

Ryan Marienthal's Travel Journal

August 2026

8/15/26

I am back in Malawi!

Sub-Saharan Africa





In November and December of 2025 I came out to Malawi (in the midst of other adventures around Africa, see [the rest of my travel journals](#)) in order to begin a project with Doug Hall designing and implementing a solar DC lighting system, among other off grid services, in Mbwezera Primary School, which is in rural Salima and currently has no electricity. Mbwezera was constructed by a local organization called Kindle Orphan Outreach which brings in funding and organizes the community around Salima to do projects like building schools, taking care of children, running a clinic and more. One of Kindle's biggest projects is a vocational school in rural Salima that teaches students masonry, sewing, carpentry and electrical work.

Since I was last here around 8 months ago, Doug and I have finalized our design for the lighting system, gotten Victor Chikoti (Kindle's electrician vocational teacher) and his students to install all the wires and sockets, and procured all of the electronics that will run the system.

The primary purpose of the first part of my visit is to complete this installation and monitor it for a little while.

After this project is done I will be joining Pete Schwartz (<https://sharedcurriculum.peteschwartz.net/>) up in Mzuzu. Pete is a Cal Poly Professor who I began research with immediately after graduating Cal Poly in 2025, through him I met a number of people who wanted me to do work for them all around Africa and that's what I've been doing since. He is currently on a Fullbright scholarship teaching physics at Mzuni university. I'll soon be joining him up in Mzuzu to assist on an institutional scale solar cooker at a school, continued development of our DSO device, managing a microhydro plant, rural village electrification with cheap DC microgrids and any other projects that come up.

So what have I been up to since arriving!



Joe and I

I flew into Lilongwe on Friday August 14 and was picked up by Pete's friend Joe Masamba. Joe runs an airbnb in Lilongwe that I'm currently staying at for a few days before going to Salima.



Airbnb Constructed and Designed by Joe

This is a really impressive space he's designed. It's far out of town so it's very relaxing and the food is good. It's quite the step up from the Admiral's Lodge in Area 2 of downtown Lilongwe which was loud and hectic all the time. Although, in Area 2 I just looked out on the street all day buying bread from the vendors walking around and just watched stuff happen so each place has its own charm.

Today, Joe brought me to town so I could go shopping. I didn't find the electrical stuff I need but I'll get it on Monday. I got some Indian spices so I can cook well when I'm out in the village in Salima again.



Jalebi

The spice shop was selling Jalebi for India's independence day.

Joe also brought me to his garden/ restaurant/ possible music venue.



Stage and Seating Area



Small farm

I've been paying a lot more attention to building and designing spaces like this, and this was really impressive. He has some really nice restaurant structures and ponds and a garden and it's nice and isolated on the river even though it's just outside of town.

On the way home, we stopped by Joe's friend's garden which had a ton of chickens, papayas, onions and ginger.

It's been so exciting going around Lilongwe with Joe. He spent around 20 years in the UK and moved back here around 10 years ago. He's got very successful businesses here and has made a ton of friends so I've gotten a view of the sort of upper middle class of Lilongwe.

It's exciting being back, lots of work to come.

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It's been a hectic two days!



The Gang

Pete arrived from Mzuzu to Salima with two of our colleagues Jimmy and Fumbani (Pete's former Mzuni students) who just graduated and are starting a company called Ziwale doing rural electrification installations. Me and Pete haven't seen each other for almost a year so it's been quite the reunion.

Yesterday we just sat down and talked about all of the projects we had going on, ate some beautiful food from Joe's hotel, and slept early.

Today started off with a bang!



I saw this cool mantis

We had breakfast and set off straight to Danforth to pick up my battery order. We got our nice big fancy Victron battery and met Howard who works for Danforth, it was nice to meet him in person.

Then Pete Joe and I entered into a high stakes business negotiation I was ill prepared for. We had a complicated solar panel order that ended up getting settled but man it was a stressful meeting talking about importing and pallets and exchange rates and border fees and profit margins, oh my!

We headed to town and I went with Fumbani and Jimmy to a million hardware stores to find stuff I need and it actually made such a huge difference being with people, especially people who live in Lilongwe. In the past I've gotten overwhelmed after going to like one store and not getting what I wanted because downtown Lilongwe(Area 2) is so hectic.



Area 2



Radio Exchange IC Shop

Had to pause and freak out over this wall of components. Each little tray is a different component number. I can't imagine EE being a wall like this and a stack a mile high of datasheets. Digikey is so much easier.



Pete's photos of me

Pete's upset because I don't put any photos of myself on my blog so he took these and keeps making me take selfies. I'd rather everyone focus on pictures of the mantis and solar panels.

8/20/26

What a busy few days! On the 18th Pete, Joe, Jimmy and I set off to the airport only to realize that Tekuru's(Pete's Daughter) flight was actually 24 hours later than we thought. We drove home sort of defeated but ended up spending the day well.

I had to go on another mission to find electronics which has been a common occurrence. Fumbani and I were trying to find fuses and he just happened to find someone's phone number who had them so I was sent to pick them up.



Sometime's You lose Yourself in Dusty Alleys

After being vaguely directed to this set of alleys I started asking around for help and no one had heard of the business so I started getting worried.

Eventually after being directed to the next alley over a few times someone yelled from a second story window "Hey Mzungu where are you going?" and I said "Double E Investments" and he ran down and brought me up the stairs.



What a Great Sight

After all that I bought my fuses and left happy. Me and Pete did a bunch of work for the rest of the day and also started looking into a Fulbright application for me! I'm thinking of applying to come back to Malawi and continue designing circuits for DDS microgrids.

I'm required to advertise for **Casa Masamba** which was such a fantastic place to stay in Lilongwe Area 47. Joe Masamba, the proprietor, a great friend of Pete and I, is a lovely host. Come visit us in Malawi and stay with Joe!

So I spent my last night for now at **Casa Masamba** and we headed to the airport.

Wednesday morning 2 of our airport pickup and it was successful this time!



New Party



Road To Salima

Tekuru arrived from Europe and we headed straight to Salima where we're staying now. We arrived at the big house next to my little cabin(which I sort of miss now). It's really nice here and we're all sleeping here for the time being.





New House

After dropping off all the stuff we went to Joe's relatives resort at the lakeside and hung out there all afternoon which was just the best way to spend an afternoon.



Hanging Out at the Lakeside

It was getting cold and dark so we left the lake back to Salima. After setting up beds for the 4 of us, mine being in the living room under a makeshift mosquito net, we had dinner all together.



Been Sleeping on the Floor a Lot Lately

It's so nice being back here and seeing Victor (the electrician we work with) and all the other Kindle people again.

8/22/26

August 20 was my birthday and it was a really sweet one. Everyone bought me a pizza and some bread and candles and we had a lovely dinner celebration.



Gifts and Cards

I carried this present from my mom for a few weeks and finally got to open it. Tekuru drew me this card and everyone wrote in it. I really appreciated everyone's birthday wishes.

In the morning we did a demo of our power electronics system.



Simple Solar Charging

This was a demo of our current system design in Victor's classroom. It's just a solar panel connected to a buck converter(bringing up to 60v down to 30V) and a 36V to USB-C/USB-A charging port(\$5 total). This represents a radically simple and cheap way to utilize solar panels for off grid charging. My battery bank charged very quickly here. This will be part of a system

Ziwale (a startup ran by Pete's former students) will install in rural villages with no electricity. It was so satisfying to see it work perfectly, this was the first time we tested this specific buck converter.

After a few days of scrounging for food and not being able to cook, we found a camp stove for our LPG tank.



Cooking Apparatus



Meal

Jimmy and I made nsima and soya curry for lunch. I'm happy to be cooking, turned out pretty well.

Yesterday evening, we finally got out all our solar panels and electronics to Mbwezera Primary School. It was great to see how much good progress has been made since Doug and I were here at the end of last year. We have nice locking doors, security lights and half the classroom lights installed. We'll finish up installing everything next week.



Unloading Panels



Panels Arrived at the School!



Adventure to Mbwezera in the Flatbed, Keeping Solar Panels Safe and Not Falling Off

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This weekend we went up to Nkhotakota Pottery Lodge to visit Tiyamike (one of Pete's students we're working with). We got to relax and swim some and make some pottery which was nice.



Simple, yet Refined

I made a matcha bowl and a mug. I don't know if I'll actually get them back but I had fun on the wheel.

On Monday we returned to Salima in a very strenuous, dusty, windy minibus ride. I was really upset and dusty for the whole 2 hours but eventually we made it back to Salima. Of course this was no end to our work, we hopped straight back in the car to run a ton of errands. In town and drop off batteries at Mbwezera.



Batteries

Now all the heavy transportation to Mbwezera is done. Even though it was an arduous day it was worth it.

Tuesday was a huge day! We put up one set of panels at Mbwezera and I started setting up the power electronics!



Panels to the roof and Batteries on Shelves



Great and Successful Installation

I walked the 4km back home to realize I had developed a pretty bad fever. Of course the first question is if I have Malaria so I said I should go get tested now. This is starting to be a little disastrous because it's dark, our internet is barely functioning and the powers out so Pete's scrambling to get me a ride to Kindle's clinic. Eventually we get a motorcycle over and meet Victor there, which is so nice of him to come, and I get tested for Malaria.



Clinic Room

Thank god I tested negative! So they gave me some other medicine and sent me on my way. The doctors were super nice and Tekuru came with me so everything ended up fine. I'm still recovering now but I'll be back to work soon.