



**BRINGING
HEALTHCARE
TO THE
UNDERSERVED**

**OUR CASE
FOR SUPPORT**

THE LAKE CLINIC
CAMBODIA

THE TONLÉ SAP LAKE, CAMBODIA

100,000 people call the Tonlé Sap lake home and over 1 million people depend on the lake for their livelihood. As the largest freshwater lake in South East Asia, the people who live and work on this vast lake year-round and rely on subsistence fishing for survival with the **average total family income of \$2.50 per day.** 94% of the population on the lake earns their livelihood from fishing and whatever they can grow depending on the season.

A POPULATION WITHOUT ACCESS TO HEALTHCARE

These villages are isolated and removed from the rest of Cambodia - **the closest village is 30 kilometers by boat from port and the furthest is more than 100.** This is the distance these villagers must travel in order to reach a health care facility costing nearly an entire month's pay in diesel fuel for the boat.

Simply living on the lake presents a host of challenges that interfere with daily life. High levels of malnutrition, lack of hygiene, and poor sanitation

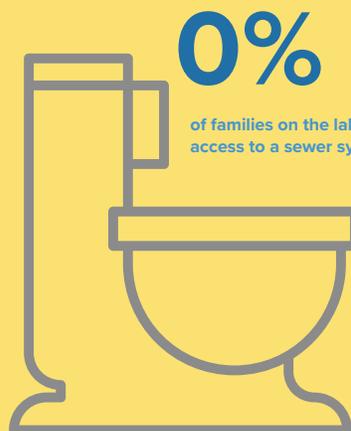
lead to a huge burden of preventable diseases. Additionally, differences between the communities on land and communities on the lake are extreme. When comparing levels of malnutrition, **the rate for Cambodia as a whole is 32%, while in the villages on the lake the malnutrition rate is 59%.** With little access to education and governmental supports the floating villages are perpetually stuck in a cycle of generational poverty and preventable illness.

Most families rely on whatever can be caught, grown, and traded for to make up their diets. Crops like rice, corn, and lotus are some of the food that can be cultivated. Dried fish and rice is the everyday food for most individuals with preference given to feed adults first. Meat and other fresh vegetables are seldom served because most villagers can not afford these items.



0%

of families on the lake have access to piped water.



0%

of families on the lake have access to a sewer system.



51%

of families on the lake report drinking raw lake water - with no filtration or boiling.

As for the lake itself, it changes drastically between the wet and the dry seasons as the Mekong River increases hugely in volume and reverses the flow of the Tonlé Sap River. **During the dry season, the lake has an average depth of 0.5m and an area of 2,700km². This increases to a depth of 9m and an area of 16,000km² during the high water season.**

This drastic change makes travel difficult, time-consuming, and the extreme poverty discourages families from seeking health care due to the high cost of transport and treatment. **Travel to the mainland can cost from \$25 to \$50 in diesel fuel,** an amount that is cost prohibitive to most families.

The Lake Clinic meets these villages where they are. We come to them with competent and consistent medical care and provide a primary care facility that services basic healthcare needs and disease surveillance, and when necessary TLC provides referral and transport to the nearest hospital for major accidents and illness.



Photo: Bryan Watt



Photo: Bryan Watt



Photo: Bryan Watt



Photo: Bryan Watt



Photo: Bryan Watt

ABOUT THE LAKE CLINIC

The Lake Clinic (TLC) was founded in 2007 by Executive Director Jon Morgan in order to serve the severely isolated and impoverished floating villages on the Tonlé Sap. In twelve years, we have grown to service more villages, host five floating clinics, and a fleet of boats to get the doctors and nurses to where they need to be each and every week.

Our work seeks to mitigate the detrimental impact of preventable illnesses through early diagnosis of disease, treatment on an out-patient basis, referral to a hospital (and assistance in transportation to the hospital) when necessary, as well as in-home health and sanitation education.

TLC provides services to a total of nine villages each month that have a combined population at last count in 2017 of 9,674 people; however we believe that this number is higher due to the nature of the census collection.

PROVIDING CARE WHERE IT IS MOST NEEDED

Each week, two teams of clinical and outreach staff travel from Siem Reap to the lake and the river to care for our patients. One team is at

the river clinic and the other team goes to the lake clinics and alternate between the 4 clinics on the lake every week. Each village is served once a month and many times our team will divide and meet recurring patients in their home if their care requires it. Each team spends 2 nights and three days on the clinic each week before returning to Siem Reap.



Photo: Bryan Watt

OUR VISION AND MISSION

VISION

To serve the underserved.

MISSION

The Lake Clinic Cambodia brings basic health care, disease surveillance, and proper medical referrals to the most remote and isolated villages on the Tonlé Sap lake and along its shores.

GOALS AND OBJECTIVES

GOALS

- To expand services to be a full-time care provider on the lake, serving each village every two weeks instead of every four
- To provide educational and professional training for the clinical staff internally and externally up to a Masters level

OVERALL OBJECTIVES

- To improve health status of the people in the remote areas
- To support and promote the health care policies of Ministry of Health of Cambodia
- To promote the quality health care and develop remote community health services
- To provide essential public health services to poor and vulnerable groups living on the Tonlé Sap lake, the Steung Sen river and their shorelines
- To increase prevention and understanding of people in the remote area on “how to protect from diseases”

SPECIFIC OBJECTIVES

- To provide screening and early disease detection
- To provide health education and promotion
- To provide health services (medical and dental services)
- To provide antenatal care
- To support the Ministry of Health and Provincial Health Departments with assistance



Photo: Annette Wig



Photo: Bryan Watt

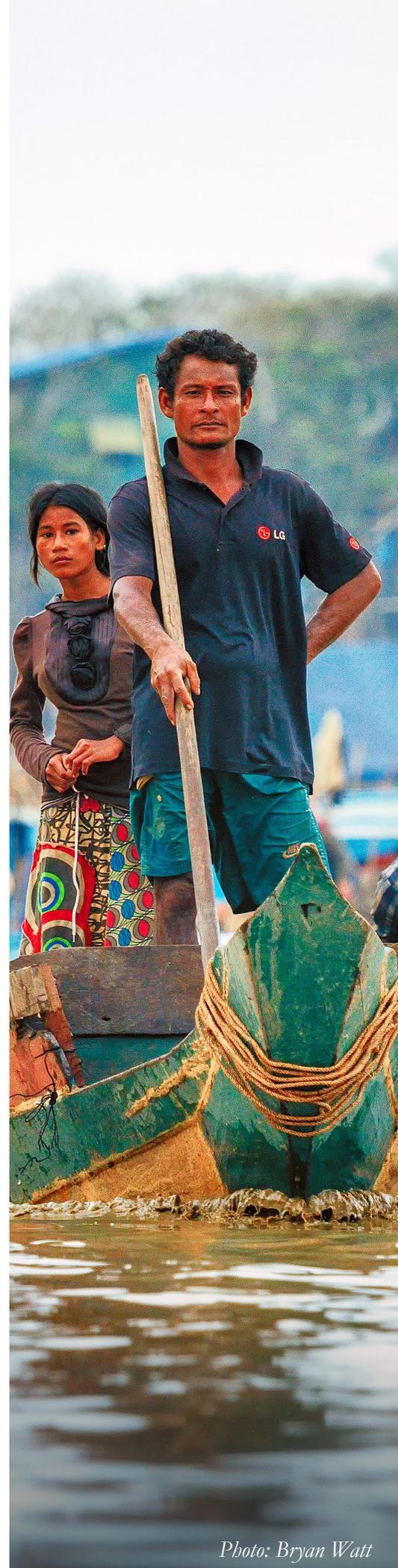


Photo: Bryan Watt

PROGRAMS AND ACTIVITIES



CLINICAL WORK

The clinical teams work to treat and educate the patients who come to the clinic that proper medical care over traditional healing is beneficial. Teams treat ailments like malnutrition, diarrhea, dehydration, dental infections, burns, and much more. The team also refers and secures transport to the mainland when necessary for more serious cases.



DENTAL CARE

Tooth decay is found in almost every villager on the lake. Our dental nurse provides education on prevention through brushing and flossing to both adults and children. She also provides typical dental services such as cleanings, cavity fillings, and extractions in the worst cases.



ANTENATAL CARE

In 2018, The Lake Clinic had 558 antenatal care appointments. Our midwives provide ultrasounds, check ups, fetal monitoring, and maternal health to ensure that the baby is progressing properly. When needed, TLC supports the transfer of the mother to the hospital for the birth.

Photo: David Schmidt

MENTAL HEALTH

The Lake Clinic is working to bring mental health care to patients across the lake. We're currently providing counseling services to individuals who are experiencing depression, anxiety, and other mental health disorders. The team travels to the patient's home and works with them and their family within their own residence.



PHARMACOLOGY

After visiting with the doctor, our team will prescribe medicine as necessary. The clinic provides free medications to all who need them whether it's for a short term or chronic illness. TLC currently supports over 500 people with monthly diabetic medications.



Photo: Bryan Watt ©



Photo: Bryan Watt



Photo: Bryan Watt

MOTHER'S CLUBS

Our team of midwives have created in-home “Mother’s Clubs” in all of the villages, providing one on one counseling on issues surrounding antenatal care, sanitation and hygiene, birth spacing and contraception, and much more. The goal with the mother’s club is to decrease maternal, child, and infant mortality rates across the lake.



Photo: Bryan Watt

CHILD AT RISK (CAR)

Our outreach team works to measure and weigh every child under the age of 5 in each village. We provide education for mothers and caregivers on nutrition and what foods are age appropriate and encourage healthy growth and every 6 months re-measure the children to plot their progress and nutritional health.



Photo: Bryan Watt

TEENAGE EDUCATION

Educating teenagers on self-esteem, healthy relationships, conflict resolutions, and family economics is one of the ways outreach is working to change the lives of the families on the lake. Teaching these skills at a young age will change the dynamic of relationships for future generations.



WATER SANITATION AND EDUCATION

The Tonlé Sap provides everything for the communities on the lake. But education around clean drinking water is nonexistent outside of TLC. Our work is to educate the communities on contamination and to use biosand filters before drinking the lake water to combat the extreme cases of diarrhea.



FLOATING GARDENS

Malnutrition is the most common ailment across the Tonlé Sap. By educating villages on how to build and maintain floating gardens TLC is increasing food security and educating communities on healthy eating alternatives.

Floating gardens also give families economic opportunities by allowing a diversification of revenue streams from selling any surplus vegetables.



Photo: Bryan Watt



Photo: Bryan Watt

OUR FACILITIES

The Lake Clinic operates five clinics, four on the Tonlé Sap and one on the Steung Sen river. Our clinics are simple flexible spaces that allow for the doctors and nurses to not just treat patients but a place to live during their time on mission.

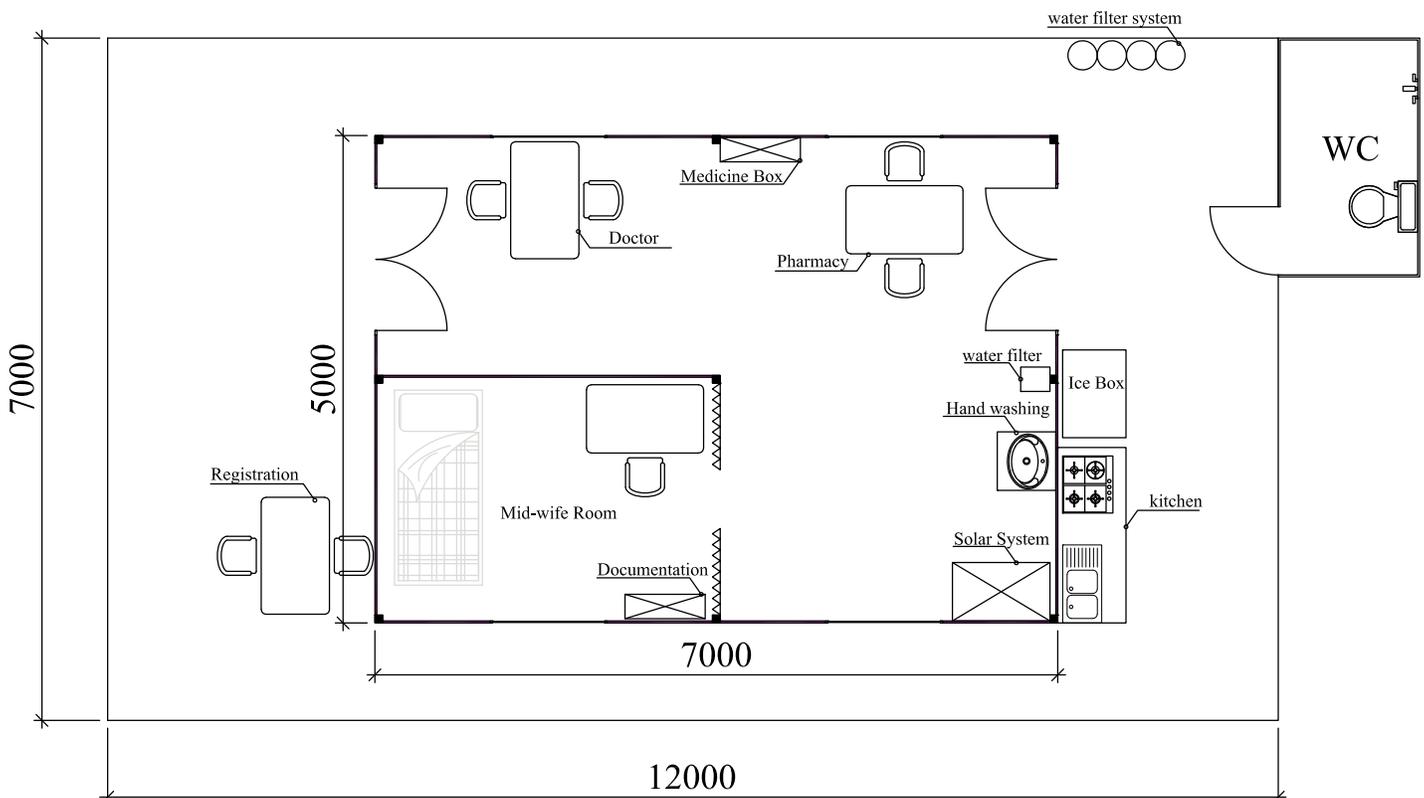
Additionally, The Lake Clinic operates a fleet of vehicles and boats that includes a bus, a van, a large boat nicknamed “The Taxi” and 5 smaller boats. The variety allows the teams to reach the clinic no matter how high or how low the water level is on the lake.

Each clinic has a washroom with shower, a kitchen, and a private area that can be used for exams. This



space allows our team to live on the lake 3 days of the week so that in case of emergency we are there and ready.

For villages we serve that do not have a clinic, we work with the Village Chief to find space this is usually in a school. We travel by boat between the clinic and the target village and set up for a full day of clinic in our temporary location.



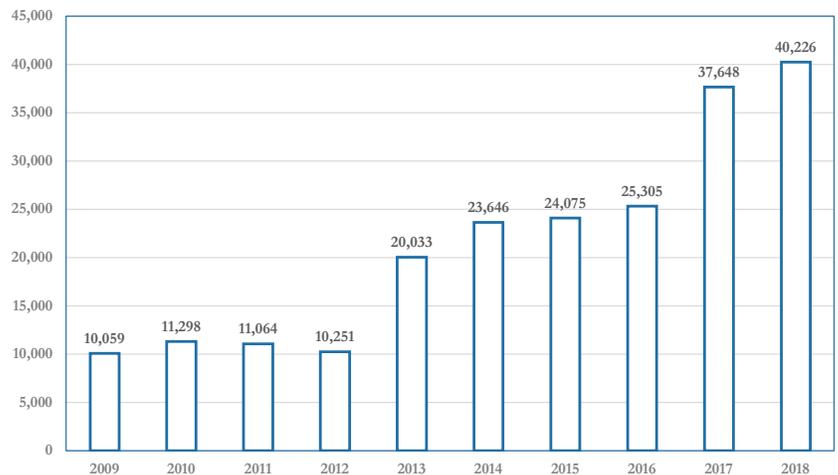
Floor Plan Layout
Scale: 1/50

OUR IMPACT

The Lake Clinic has provided more than 242,495 services to the people who live on the Tonlé Sap since the first mission in 2007.

These services are each personalized and tailored to fit the needs of each and every person that walks into our clinic - and if someone is too ill to make it to the clinic our doctors will go to them.

NUMBER OF SERVICES PROVIDED BY YEAR



PATIENTS AND SERVICES IN 2018



7,981

General Medicine (Adult)



4,590

General Pediatrics



6,013

Health Education



517

Antenatal Care



641

Dental Care



1,899

Immunizations



487

Eye Checks

SUCCESS STORIES

MENTAL HEALTH - RATANAK'S STORY

**Names have been changed for privacy.*

In mid-March 2019, two of our Outreach team identified a man living in Pichakrey who they were told had not left his bed in over two years. Ratanak* had been married and divorced twice and is living with his two sisters and his adult nephew who had been looking after him since the most recent divorce.

On April 22, 2019 our mental health team made the first visit and they found that Ratanak would not sit up to speak to them, the words he did speak were muffled, and he appeared lethargic. Dr. Rida and Kim, a midwife, asked his sisters what had been going on. For two years he hadn't moved, bathed, cut his hair, beard, or nails. The only time he moved at all was to go to the toilet approximately 1.5 meters away.

Dr. Rida and Kolyan discussed the case with a Psychologist Volunteer, in the UK, and they made a plan to visit Ratanak every week. On the second visit, Dr. Eashwarran, a visiting GP from the UK, made the house call with Dr. Rida and Kolyan. The man described that he was having heart palpitations, tremors, and shakes in his hands and arms, and the inability to eat without pain or vomiting. Dr. Eashwarran and Dr. Rida prescribed him omeprazole, paracetamol, and a multivitamin and asked him to begin attempting to sit up during the day. Ratanak also disclosed that he was not able to sleep at night - only during the day.

For the third visit, Dr. Rida and Kolyan employed talking therapy with him. They began to ask questions on why he thought he was feeling this way and what lead to him recoiling to bed for 2 years. They also asked him to try cutting his

fingernails, trim his hair and his beard, and bathe. During week 4, Ratanak still had not manicured himself however he was now sitting up and engaging more in conversation and tried eating while our team was present. At this time, Dr. Mike Shepherd, UK GP Volunteer, was present and decided that the following week the team would take his blood, provide an ultrasound, and bring anti-depressant/anti-anxiety medication for the man the following week.

The next week the tests were run and no signs of physical ailments were concluded. The team decided to prescribe 10mg of Lexapro. Two weeks later, now week 7, the team upped his dosage to 20mg. When they came to the home for this visit Ratanak had moved locations, his beard was trimmed and his nails were cut and he had also bathed.

Between week 7 and the return of the staff on week 8 his sisters reported that he had gone outside and spent almost an hour sitting on the balcony of the home. The team reported that during week 8 he had also began to walk and had brushed his teeth, and started watching movies and YouTube with his nephew.

Within 8 weeks the TLC staff was able to identify and serve a person with such severe depression and anxiety that upon initial observation we believed was agoraphobic and treat him so that he now is upright, somewhat mobile, has left the house for the first time in 2 years, and is engaging with his family members.

The team will continue to work with him and document his progress into the future.



Photo: Jameel Winter

Above: Sarun at 2 weeks old

Below: Sarun at 1 year old



Photo: Jameel Winter

CLINICAL OUTREACH - SARUN'S STORY

We met Sarun when he was two weeks old after being told by a neighbor that there was a premature very ill baby in a village six kilometers away. Our team went to find him and at our meeting he was 1.8 kilograms.

At first meeting, our doctors saw signs of pneumonia, he was having trouble breathing and the team was concerned he was going to get worse if the infection was not treated. The clinic staff counseled Sarun's parents and urged them to allow us to take him to a hospital. They promised they would take him but refused to go in a transfer arranged by TLC.

One week later, eager to check back in the team found that his family had not taken him to a hospital or brought him to the clinic for further care. Our team decided to go to him - they traveled by boat down river six kilometers to find Sarun.

Sarun was extremely ill - he was barely breathing, refusing to eat, and had a fever with his heart racing. His lips were also starting to turn blue, meaning he was not getting enough oxygen. The only thing we could do in their home was give him a shot of antibiotics and plead with them to take the baby to a hospital.

At 10pm that evening, Sarun's grandmother brought him to the clinic. He was worse than before. Immediately our team put the baby on oxygen and supported his breathing - begging to allow us to take him to a hospital. The family understood the urgency and took him themselves with some financial assistance from TLC.

Upon arrival at the hospital Sarun's family was told that he was already dead and there was nothing they could do. But upon arrival at home the family realized the baby was still alive and watched him closely until the next morning.

Sarun made it through the night and his family brought him again to the clinic. His heart was back to normal rhythm and his breathing was normal. TLC took the family to the children's hospital in Siem Reap where they stayed for three days receiving antibiotics, fluids, and nutritional rehabilitation.

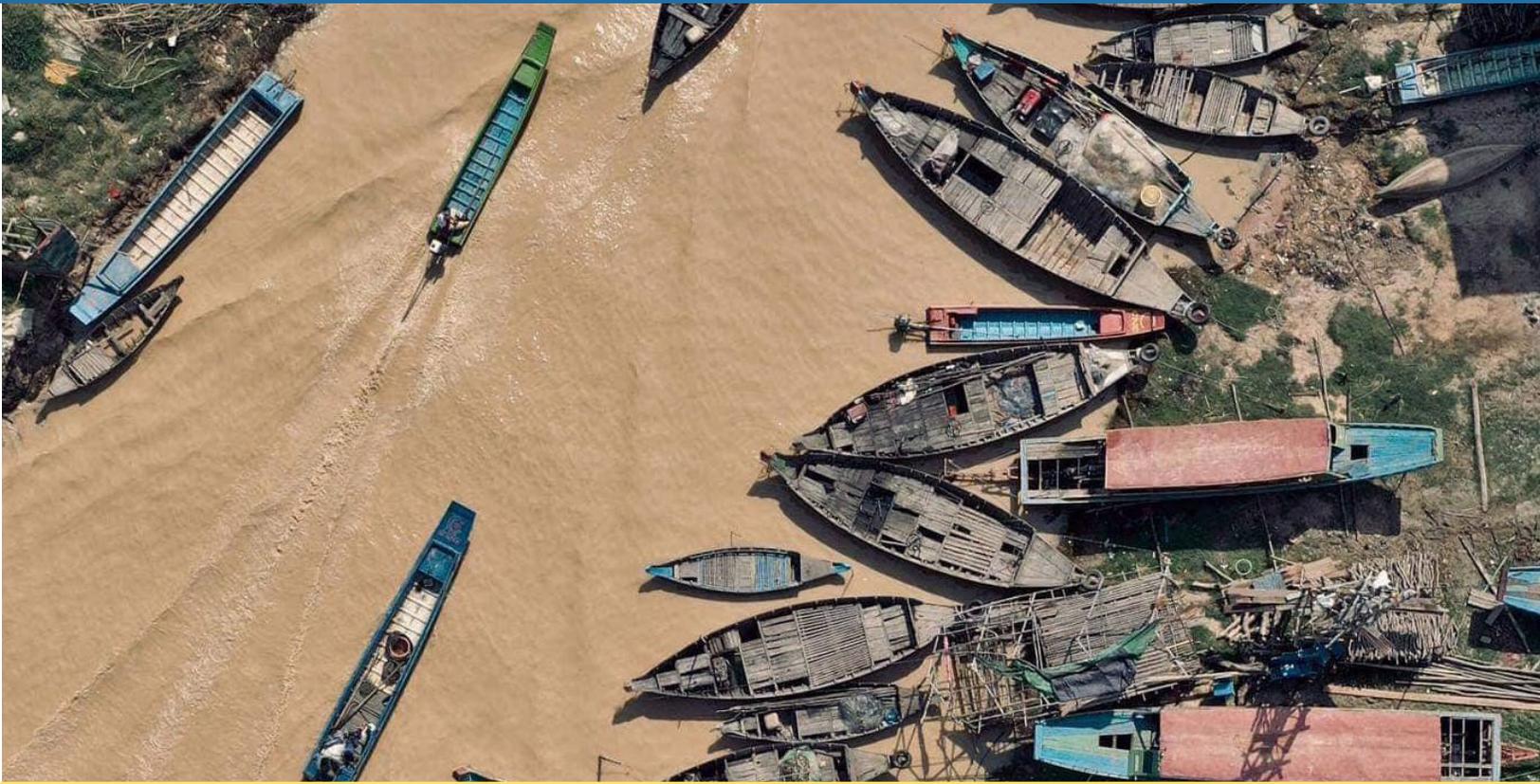
Today, Sarun is a happy and healthy 4 year old.

OPERATING BUDGET

Item	Cost
Personnel <i>Includes only programming staff salaries</i>	\$184,133.00
Administrative Costs <i>Includes salaries of admin staff, office rent, utilities, technology, etc.</i>	\$37,170.00
Programming Costs <i>Includes medical supplies and equipment, pharmaceuticals, electronic medical record system, patient fees, etc.</i>	\$32,194.00
Operations <i>Includes diesel and gas for the vehicles and boats and clinic maintenance</i>	\$28,796.00
Marketing and Fundraising <i>Development salary and all printing and marketing costs</i>	\$26,400.00
TOTAL	\$308,693.00

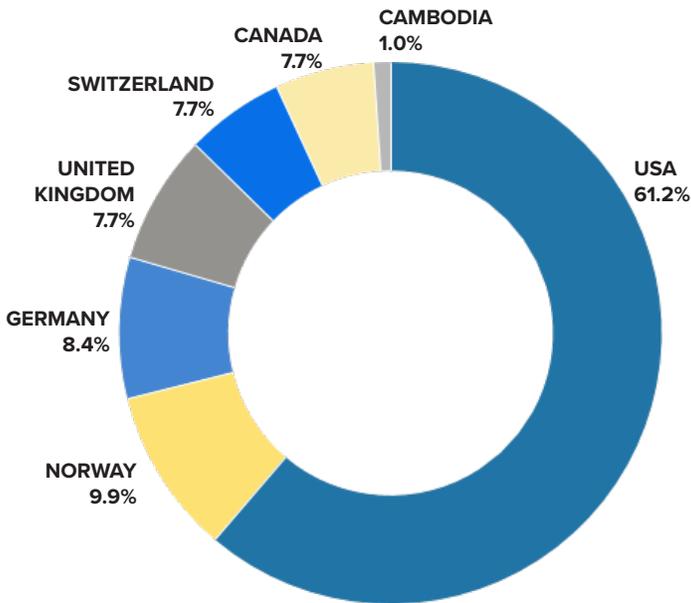


Photo: Bryan Watt

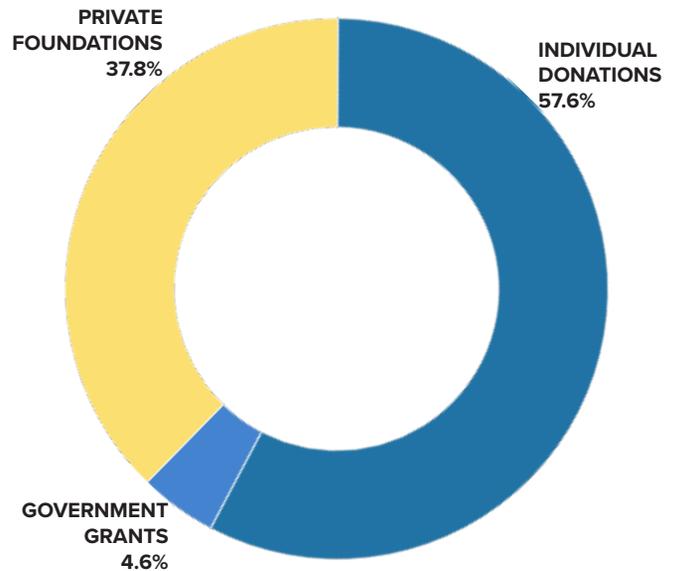


FUNDING SOURCES

INCOME BY COUNTRY



INCOME BY DONOR TYPE





www.lakeclinic.org

Siem Reap, Cambodia

Madeline Njos

Director of Development

+855 (0)71 811 0023

Madeline@lakeclinic.org

Photos within courtesy of Bryan Watt, David Schmidt,
Jameel Winter, Madeline Njos, and Annette Wig