clinics.

| Dermatology Training, Oct 2020 | |
|--------------------------------|-----|
| Attended HCW | 20 |
| Patients seen | 135 |
| Clinics | 2 |

| Teledermatology Group Statistics | |
|----------------------------------|----|
| Cases shared | 85 |
| Leprosy cases | 7 |

Leprosy in Sumba

Leprosy is generally considered to be a very rare disease in Sumba, but during the skin disease training and shared Teledermatology screenings, the number of Leprosy cases we found have been unexpectedly high. Within the first five months of screening, we have diagnosed seven classical leprosy cases in our clinic's coverage areas. The high case number is likely due to low expertise in diagnosing leprosy among health care workers in Sumba. Even for the cases that we have found, it has proven to be an extremely bureaucratic procedure to get leprosy laboratory diagnosis and treatment for these patients at the Government Clinics. We therefore plan to do a small joint *Leprosy Surveillance and Research Project* with *Oxford University* and to establish proper screening and treatment in our coverage areas. We also plan to send two nurses for leprosy laboratory training at UGM University in Yogyakarta in early 2021. This will further strengthen our diagnostic skills, including clinical examination and executing leprosy slit skin smears and microscopy diagnosis in preparation for our future programs against this debilitating disease.



COVID-19 Studies with Oxford University

The Indonesian Ministry of Health recorded the first confirmed positive case of COVID-19 in the nation in early March of 2020. In early 2020 Sumba had no PCR capacity and needed more than 30 days to get results on samples sent to Kupang for COVID-19 RT-PCR analysis.

The province laboratory was soon overloaded, and districts sent very few samples as the lag time made the result irrelevant. Because of this desperate situation Dr. Bogh contacted his colleagues at Oxford University's research center in Jakarta (the *Eijkman-Oxford Clinical Research Unit, EOCRU*) and Universities of Indonesia to develop studies on fast and cost effective alternative COVID-19 diagnostics to facilitate direct access to Covid diagnosis in Sumba. This joint collaboration has to far developed into the two Covid-19 research projects summarized below.

Validation of SARS-CoV-2 diagnosis with Gene Xpert platform for remote sites in Eastern Indonesia (SCOVEX)

The SCOVEX study aims to leverage a laboratory technique called: Loop-mediated isothermal amplification (*RT-LAMP*) as a viable alternative to develop the nearly non-existent COVID-19 diagnostic services in Sumba. LAMP possesses some fundamental advantages to RT-PCR, such as the need to procure far less sophisticated laboratory equipment, less processing time and potentially a larger diagnostic capacity, while maintaining similar sensitivity and specificity. The study also aims to validate if saliva dried on filter paper can be used for accurate Covid-19 diagnosis in both fresh and stored specimens. This diagnostic platform could greatly simplify sample collection, logistics and diagnostic capacity in Sumba. The study envisions greatly expanded access to COVID-19 diagnosis in Sumba and all of Eastern Indonesia. So far, the study has proven that the LAMP technique works as planned and is nearly as sensitive and specific as RT-PCR, and is technically far easier to develop and use. The project has tested hundreds of patients and around 40% of the tested patients have come up positive, and the RT-PCR conducted on the same samples in Jakarta have confirmed the results of the field-based LAMP technique. The project will end on 31st May and will be published in International journals and the technique is already in use at district level in South West Sumba.



COVID-19 Social Science and Public Engagement Action Research in Vietnam, Indonesia and Nepal (SPEAR):

The SPEAR project aims to explore the experiences and impacts of COVID-19 for healthcare workers and vulnerable communities, including identifying misinformation about the disease in the community. The project focuses in three countries, namely Vietnam, Nepal, and Indonesia to look for differences and comparable problems and factors in dealing with Covid-19 in the community. In each country hundreds of interviews and focus group discussions will be conducted to dig into the broader impact of Covid-19. Outcomes of the SPEAR project will be used to design an



education program for media and information literacy, and most importantly summarize recommendations for COVID-19 related policies in the three countries, to better help governments and communities deal with this and future pandemics. The project started in October 2020 and has a duration of 12 months with likely extension.

Health Program Plans for 2021

Year 2021 is lining up to be another great year for our Health Programs and a number of key projects are already lined up for project start in 2021.

Wanokaka Clinic and Learning Center

We have secured funding to open another Malaria/Health Clinic in the Wanokaka valley, 20 km east of our original program area at Nihiwatu. The Clinic will be a joint development where we will have a *Computer and English Learning Center* next to the main clinic to further strengthen the educational level of the area. The area has a population of around 3,000 people and the joint clinic and learning center will be a huge improvement for the area. The combined project is generously funded by Salman Behbehani.



Malaria Research

We will start at least two new research projects with *Oxford University and UGM University*. The first project will start in May 2021 and will aim to describe the effects of Ivermectin injection of livestock on the Kodi area to help reduce Anopheles Mosquito density and thereby reduce the risk of malaria transmission in the area.

Leprosy Research and Control

The second joint *Oxford University – Sumba Foundation Research Project* will focus on developing a proper diagnostics, surveillance and treatment program for Leprosy in Sumba, and it will focus on the larger coverage area for all our Foundation clinics. This debilitating disease should be given no space in Sumba and we need to get rid of it as soon as possible.

Return of field-based surveillance

All our Health Program team members have now been vaccinated against Covid-19 and general vaccination will be rolled out on Sumba during 2021. We hope to restart all our field based intervention and surveillance programs in the second half of 2021.

NUTRITION PROJECTS



Beyond improved access to water and quality health care in our main coverage areas, The Sumba Foundation also has been working since 2008 to address the problem of childhood malnutrition that many families in our community face. It is estimated that nearly half of all the children in Sumba are malnourished, and we have found that up to 70% of the children in some village areas are underweight for their age. Malnutrition is associated with increased illness and death, reduced educational achievements, productivity, and economic capacity. It stems from a combination of factors, including disease, lack of understanding about proper nutrition, and a lack of access to nutrient-rich foods.

The Sumba Foundation has two main projects that focus on childhood malnutrition. The School Lunch Program provides healthy, nutritious protein-rich meals for students in surrounding primary schools, and the Infant Nutrition Program offers direct food support to families with infants who are malnourished. In addition to our regular programs, in 2020, the team also distributed food to the local community as part of our COVID-19 relief efforts.

School Lunch Program

In the first quarter of 2020, we worked together with 9 Elementary Schools to provide a total of 2300+ students with 3 high-protein and nutritious meals per week. While the foundation eventually had to put this program on pause starting in the middle of March, we were able to provide more than 67,000 meals in the first quarter alone. It is our hope that schools will open back up with regular schedules in 2021, so we can restart this program.

| Schools | Students | January | February | March | Meals |
|---------------|--------------|---------|----------|-------|---------------|
| Kabukarudi | 396 | 4,356 | 4,752 | 2,376 | 11,484 |
| Rajak | 393 | 4,323 | 4,716 | 2,358 | 11,397 |
| Padedewatu | 170 | 1,870 | 2,040 | 1,020 | 4,930 |
| Hobawawi | 316 | 3,476 | 3,792 | 1,896 | 9,164 |
| Kabba | 160 | 1,760 | 1,920 | 960 | 4,640 |
| Larawatu | 241 | 2,651 | 2,892 | 1,446 | 6,989 |
| Anakaka | 325 | 3,575 | 3,900 | 1,950 | 9,425 |
| Mehangmata | 136 | 1,496 | 1,632 | 816 | 3,944 |
| Pahanguladi | 180 | 1,980 | 2,160 | 1,080 | 5,220 |
| Totals | 2,317 | | | | 67,193 |

The lunch menu follows a rotating schedule:

- 2 meals per week consist of the following: chicken, fish, or eggs, with mixed vegetables supplemented with tempeh or tofu, and rice.
- 1 meal per week is a porridge consisting of local mung bean for protein, milk broth, and tapioca beads.

Infant Nutrition Program

The Sumba Foundation Infant Nutrition Program works together with community health workers to provide food support, education, and monitoring for the children of families exhibiting signs of malnutrition (Standard Deviation -2) or acute malnutrition (Stand Deviation -3). In 2020, the Nutrition Team worked with 115 children in two village areas, continuing this program throughout the pandemic due to the urgent nature of their condition. Each child is given a portion of mung bean porridge, 7 eggs, and a box of fortified powdered milk each week in an effort to increase their protein intake. The



Sumba Foundation has helped more than 1300 children through the Infant Nutrition Programs since 2008. As shown in the chart below, the average percent weight gain was higher for the Motodawu area than for Dasang. We suspect that the quality of the community's water might be another factor affecting the condition of the children in Dasang and have planned a clean water project for that village area in 2021 to help tackle this issue.

| Area | Children Enrolled | Avg. Starting Weight | Avg. Weight Dec. | Avg. Gain, Kilos | Avg. % Weight gain | Months in prgm | Period (week) | Total boxes of milk | Total Eggs |
|----------|-------------------|----------------------|------------------|------------------|--------------------|----------------|---------------|---------------------|------------|
| Motodawu | 71 | 9.5 | 12.5 | 3.0 | 31.6% | 11.0 | 44 | 3,124 | 21,868 |
| Dasang | 44 | 10.6 | 13.1 | 2.5 | 23.6% | 11.0 | 44 | 1,936 | 13,552 |

COVID-19 Relief Food Distribution

Many families in our community were doubly affected by the combined impact of the COVID-19 pandemic on the economy and a failed growing season due to late rains. Early in the year, the team surveyed surrounding villages and collected data from local governments to determine the best way to help. In April, we began a food distribution program that focused on helping those who did not qualify for the government's COVID-19 relief efforts. Through the support given to *The Sumba Crisis Relief Fund*, we gave out 6,200 food packets to families in our community - distributing a total of 156 tons of rice and 8 tons of dried fish. In total, The Sumba Foundation provided more than 500,000 meals to families in need during the pandemic.



EDUCATION PROJECTS



The Sumba Foundation Education Team has a staff of nine teachers that teach English and Health/Hygiene classes in the mornings in government schools, and then spend the afternoons teaching afterschool courses on English and Computer skills. Our goal with this program is to equip the next generation of Sumbanese children with the tools they will need for future employment opportunities as the tourism sector develops on the island. We also want to prepare those students who are interested in furthering their studies at university level. We believe that education is one of the most effective tools for helping someone lift themselves out of the cycle of poverty.

Teaching in Schools

Student numbers and class attendance held firm for the first quarter of the year. Before the pandemic, we were teaching 42 classes in 10 different schools and educating more than 1,250 students every week. Near the end of March, the government made the official decision to close all of the schools out of precaution. Schools remained closed for most of the year. In August, there was an attempt to reopen the schools in our area because online learning was not an effective means of delivering classes here in Sumba. Students came to school on a rotating basis and collected their assignments in person to work on them back at home.

| | School | Classes | Students |
|----|--------------------------|-----------|-------------|
| 1 | Rajaka Elementary | 5 | 147 |
| 2 | Padedewatu Elementary | 3 | 86 |
| 3 | Ana Kaka Elementary | 2 | 53 |
| 4 | Lara Watu Elementary | 4 | 51 |
| 5 | Kabu Karudi Elementary | 3 | 116 |
| 6 | Rua Elementary | 3 | 106 |
| 7 | Pantai Rua Elementary | 3 | 70 |
| 8 | Ringu Rara Middle School | 4 | 117 |
| 9 | Pantai Rua Middle School | 3 | 65 |
| 10 | Ringu Rara Vocational | 12 | 452 |
| | Totals | 42 | 1264 |

After School English and Computer Classes

Our afterschool program saw similar issues after the first quarter. Our three afterschool English locations had substantial student enrollment numbers at the beginning of the year, but they were also put on pause for most of the year due to government restrictions on gatherings. In the last few months of 2020, our team held classes at Hobawawi, Palamoku, and Pantai Rua areas implementing COVID-19 safety protocols such as mask use and smaller group sizes. Student enrollment for our computer classes was also strong pre-COVID, and we had set a goal for 2020 to continue expanding the computer class program. This expansion is now part of our 2021 goals.

| | Location | Class | Enrolled |
|---|---------------|----------|------------|
| 1 | Hobawawi | English | 315 |
| 2 | Mata Nyira | English | 119 |
| 3 | Kerewe | English | 48 |
| 4 | Hobawawi | Computer | 35 |
| 5 | Mata Nyira | Computer | 10 |
| | Totals | | 527 |

Community Education about COVID

With classes canceled, both in-school and after school, our teacher put their skills to use by helping educate the general public on what the COVID-19 virus was, how it might affect our community, and how people could protect themselves and their families. For six months, the teachers taught all patients who were waiting at the Hobawawi and Matanyira clinics. The team also helped make sure patients understood how to wash their hands, the importance of masks, and social distancing. Using materials from the Department of Health, they were able to educate thousands.



Austin Abram Learning Center at Rua

As a way of honoring Austin Abram's memory, her family and friends raised nearly \$20,000 for the Sumba Foundation in late December 2019 and early 2020. With permission from her family, The Sumba Foundation used the donation to renovate our previous clinic building and convert it into *The Austin Abram Learning Center* at Rua. The design features a COVID-friendly space, with a large outdoor area for activities, a sink for handwashing, and will also feature a small library area. The learning center will be used to host afterschool English and computer classes. Construction on the project was delayed during 2020 due to the pandemic, but we began work on the building in November 2020.



Our Scholarship Program

The Sumba Foundation offers scholarships to bright young Sumbanese students who are interested in furthering their education. At the beginning of 2020, we were helping 17 students cover the cost of university tuition in various fields, including nursing, education, pharmacy, and even management. We decided to expand our scholarship program in 2020 to help cover the living cost of university students studying in universities outside of Sumba and whose families were experiencing economic difficulties due to COVID. This COVID scholarship provided each student with IDR 1,000,000 (\$71) each month to help cover the cost of food and rent. By the end of 2020, we were helping 42 students - 11 students with tuition fees, 25 with living costs assistance, and 6 with a combination of school fees and living cost assistance.

FUTURE PROJECTS 2021

Despite a difficult year, The Sumba Foundation team was able to adjust our plans and refocus our efforts to continue the mission. We are looking forward to 2021 and know that with the dedicated support from our donors, contributors, and partners, we will be able to continue helping those in our community who need it. Some of the planned projects within the next year are:

- New Clinic at Wanukaka Area
- New Learning Center at Wanukaka Area
- Clean Water Survey for Schools
- Teacher Training and New Curriculum
- Trash Information and Collection
- Nutrition Program focused on Stunting
- Expansion of Computer Courses

On behalf of the Sumbanese people, our Sumba Foundation Staff, the Board of Directors, Chris Burch/Nihi Sumba and all those who are involved behind the scenes, we thank you all for your continued support.

The Sumba Foundation

www.sumbafoundation.org



Our Mission

Since 2001 The Sumba Foundation is deeply committed to lessening the consequences of poverty on the island of Sumba. Our aim is to provide humanitarian aid by fostering village-based projects that impact health, education, clean water, and income-generation, while preserving and respecting the fragile culture and traditions of the Sumbanese people.

A large part of the financial support for the foundation comes from Nihi Sumba owner Chris Burch and guests of the resort. With their involvement, we create small miracles every day.