THE MERAKI TINY HOUSE

Off-grid, solar-powered, rainwater-harvesting, sustainable tiny house in Malaysia

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Meraki (μεράκι)

to do something with soul, creativity & love
to put something of yourself into your work

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How It All Began

Opting out of the debt-ridden house-buying tradition, and building one from scratch instead.

The thing about getting older is that you start getting all adult-ish and buying adult things that cost a ton of money. The older we get, the bigger the money pool that we play around with.

In my teens, I was spending only up to two digits (mostly on school lunches and comic books); in college, I upped it to three digits (on books and gadgets); and in my early working days, it went up an extra one or two digits (on travel and more gadgets).

But now... *now* it's time for the **big leagues**: we're talking 6-7 digits, and for what?

A place to hang our hat. Or in my case, my headscarf.

The urge to own a home is normal. Partly it's for security – to always have a secure place to sleep and poop in at the end of a long day without anyone kicking you out. It's also partly for showing off – a beautiful large home is one of the best status symbols, after all - a sign to society and nosy relatives that you have "made it".

For me, it's mostly a sign of independence, a guarantee of self-sufficiency, and a way to make one little, tiny corner of the world a paradise of my own. So, how does one go about achieving this security, this status symbol, this sign of independence and self-sufficiency?

This is what I have observed: Typically, you either buy a subsale home (fancy term for a secondhand house), or you purchase a new, ready-made or about-to-be-made house offered by the numerous developers. To afford this, you take on loans to meet the asking price, effectively marrying yourself to the bank, and you settle down to work off that debt for the next 30+ years, unless you die first. The end.

Problem is, I don't like anything about that arrangement. First, I am not a fan of owning cookie-cutter houses or condominiums that look exactly like the one next to it, and the one next to that, and the one on the other side of the road – basically, the entire neighbourhood looks identical. Second, I am also most definitely not keen on committing myself to a long-term relationship with a faceless bank.

I needed some freedom, some flexibility, something a lot easier on my wallet and that won't require me to keep paying for the mortgage, parking privileges and maintenance fees for the rest of my life. I wanted something that suited my needs, not the needs of the developers or the city planners.

I am a frequent victim of wishful thinking, and this particular train of thought seemed even more far-fetched than usual. Want a custom house that is environmentally friendly and resource-efficient in a neighbourhood with bike lanes, a park, composting and recycling facilities and not too many neighbours, all without paying hundreds of thousands to low millions? Pfffftt…

Discouraged, I concluded that sometimes in life, you just gotta settle for less. What choice did I have? Everybody else was taking on mortgages and buying up houses, apartments, SoHo, SoFo, SoSo… And so I found myself on the verge of buying a SoHo, despite my father's incredulous commentary ringing at the back of my head: "You want to pay half a million for a shoebox??! Back in my day, that kind of money blah blah blah…" But before I could finalise the paperwork and transaction, I was interrupted by a short overseas assignment that turned into a very long overseas assignment. I never got around to sealing the deal, and the shoebox got away.

A few months down the road, thousands of miles away from home, I was still thinking about having a place to call my own. While absently doodling all over my notebook during one of many long meetings, I idly wondered what my ideal home would look like, in a world where I was Overlord King, architect, interior designer and construction worker all rolled into one.

I began sketching, at first for fun, but then getting more and more serious as time went on. By the end of the day (which was exactly how long that meeting lasted, by the way), I had a complete (albeit very rough) sketch of my dream home compound.

The first very unprofessional draft. A friend actually laughed in my face when she saw this pitiful attempt.

With it came an increasingly insistent notion brewing at the back of my head.

What if...
What if I build my own home?
Like, by myself (and all of the people unfortunate enough to be my family and friends), from scratch?
I mean, how hard can it be?

Have I ever built anything in my life?

No, not unless you counted the wooden music box that every secondary-school-going kid, including me, had to make for Home Economics class at age 15.

But no big deal – as far as I'm concerned, not having done something is the *perfect* reason to do it! After all, building things is basically a skill, and skills can be learned.

The decision was made. Now it was time to figure out how to make it happen. Luckily for me, making things happen is my day job.

But first, I needed a place to park the yet-to-be-built house.

Buying Land

Lessons learned from 6 months of seeking and chasing after the land of my dreams. Almost as difficult as finding true love.

Once I got the 'grand' idea of building my own home, I needed to figure out a place to put it.

I toyed with a couple of options:

Option 1: Buy land - but super expensive and difficult to find

Option 2: Lease land - less expensive in the short term, less permanent and pretty feasible, though not easy to find either

Option 3: Takeover a relative's backyard in exchange for minimal rent or doing chores - almost free, but relative may disown me sooner or later, also not many relatives with big enough backyards...

I decided to work my way down those options, moving on to the next as I get more desperate. First up, buy land.

I already had an idea of the house I wanted to build and the kind of place I would want to reside in, so I jotted down a list of criteria to help with my search:

Size: Small plot, something that I can easily manage on my own. A 5,000 sq ft bungalow plot seemed just right: roughly 1,000 sq ft for the house, and another 4,000 for a garden, a little driveway and space for my future yet-to-be-obtained cats to run around in.

Something like this.

Location: My life for the most part revolves around the city centre - that's where my family and friends are. That's where the hospitals, dental clinics, malls, and mamak stalls that I go to are located, and where work and interesting events typically take place. While I was up for exploring and living in an entirely new area, I didn't want to be *too* far away. My general rule was this: It should take less than 2 hours for me to drive or take public transport into the city.

Characteristics: I like nature and animals a lot, so I wanted to be surrounded by beautiful scenery and greenery. I don't like masses of people very much, so I wanted as few of them around me as possible. It would also be really nice if I could find a chunk of forest to hide in, maybe even have a river or a little stream winding through the property where deer, fairies and unicorns would come by to drink... ooooooooh~

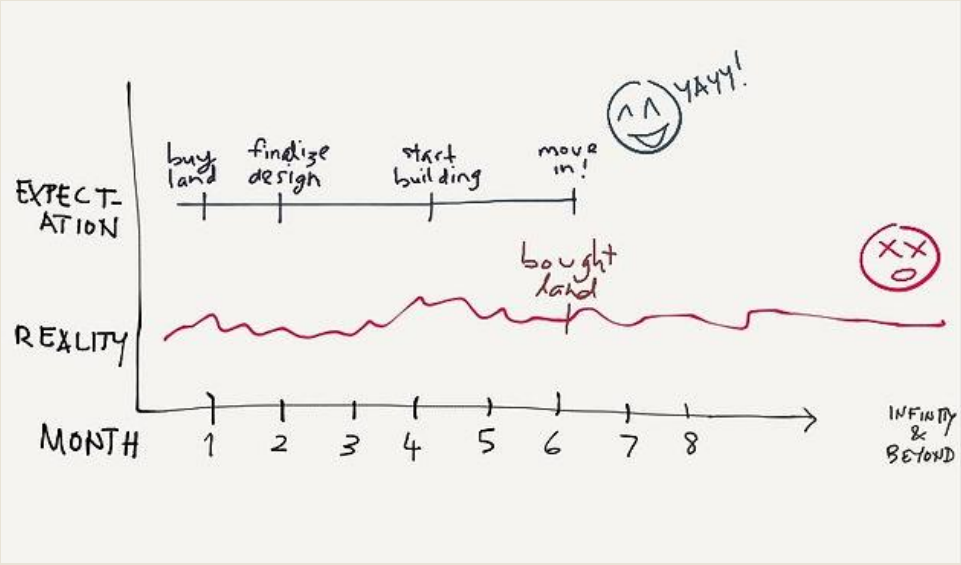
Cost: My fantasies aside, the land had to be affordable. I am allergic to loans, and was determined that I wouldn't borrow money for this purchase. That meant I was limited to the tiny budget of what I have thus far managed to earn and save from years of working. That pretty much ruled out the city - I doubt I'd be able to afford a city land big enough to build a toilet on, much less a house. Luckily, I've been wanting to get out of the city anyway, so that didn't bother me much.

When I set out to buy land, I thought I knew what I was doing. I had a list of criteria ready, I had calculated the budget I could afford for it, and I had even prepared a timeline chart that confidently dictated that I would be a landowner in a month's time. I mean, it's just shopping... How hard could that be?

Three months later, way beyond my self-imposed deadline, I was no closer to becoming a landowner. Not only was it a lot harder than I had initially (and erroneously) anticipated, but it was also extremely frustrating, exhausting and time-consuming. At the rate I was going, I wouldn't have a place to park my non-existent house until I turn 80.

The thing about buying land is that not many people do it, and those who do only do it once or twice in their entire lives (unless they are in the construction or land development business and transact property for a living, that is). Normal people don't have the moolah to buy up properties with 6-7 digit price tags every other weekend, so normal people don't have much experience or advice to give.

So basically, I was running around blindly, wasting the first couple of months looking at the wrong places and chasing the wrong leads. I did eventually get better, and everything worked out in the end, but am not going to lie - it was a struggle.



When will this end???

Six months on, and I finally (FINALLY!!) signed a document that said I was going to handover a large chunk of my hard-earned money in exchange for a lot of dirt. The search was over, I was poorer, but, at least I now have a place to put a house on! I am officially a landowner!

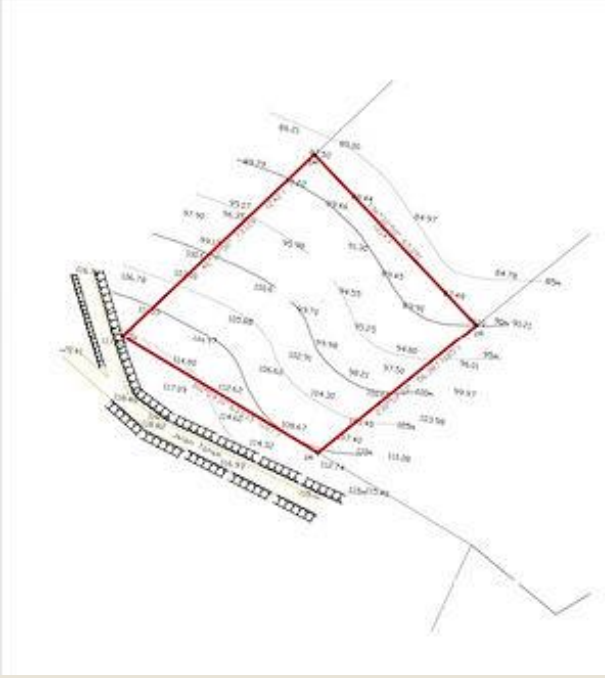
Remember my criteria above? Let's compare that with my actual purchase.

Size: I wanted 5,000 sq ft. Somewhere along the way, I found myself contemplating getting 10,000 sq ft. Finally, I ended up with 43,000 sq ft. Yes, I know. I *know*. It's a long story.

Location: This one was within the parameters I dictated previously. The land was located approximately 1.5 hours drive away from the city centre (1 hour if you're a faster driver than me), with easy access from the highway and about 10-12 km away from the nearest train station that could get me into the city in an hour.

Characteristics: It's got the trees, the wild animals, the amazeballs view of the mountain range that forms the backbone of Peninsular Malaysia... the only thing missing is a river. Oh well, sometimes life gives you a donut without the sprinkles. Nestled at the top of the hill, on a slope amidst orchards and plantations, it is far enough from the neighbours to give me the privacy I want, but close enough that the clinic, grocery store, market, school and other amenities are a short 5-minute drive away.

Cost: Within my budget (yasssss!) at RM80,000 – though this does not include lawyer fees, land survey fees, and other expenses that come with a purchase such as this.



While I did give myself a pat on the back for scoring a piece of land as close to my ideals as I deemed possible, there *are* some drawbacks to this purchase:

Con #1: Leasehold - I would have preferred freehold land, but this land is a leasehold. Not ideal, but not a major issue for my purposes.

Con #2: Agricultural - there are restrictions on structures you can build on a land classified as agricultural land, namely 10% of the total land area. That still gives me a good 4,000 sq ft to work with, which is way more than I need, so this is not a major issue either.

Con #3: Slope - the amazing view comes with a price: a steep slope at the peak of the hill. While I am more than happy to tower above everybody else (for once in my life!), this does add engineering and safety concerns when it comes to putting up a building there. But I think the extra trouble is worth it.

Having succeeded at option one (buying land), I didn't bother going down to the other options of leasing land or moving into my relatives' backyards (probably to their eternal relief). In my excitement, however, I ended up with 8x more space than I needed! But I suppose there are worse problems to be had.

The Concept of a Tiny Home

Building a home by yourself offers a gazillion possibilities - a terrace house? A mansion? A palace?? Or the exact opposite: a Tiny Home.

Once I abandoned the idea of buying a cookie-cutter house built by a big developer and became enamoured instead with the notion of designing and building my own home, I was able to give myself free reign to think up a structure specifically suited to me and all my quirkiness.

Just like land-buying, I had a list of criteria:

1. self-sustaining, as much as possible (energy, water and food-wise)
2. requires very little housework (am no domestic goddess)
3. simple & easy to build (am no construction worker either)
4. within my miniscule budget

All four pointed in the same direction: go small. Tiny, even.

The good news is, Tiny Houses are all the rage now. The bad news is, all that rage is happening in entirely different continents than the one I'm on (USA, Australia, New Zealand, Europe, but definitely not Malaysia).

What is the deal with Tiny Houses?

The term Tiny House is self-explanatory, but if you want to get technical about it, it refers to houses that range from 100 sq ft to 1000 sq ft, give or take a few sq ft. It is actually nothing new – people have been living in small spaces since the cavemen days (in caves, presumably), and still do (ever visited the home of a Maasai warrior?).

The reason why it's interesting now is because it is going counter to the prevailing exhortation to build big, bigger and biggest. You've got to have two living rooms, a dry kitchen plus a wet kitchen, and of course, a pool, and don't forget the game room and the movie room and the powder room… While most people are building bigger and bigger homes for themselves, choosing to go small is certainly unconventional.

Why would anyone go small?
My primary reason is laziness in maintaining too large a space, but there are numerous reasons why other people do it:

1. Debt-free: Following the 2008 debacle in the US that saw millions of people lose their fancy houses after failing to make their mortgage payments, more and more people are choosing to opt out of the system entirely and are instead building houses they can afford without taking on loans. No monthly payments, no long-term relationships with banks, no risk of repossession.

2. Simplify life: Certain groups of people find themselves transitioning into a different lifestyle – a couple whose kids have flown the coop, for example, leaving them with a very large and very empty nest – and they no longer require all the space and possessions from their previous life. Others simplify for no other reason than to be zen and at peace with themselves, away from the chains of consumerism.

3. Mobility: Smaller homes, if small enough, can fit on a trailer and be lugged across the country using a pick-up truck. This extent of mobility suits certain groups of people, either those with a highly-mobile, fast-paced job or those who just can't stay still in one place for too long. Some even travel this way, carrying not just a suitcase, but their entire house with them.

4. Environment: Larger spaces take up larger resources – more water, more heat / air-conditioning, more electricity, more waste, etc. Having a smaller house means less resources and lower (sometimes even nonexistent) bills, and therefore less negative impact to the world that we share with 7 billion other people, all fighting for their fair share of resources.

Whatever the reason, the essential idea is to customise your space to be just right for your needs and lifestyle, without the excess, the waste and the chains of debt and stationary living.

It's not downsizing, it's prioritising

Going small can sound like a sacrifice, a step-down, or a downgrade, especially if you're used to living in sprawling homes. But it's really not. It is merely the act of identifying and prioritising the parts of your life that do matter to you, that make you happy, and making just enough space for them, while discarding the superfluous rest.

I myself used to live in a 6,000 sq ft home, with my family of 6. It was way too big – when I brought in my pet cats for the first time, they went missing for 2 whole days within the bowels of the house before we finally discovered them (one was stuck hanging by her claws in the folds of a curtain). We lived there for a decade, and I noticed that entire rooms went unused, while the maintenance of so huge a place gave my father constant headaches (something was always breaking and needed fixing somewhere). We had to hire staff just to keep up with the house, and gave up some of our privacy. We didn't own the house, it owned us.

I learned a huge lesson then: bigger isn't always better, especially if it's unutilised, unnecessary, wasteful and doesn't even make you happier, after all that trouble. Better to take a moment to really reflect on your life, to make a list of things that make you happy, and to make enough room for them, and only them.

That being said...

Going small will definitely require a few adjustments and some getting used to. You need to:

- really know yourself well (it sounds like a given, but you'd be surprised how many people never actually take the time to figure out what they really like, finding themselves following trends and peers instead),
- learn to prioritise,
- be ruthless about certain things like clutter,
- develop certain new habits while discarding some old, entrenched ones.

Below are a few principles that I plan to keep in mind to make it easier for me, and for you too, if you're thinking of going down this road.

Declutter & donate frequently: Living in a small house means less space for all your crap, so an essential habit to develop is the habit of frequent decluttering and donating. Even at my best, I still find myself accumulating things over time, so every 3 months, I conduct a decluttering exercise, evaluating my possessions and going all Marie-Kondo on them. I then donate or recycle the items, trashing them only as a last resort. It's a fun process!

Keep clean: Similar to the above, keeping your space generally clean really helps you to feel good being inside it. What becomes an eyesore is not the size of the room, but the mess and dirt in it. Luckily for you, because the space is small, there's much less to clean, so the awful process is easier and faster!

Double duty & convertible furniture: You can only fit so much in a small space, and here is where you get creative. The internet is full of smart and innovative examples of furniture that perform multiple functions or that can transform into something else. Take advantage of them.

Light and proportionate furniture: Your furniture should be proportionate to your space, the same way your accessories should be proportionate to your body. I, for example, cannot wear chunky bracelets and necklaces without looking stupid. Similarly, Balinese teak wooden chests, or thick heavy sofas, will look out of place in a small space. Opt for skinny, airy, floaty, barely-there furniture (but sturdy ones too, so you don't fall flat on your butt when you try to sit on them).

Let the light in: Design the space to allow a lot of light in, using bright paint for the walls, as well as the clever positioning of windows and mirrors. A bright space looks a lot bigger than it actually is, and mirrors add the illusion of extended space.

Shop like a European: I used to have a terrible habit of buying a lot of groceries and storing them in the fridge, thinking they would last forever. Not surprisingly, about half would expire before I even got around to using them, generating a lot of waste that hurt my soul. The solution is to buy less and more frequently. In other words, you buy and you cook, not you buy and you refrigerate. This results in fresher, more yummy food, and a lot less space that's needed to keep things. This is especially important for a small house with a small kitchen, in which a massive, two-door refrigerator may not be a feasible option.

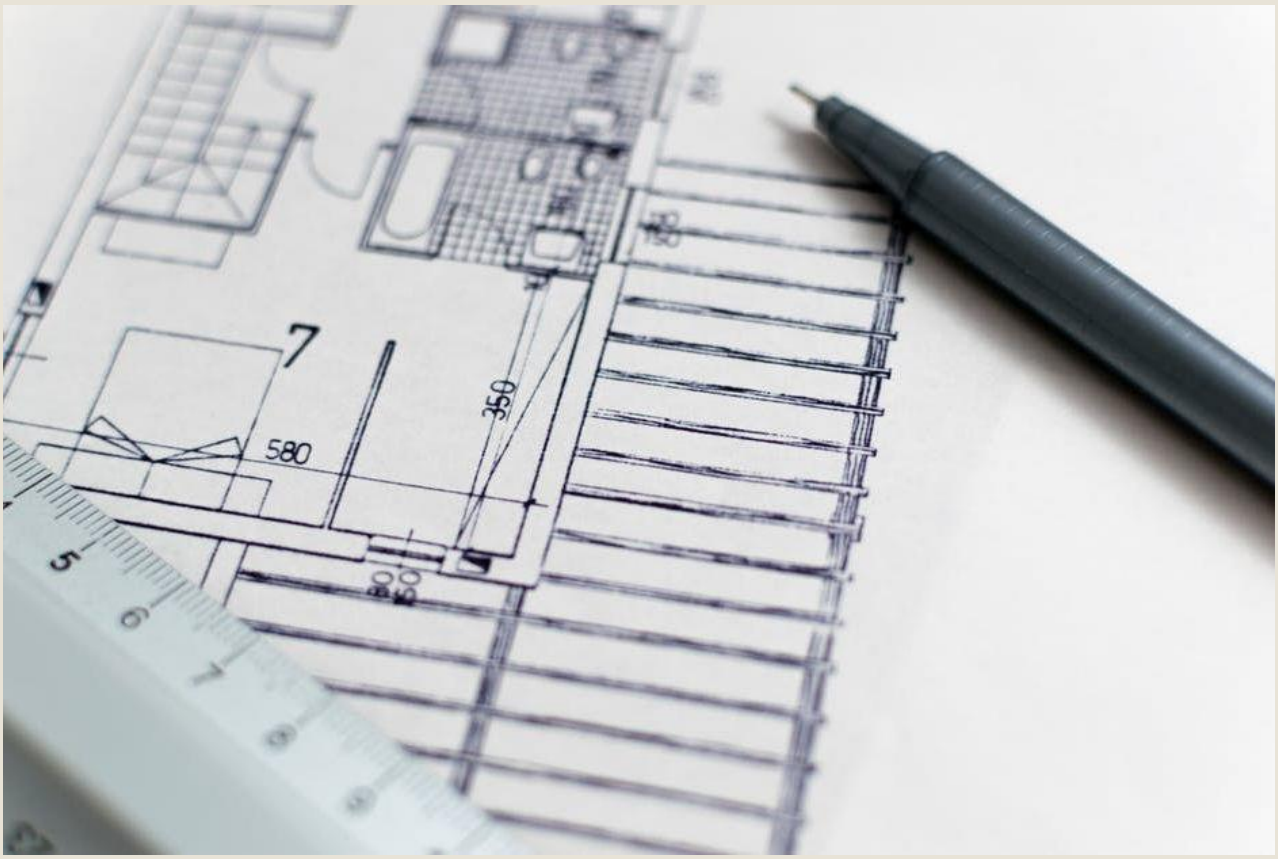
Spend time outside: During my broke college days, whenever I traveled, I would go for cheap accommodations without frills. To my mind, the point of traveling was to spend time out in the world, and sometimes I even made sure my lodgings weren't too comfortable so I'd be motivated to be outside. My standards on accommodations have gone up a bit since then, but the principle remains the same. Hopefully, having a small house will encourage you to spend more time outside of it - after all, life happens out there, so go out!

Room for expansion: Life changes on you all the time, and you may find several surprises in the form of a life partner, ten babies or relatives who are moving in with you for an indefinite period of time. To prepare for such eventualities, try to design your house such that it can be inexpensively and easily expanded, either by changing the space layout, or by adding a wall or two, or by constructing additional rooms on the side. I call this the build-it-when-you-need-it principle.

Some people live in tiny spaces out of necessity, and some out of choice; some will hate it, and some will love it. While this is not suited for everyone, it is still worth your time to reflect on the amount of space your lifestyle needs, and the amount of space you actually take up, and whether they match.

Designing a Home for Oneself

When you're not an architect or a construction worker but you still insist on designing and building your own home.



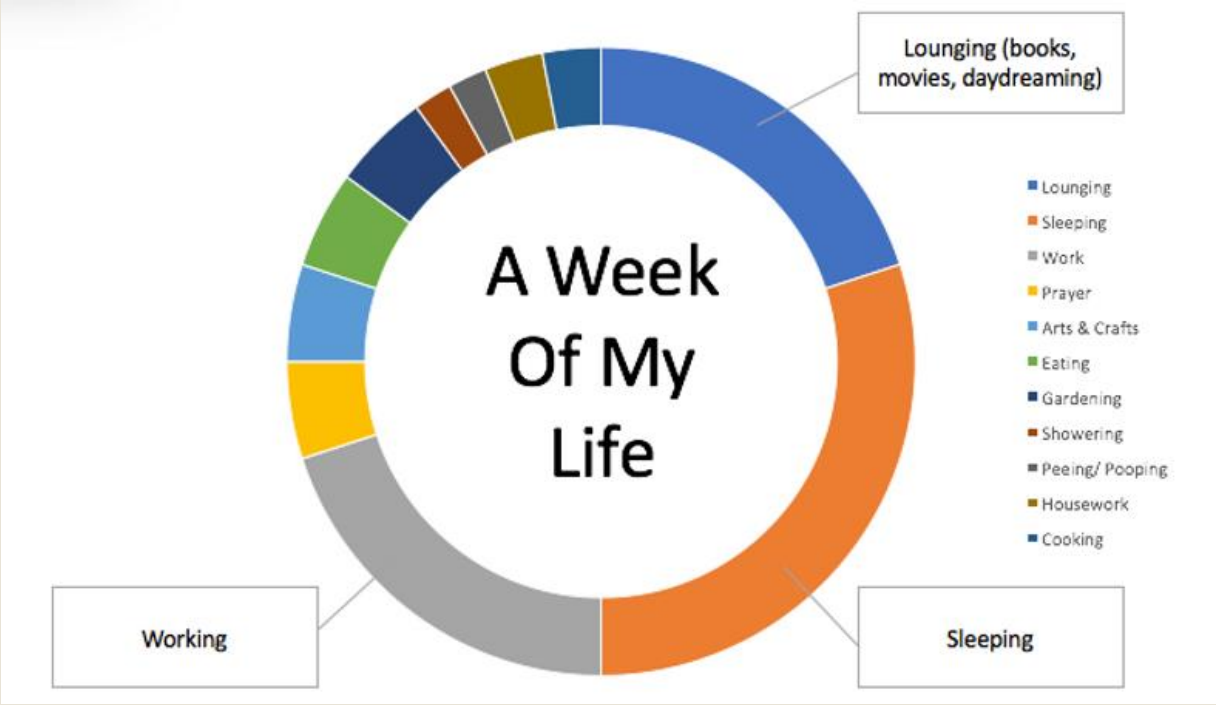
There’s nothing quite as luxurious as having something tailored just for you, be it a custom business suit that fits like a dream, a custom holiday with all your favourite activities, or... a custom house built with your lifestyle in mind!

The beauty of building your own home is getting to have complete control over what it will be like. Rather than purchasing a house that's too big or too small, with too many rooms or too few rooms, you can build one that is *just right*.

But how big is big enough?

The answer to this will vary with individuals; some have found a tiny 150 sq ft to be sufficient, some are more comfortable with 1000 sq ft, while some were able to comfortably fit a family of four within half that space without sacrificing quality of life. The key is to observe your own self and the space you actually use on a daily basis.

To start, I first examined the things I do in my daily life, and listed them by priority, frequency of use and amount of time spent. The following ranking emerged:



A statistical analysis revealing just how lazy I am

Clearly, the spaces that are going to get most of my attention are: the bedroom and the work space.

The rest are secondary – I rarely entertain people because I am a terrible host, so I don't need a fancy or large living room or sitting room (I don't even watch TV, so don't need that either). I cook only when the mood strikes (which is rarely) and even then I cook very simple food, therefore a small kitchenette is sufficient and a pantry is unnecessary. As for the bathroom and laundry room, they need not be lavish – after all, I hardly spend time there except when forced to.

I then added on the quirky bits that are not necessary, but that would make my life 10x better: an outdoor deck for hanging out in the sun and a skylight to stargaze with.

Taking a stab at designing

As previously mentioned, the first version of my house plan emerged in the middle of a work meeting. At the time, the notion had just taken root and was not fully fleshed out. I had no idea where I was going to put the house or what terrain it will be on, and so the plan was generic and I had assumed a flat land surface. It looked something like this:

After I went through the long process of finding land and finally bought one, it was not flat like the land of my imagination, but sloped at roughly 20 degree angle (but with a kickass view). That required some adjustments to the plan, so I went back to the drawing board.

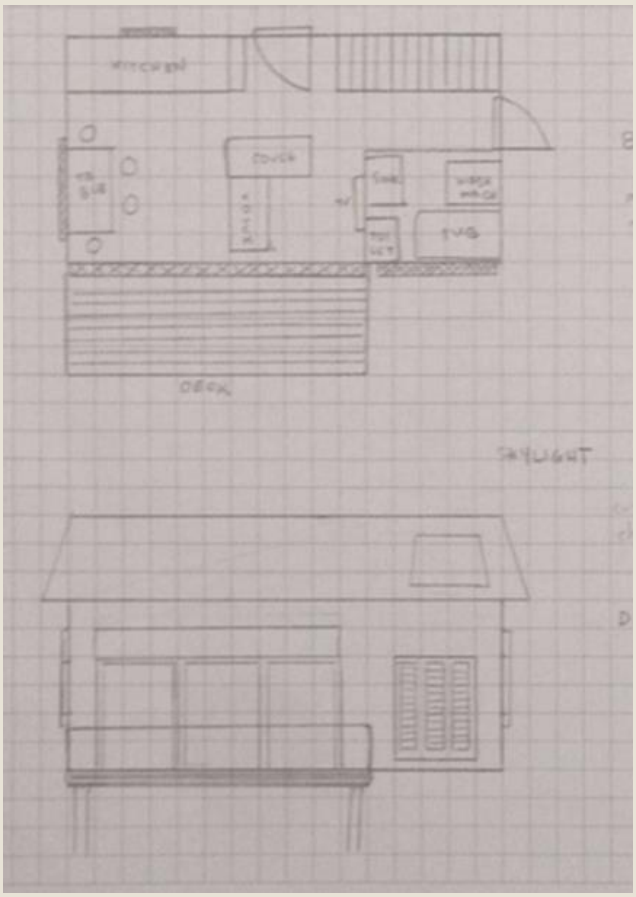
After a few iterations, I ended up with something that resembled these:

At this point, I've been tinkering with the design for almost a year, all by my lonesome self. And despite my best, most earnest effort on the sketches and moodboards, I badly needed the help of a professional to draw up real architectural plans with all the proper architectural components and architectural measurements.

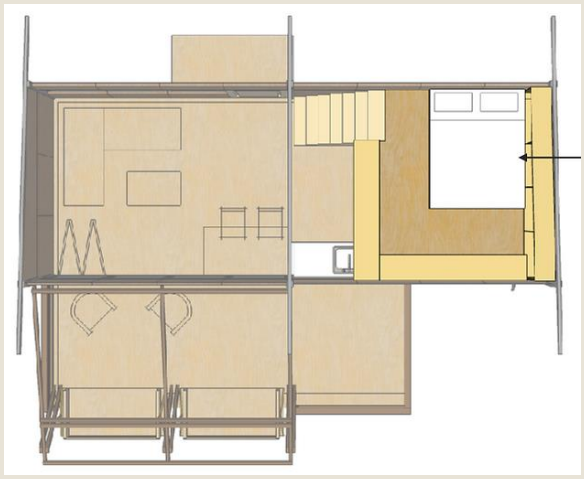
Getting professional help

I reached out to Epic Home, an organisation that specialises in bringing laymen volunteers together to build a modular house for native Malaysians in the span of 3 days. If anyone could figure out how to make my vision buildable, especially by noobs like me, it would be them.

So I sent them this:



And they turned them into this:



A virtual tour of my non-existent house

Now armed with pretty and realistic drawings, let's take a virtual tour of my non-existent house!

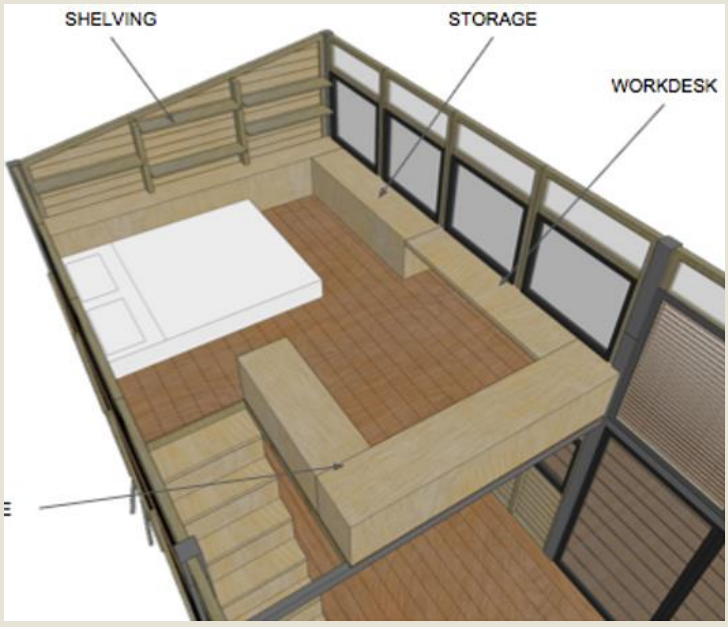
The house is really a studio with a bedroom loft. It's designed for 1-2 people, but if the need arises, can be expanded on by adding more modular extensions on the side. At this point in time, the need has not yet arisen, so the 400 sq ft is all I really need at this stage of my life.

View of the living area, plus the staircase cum wardrobe.

You'll notice that I'm using an obscene amount of glass in this house. While that is not necessarily the smartest, most logical or most secure decision, I was adamant on being able to look outside and take advantage of the view. The last thing I wanted was to feel cooped up within four walls, and it was important enough to me that I was happy to take on the additional risks and complications that come with it.

View from the opposite side, of the veranda, kitchen, bathroom and loft above

There is a decent-sized living room that can spill out into the veranda. The area under the loft is meant to be a kitchen, with windows that also open up to the veranda. The bathroom is located just beyond it. Both are very small as I don't expect to spend a lot of time in them.



The most important part of the house

The loft is likely where I will spend 80% of my time in, and combines the sleeping space and the work space (I do most of my work while sprawled in bed anyway).

It has taken forever and a day, but with a design and a plan in place, it is finally time to get building!

Making it Sustainable

Efforts to build a home that meets all of one's requirements and yet produces minimum negative effects to the world around it.

Being a longtime environmental geek, it was a no-brainer that I would want to make my first official home as environmentally-friendly and as self-sustaining as possible. After all, it would be dishonest to live in a space that violates the values that I hold dear, especially when the construction of it is fully (or at least mostly) under my control.

But what does having a sustainable home mean exactly?

"Do you wanna build an Earthship?" (Neither a planet nor a ship)

Imagine a house built of plastic bottles and used tyres.

You'd think a house built of these would be an eyesore, but people have actually gotten incredibly creative and artistic with it!

These homes are called Earthships, which is a type of building that adheres to a few criteria that make them the ULTIMATE example of sustainable architecture.

Side note: You may not know this, but Malaysia also has an Earthship! Build for Tomorrow constructed one in Jelebu, Negeri Sembilan, with a lot of help from volunteers. It was completed in 2016 and now functions as a home for a family as well as a guesthouse for you to stay in.

My friends and I also got to take part. I think we only contributed 0.00002% to the build, but it was a great experience!

Helping build Malaysia's first Earthship!

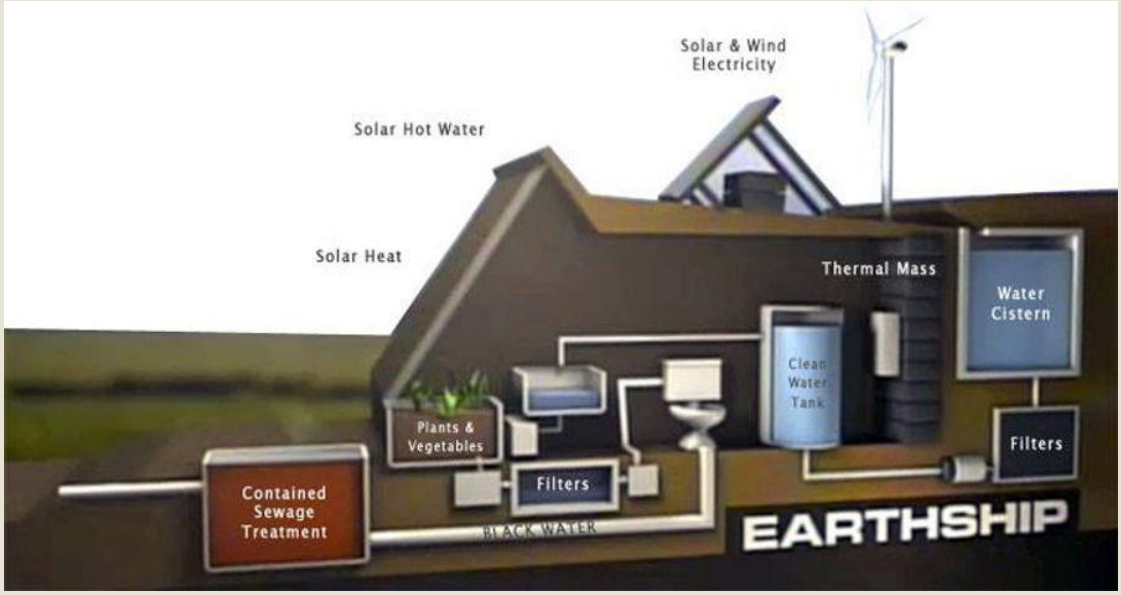
What makes a house or building an Earthship (other than the funky shape)?

Earthships follow 6 basic design principles:

Design Principle #1: Thermal or Solar Heating & Cooling
Instead of using air-conditioning (which uses a massive amount of energy, releases powerful greenhouse gases and makes the surroundings hotter by pumping the heat outside of buildings), Earthships stabilise the temperature indoors by having walls made of packed soil. The thick and dense walls provide thermal mass that stores and releases heat, thus acting as a natural temperature regulator. Earthships are also designed to maximise ventilation, so that the air within the house circulates and cools the area down.

Design Principle #2: Building with Natural & Recycled Materials
Earthships are built out of materials that are naturally available locally, along with materials that would otherwise be thrown away. This is why a lot of the earthships are made of soil (which is found right under your feet), as well as old tyres, plastic bottles and glass jars (that are also probably right under you feet, given how we like to litter and throw them all over the place).

Design Principle #3: Solar & Wind Electricity
Earthships generate their own energy, mainly from the sun and wind. The energy is stored in batteries and supplied to electrical outlets around the house. Since the house itself is designed to be passively heated and cooled (without needing a power-hungry heater or air-conditioner), the electricity needs of the house are significantly reduced, making it possible to live comfortably on a decent amount of solar panels or wind turbines.



From DesignWeed

Design Principle #4: Water Harvesting
Other than energy, Earthships also generate, or rather collect, their own water from the sky and from the ground (if a waterhole or a stream exists). Rainwater harvesting is a common way of obtaining water, and is particularly useful for countries with heavy rainfall like Malaysia.

Design Principle #5: Contained Sewage Treatment
When you drain the sink or flush the toilet in an Earthship, the waste water doesn't go into the city pipes or public waterways. Relatively clean greywater (from the kitchen sink, bathroom sink, shower or washing machine) are recycled to water plants or to fill toilet cisterns for flushing. Blackwater (from the toilet) is treated using an on-site treatment cell. All the waste is contained and managed within the property itself, without polluting or damaging the outside world.

Design Principle #6: Food Production
On top of all the things mentioned above, Earthships also grow food! While it is unlikely that you will be able to grow all of the food you need within the house or property (you'd have to flood the place in order to grow rice, for example), you'd be surprised at how much you can get out of maintaining an edible garden of vegetables and herbs!

Though this is not an explicit design principle, there is also an emphasis on affordability and ease of construction, such that even a complete noob (like yours truly) can build it. This is why most Earthships are single-storey, simple structures.

Various Earthship designs – the one on the right went all out!

Rules are made to be broken

While I will not be building an Earthship, I do intend to follow its core principles as much as possible. In fact, I am staying true to all principles mentioned above, except for two:

Sorry, Design Principle #1: Instead of building with packed soil or materials with thermal mass (like concrete), I will instead build using steel and wood, due to the ease of assembly. I wanted the house to be prefabricated in standard sections that can be easily moved, assembled and disassembled (like an IKEA furniture!). I also wanted the build to be quick. This is something you cannot do with packed soil or cement. I will, however, be making full use of ventilation, and aim to not succumb to air-conditioning.

Sorry, Design Principle #2: Because the house is prefabricated, there are certain limitations on the type of materials that can be used, that are available, and that fit within my budget. The house will be built mostly out of steel, timber, glass and plywood, and while I will do my best to make sure they are as locally and as sustainably-sourced as possible, I will not be doing a detailed life cycle / supply chain carbon footprint study, as I neither have the expertise or the resources to do so.

As for recycled materials, the way the house is designed leaves little use for old tyres, plastic bottles or glass jars. Unlike in the US, Malaysia does not have thriving junkyards or shops that specialise in recycled residential building materials (like old doors, windows, glass), so I have not had any success in that area.

Picking up the slack

So while my soon-to-be-house may not be thermally regulated or be built out of the most natural, most sustainable and most recycled set of materials, it will generate its own energy, and harvest its own water.

I'm also compensating for my transgression of Earthship principles by doing the following:
1. Minimising the alteration to the land and keeping the vegetation intact
2. Minimising the land space I take up for the house, keeping it under 400-500 sq ft
3. Orienting the house in the north-south axis to avoid the sun path, and to take advantage of the wind so I don't have to rely on air-conditioning to keep cool.

Of course, you don't have to build a house from scratch to be able to apply the Earthship principles to your own living environment - solar or wind energy, rainwater harvesting, contained sewage treatment and food production are things you can easily incorporate, at different levels and scales, to make your lifestyle just that much more sustainable.

House Building Diary: Week 1

The plan was to build a house in 3 weeks. Naturally, nothing went according to plan.

This house build has been a long time coming.

I had first met with Epic Home to discuss the possibility of doing this little project in early 2016, and more than *a year* later, I still didn't have anything to show for it. Much of the delay was caused by the pesky fact that I actually needed a land to put the house on. That took me close to half-a-year to accomplish.

Then there was the design and planning stage, delayed further by my disappearing out of the country every few months…

Me after successfully purchasing land in July 2016: "Let's build this in September!"
Me in September 2016: "Ok, no, scratch that, am going to be in India for a month."
Me again: "Hey, November might work."
Me in November 2016: "Ok, no, am going to Mecca for umrah. Let's schedule for early 2017 then."

Me in January 2017: "Sorry, will be in Japan in January. Can we do it in March?"
Also me in March 2017: "Crap, will be in London for March. How about May?"
Me again in May 2017: "Ok, no, am going to be in Kenya for May, and June is fasting month. I can do July, I promise!"
Guess who in July 2017: "Ummm, so am going to be in Ethiopia for the next 9 months…"

"At this rate," a friend commented dryly, "you'll never get that house built."

So, of course, I had to prove her wrong. Yes, I was going to be away from the country for an extended period of time, but surely I can squeeze in the build during my holidays?

The answer is yes, I can squeeze in the build during my holidays. All I need is 3 weeks, right?

I landed back in Kuala Lumpur a week later than planned. The pre-fabricated steel beams that would form the structure of the house were delayed, and we couldn't really start without them.

Instead of 3 weeks, we now had 2 weeks to build this thing before I had to fly back to Ethiopia. The universe then decided it would contribute by making it rain almost every day. But no matter, we will still plough through.

Day 1: Visit to see piling work

The piling work had started a few days before, and I arrived to the site to see funky steel pipes poking out of the dirt.

These have been hammered into the ground in the shape of a cone, and would serve to anchor the house to the ground.

The materials for the house would arrive later that evening.

On my way out, I met the two local dogs that would become a regular part of the build in the next few weeks - they would insist on escorting the car up the hill, and would stick around watching us toil away, with their tongues lolling, before escorting us back down the hill at the end of the day.

Day 2: Moving stuff

This was my first full day of 'work' on site with the rest of the crew, as well as one volunteer who wanted to see the process from start to finish and had time to spare to join in during the weekdays.

The site was at the top of the hill, and the dirt road leading up to it had gotten muddy and slippery due to the incessant rains. We needed a 4-wheel-drive lorry to carry the materials up from where they had been deposited at the bottom of the hill the day before.

We spent most of the day just moving stuff from one place to another - and by 'we', I meant the strong, muscular building crew, while I watched. (I did carry what little I could of the heavy wood, steel and assorted materials, but mostly, I just watched.) My biggest contribution on this day was moving and organising the messy lump of wood into a slightly-less-messy lump of wood.

It then started to rain and we bailed before the road got too dangerous to drive on.

Day 3: Building the scaffolding

I have a tendency to make life difficult for myself and those around me, and had happily decided to put the house on a steep slope, completely oblivious to the complications of doing so.

It wasn't until I saw the scaffolding go up three-stories high that it struck me that this might actually be a little scary and dangerous…

Am not afraid of heights, but even I was nervous!

We finished the scaffolding early, but didn't have enough manpower to start lifting steel beams up, so we decided to leave it for the next day when we'd have more people and volunteers coming.

Day 4: Putting up the structure and other prep work

The rallying call for volunteers was sent a few weeks before, and on this day, around 30 people arrived on site: a good mix of friends, strangers-who-would-soon-become-friends and the building crew.

After a short introduction, all of us piled into the 4-wheel-drive cars like a pack of sardines, and trundled up the hill to the build site. Those who had received training before immediately got started on the work, while a few others (including me) had to go through a quick basic training on the tools first.

From what I could tell, we had roughly three groups:

1. put-up-the-heavy-ass-steel-beams group
2. measure-a-bunch-of-wood-and-steel-bits group
3. cut-and-saw-up-a-bunch-of-stuff group

I joined the first one, where most of the men were, but because I lacked the strength and the stature to actually hoist beams up, I ended up holding the ladders for the ones who were actually doing all the work. So I ended up having a pretty easy and good time while everyone else suffered.

Luckily it didn't rain that day, so we had a lot of sunny hours to work with. By evening, we had gotten most of the structure beams up. The wood, Shera boards and steel had been measured and cut, ready for assembly the next day.

Day 5: Putting in the floor joists and preparing the wall panels
For this day, half of us spent the day placing and drilling the floor joists in place, while the other half assembled the wall panels by painstakingly drilling in one piece of Shera board after another.

I learned how difficult it was to drill into rock-hard steel, and how easy it was to break the Shera boards with just a touch of additional force.

It started raining heavily in the early afternoon, sending all of us scurrying in panic to protect the machinery. The car could only make one ride down, and would not be able to come back up again due to the slippery road, so the rest of us who couldn't fit into the car ended up trekking down the hill on foot.

In the rain, we trudged down in an assorted colours of raincoats and ponchos, watching each other slip and slide on the wet muddy road and laughing a little too happily at the prospect of any of us falling on our butts and rolling the rest of the way down.

The dogs, as always, excitedly escorted us downhill. I couldn't remember the last time I walked in the rain, but I did think it was something I should do more often.

House Building Diary: Week 2

Continuation of the house-building adventures.

The first week of building was exhausting, and I was starting to think that I had gotten into something that was completely over my head (and honestly, I wasn't even doing the hard parts!).

A typical day for me is usually spent glued to my laptop - both for work and pleasure. I'd be in a nice, cool room, with a very high probability of being sprawled in bed, and I'd get things done without really having to move much.

Building a house, however, was all about brawn (and brains too, of course, but mostly brawn). It was hot, hard work under a burning sun or threatening clouds, and it required a lot of movement and more energy than I was used to expending on daily basis.
It was almost like I'd stepped into someone else's life for a moment in time.

Day 6: Putting up the roof

It was a Tuesday, and I had lost my crowd of volunteers because of this thing called 'jobs' that tend to take place during weekdays. It was down to a few of us to carry on the work.

The builders put up the heavy roof beams, a lot more carefree and relaxed now that they didn't have 20+ amateurs crawling underneath them, at risk of getting their heads banged by, say, a falling beam.

While they did that, the rest of us (and by that, I mean the two of us), set out to finish assembling the wall panels that weren't completed during the weekend. After accidentally breaking over 15 boards, we started to get the hang of how not to break boards while putting them together, and proceeded with the work a lot faster.

We then realised that two of the panels had been assembled upside down. So now we had to learn the opposite skill: how to *not* break boards while taking them *apart*.

The other team finished putting up the roof, and then guiltily confessed that they accidentally drilled a few extra holes. We made a note to make sure those get patched up.

Day 7: Assembling even more wall panels, and then the floor

The wall panels had taken us forever and a day, and there was still just a tiny bit of it to finish.

Once we completed the last wall panel, I was relieved to finally be able to move on to another task - surely cutting steel would be easier? At least the bloody thing won't break so easily.

As it turned out, the steel didn't break like the boards did, which was good, but it also barely yielded to the cutting blade, which was bad. For all the noise I was making with the machine, I wasn't actually cutting anything.

It took several attempts, ten different poses at various awkward angles, and a lot of metal bits flying through the air, but this too I learned and got the hang of. Soon, I was cutting steel like it was butter (but the cold, frozen kind). I even had fun, until I finished the 20th one and felt my entire arm go limp.

In the afternoon, we were joined by professional floor installers. They arranged the floorboards in neat lines and wielded the staple gun to nail them all together. I didn't participate, but merely watched in curiosity.

On this day, we had lunch indoors for the first time on the semi-complete floor, sheltered by an actual roof. It was great. The view wasn't too shabby either.

It then started to rain. The floor installers needed more time and would come back the next day to complete the job. The rest of us, in the meantime, would take a nice holiday before the start of the long weekend and the arrival of more volunteers.

Day 8: It's the Weekend! Clerestory and Gable End

This was the start of a long three-day weekend, and relieved from their daily jobs, the volunteers returned and new ones joined.

The floors were done, and it was time to put up the four walls around it.

It was also time to start work on the trickier side of the house: the gable end, with the sloping roof that made it just a tad more complicated than a normal rectangular wall.

Up on the loft, there was a lot of trial and error going on as we hammered in the studs, only to find that some were too short or too long or that there was a pesky bolt or two in our way.

The only thing worse than expending all your energy to shove and drill in a wall stud is realising you did it wrong and have to take it out and do it all over again. It took a lot longer than expected, but hey, it got done.

Day 9: Clerestory, Gable End and Gutter

This day was a continuation of the work from yesterday, along with additional work on the clerestory: framing windows and installing louvres.

Since we couldn't put up scaffolding on one side of the house due to the slope, we had the tricky challenge of installing external louvres from within. This required some awkward flailing and hugging of the wall studs that were the only thing keeping us from plunging down from the loft to the ground.

Some even got creative by appointing people to be their anchor, resulting in some questionable S&M-like action going on in one corner of the house.

I had only learned to drill a week or so before, and on this day, I had to learn the new skill of drilling from the *inside out*.

We also installed the long gutter across one side of the house. As if to test our handiwork, the clouds let loose a short spray of rain. Happy to report that the water flowed down from the exposed end of the gutter as it should.

Day 10: The Last Day? Internal dry wall cladding & Clerestory

This was the the last day of volunteer building.

We were still behind schedule and had ours fingers-crossed in hopes of finishing all that needed to be done. And we came so, so close!

The internal walls were done, except for 2-3 panels. The loft was almost there, but the polycarbonates were slightly bigger than anticipated, and had to be returned to the workshop to be trimmed to size, delaying the installation.

There were also a million other little things that needed to be checked, and there was no choice but to do another building session.

Many kindly volunteered to come another weekend to finish the work. But when would that be? I myself was due to fly out of the country shortly after this...

So many things to figure out - but first, let's take a photo on the unfinished balcony!

House Building Diary: Final Week

The final stretch!

The first week of the build was spent getting the basic structure up, while the second week was spent on wrapping all the steel with walls and a roof. We had hoped to be finished with everything in the second week, but that was not meant to be.

Some of the volunteers were more than happy to return again for another weekend. However, while there was work that needed to be done, there wasn't enough of it to warrant another weekend of building. I also did not have a weekend to spare as I was due to fly out of the country.

We decided to finish everything up on a Thursday, with a handful of people who could spare a weekday of their time.

Day 11: Internal dry wall cladding, veranda, clean up

We arrived bright and early, but a generator failure caused a bit of delay and getting the work started. So rather than a full day, we really had half-a-day of work, but we still got a lot done!

We completed the internal wall cladding, added a few more bolts to strengthen the structure, finished installing the adjusted polycarbonate panels and the last remaining louvres.

After a bit of struggle, two of the guys successfully put up the main structure for the veranda We also finally got around to patching the holes on the roof.

After finishing the few bits and bobs here and there, the sun was low on the horizon. It was time to take a step back and survey our handiwork.

From this ...

... to this, in just 3 weeks!

Day 12: Last visit

We were done with the volunteer-related parts of the build, but there was still a lot more to be done before the house could be deemed complete.

Little things like:
- a broken Shera board on one corner of the house that got accidentally smashed while we were putting up the scaffolding,
- a check on all the bolts to make sure they were tight,
- putting internal cladding for the loft (a last-minute decision on my part), and
- placing a stump under the foyer that was sagging down.

There were also big things that required professional help like:
- plumbing
- electrical wiring
- painting (which was meant to be done by the volunteers but which, on second thought, would better be left to professionals. The volunteers were threatening to paint the house in rainbow hues, I must not let that happen!)
- veranda (which was also meant to be done by the volunteers but which, on second thought, required a lot more carpentry skills than an average person)
- termite & pest control

On the morning before I was due to fly across the world, I visited the site to see my new baby one last time. Sitting by myself on the loft, I came to a belated realisation:
In typical Atiqah-style, I had rushed this build in three weeks, constantly in a hurry as I am with other parts of my life. However, the truth is, I have the rest of my life to work on this house and the land around it.

So chill, you big idiot (me, not you). *This is going to take a while, and there's a ton of fun and learning to be had. Enjoy the process, and enjoy the people.*

Behind the Scenes

Snapshots of the process and the people.

The view from the build site

The sloping build site

Going up the hill packed like a can of sardines on the back of a pick-up truck

Taking a well-deserved lunch break

Alternative ways of sitting down to eat

Putting the abandoned van-seats to good use

Putting the abandoned van-seats to even better use!

Another sleepy soul

Burger party back in the city before I flew off

At the kampung-style homestay where we spent the night

A BIG THANK YOU to the Epic Home staff, Orang Asli builders, volunteers, delivery men, caterer, homestay owner, and the two darling dogs that made this build possible, and more than that, enjoyable!

Watch the Meraki Tiny Home Build

It’s been a spectacular journey, which I hope I captured well in the video compilation - if you haven’t seen it, go watch it now!

Installing Solar Power

Let there be (sun)light (to power up everything I need in life).

Throughout this entire process of conceptualising, planning and building a house, I frequently found myself wishing I was doing this in the United States instead of Malaysia.

That's simply because the resources available there and the widespread DIY culture would make everything 10x easier, but never have I wished it so fervently as I did while I was trying to equip my little house with solar power, which, in Malaysia, turned out to be an incredibly frustrating process.

Of course, part of that was my fault: I wanted to have a hand in building this system, but what little I know about electricity is limited to what I learned decades ago in secondary school, and even then I barely understood the difference between parallel and series and voltage and amperage. So I was starting off essentially clueless (but very willing to learn!).

In addition to that, I also had rather peculiar requests for my system:

- It has to be off grid, which means batteries will be involved
- It needs to be scalable so I can start off small but easily build up power as needed
- The components need to be future-proof so the system can handle whatever my future self wants to throw at it down the road
- Oh, and the house is kind of far away and in the middle of nowhere

How did these requirements fare with local solar vendors?

“Just get a generator.”

I reached out to a number of local solar companies, and was met half with silence and half with condescension.

I was told that building a 4kW system was too much, too big, too difficult (even though people in the US were happily stringing 20kW and 50kW systems on their roofs). It was going to be too expensive, and it’s not suitable for a beginner like me, it takes years and years to build so “large” a system, and hey, diesel is super cheap in Malaysia because it’s subsidised, so why don’t I just get myself a generator and be done with it?

While I trust that they were looking after my financial interests by recommending the typical and cheap way out by using a generator, I find it disheartening that the people who are supposed to be pushing for sustainable energy use (and who claim that their goal is to provide solar power to everyone) in this country are doing the exact opposite of that.

That being said, I understand the flippant attitude: most of them are used to only dealing with massive megawatt projects with big companies, or they only do the complete opposite of supplying very simple systems consisting of two light bulbs. Most only concern themselves with on-grid systems and don’t want to deal with the headache in the form of off-grid systems. Also, not everyone wants to have to tutor a complete noob on electricity basics.

Light at the end of the tunnel

Thankfully, I did have positive and helpful people around me - they were instrumental in the early stages of helping me understand my energy needs and designing an initial system, and also patiently teaching me, finally, the difference between parallel and series and voltage and amperage.

(This is the cue for a heartfelt and grateful shoutout to Ayu Abdullah from Energy Action Partners, Kyle Weber, Calvin Boey - and his parents, Boey & Shirley for introducing us! - and Murali Haripalan from Canopy Power!)

It took an additional few months, but I finally struck gold with Solar NRJ.

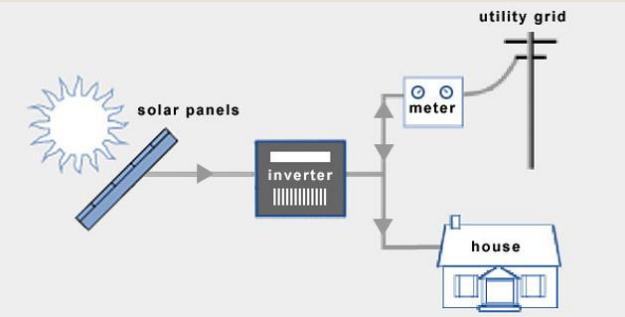
I met the CTO, Joseph Koh, while crashing a meeting he was having with a prominent company on supplying solar power kits to Orang Asli villages in Sarawak. That was a great start, and it was made greater when Joseph told me he'd read up about my tiny project and was hoping to do one for his family too!

Having somebody who gets the point of what I was trying to do and who shares the same values and principles made all of the difference - a few short weeks later, the solar installation was underway!

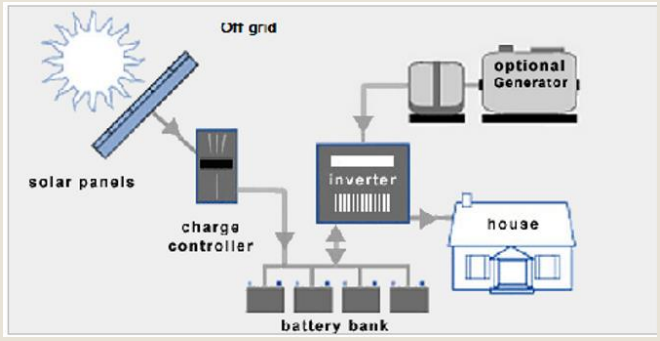
But first, solar power system basics

Solar power systems can either be on-grid or off-grid.

An on-grid system is when you collect energy from the sun and feed it into the existing utility power grid supplied by your local power supplier, which in Malaysia's case, is Tenaga National Berhad (TNB). You get paid for the excess energy you produce, and this can help offset your monthly electricity bills.



An off-grid system is a standalone one, and in the absence of a utility grid, requires batteries to store the energy being produced, plus a bunch of other components. It's more complicated, more troublesome and more expensive than an on-grid system, but if you are located in a place without access to utility grid (or you simply want to be independent of the utility grid), then it's the only way to go.



My off-grid solar power system is made up of 4 main components:

Solar panels
You're likely familiar with these and may have seen them on roofs around town (and the KLIA airport!). These panels are responsible for capturing all that sunlight goodness and converting it into electrical energy.

Inverter
The solar panels produce direct current (DC), whereas the utility grid and most of your appliances require alternating current (AC). The inverter acts as the intermediary that converts the DC current from the solar panels into the more useable AC.

Batteries (Off-grid only)
Since there is no utility grid to send the energy to, we need a place to store the energy being produced or it will all be wasted. This is where batteries come in. In the world of solar energy, batteries are the current limiting factor because we have yet to find a good way to efficiently store energy - in the meantime, we make do with cheaper old technology like car batteries or more expensive but slightly better technology like lithium.

Charge controller (Off-grid only)
This machine regulates the electric current that is going into or out of the batteries, just like a traffic police. It helps to prevent overcharging and improve battery performance and lifespan.

Installation Day

The installation of the system was completed in a day, and was done by Joseph himself (who very generously waived the installation charges), with the help of local electrician, Mr. Ravi and his boys. I was 100% a curious bystander and 0% useful, having contributed nothing but endless questions.

From my position as an observer, here's what it takes to put together a solar power system:

Step 1: Secure solar panels on roof

Step 2: String wires along the side of the house

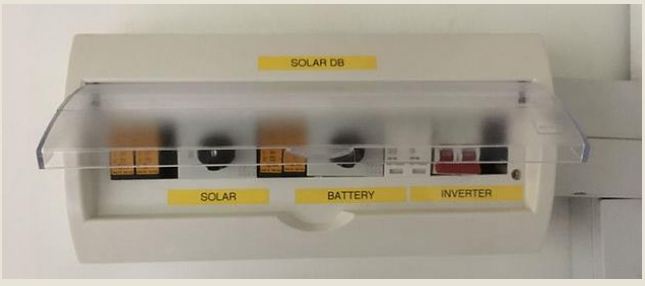
Step 3: Punch hole on underside of house to string the wire inside

Step 4: Install the distribution box and wire everything together

Step 5: Connect the charge controller, inverter and batteries

Step 6: Turn the solar system on and marvel at the presence of electricity!

Extra step: Label everything so no one will mess around and unwittingly blow everything up



Cost

The system specifications are as follows:

- 750 Wp panels
- 4kW charge controller
- 4kW battery (but with 50% usage capacity, so 2kW usable storage)
- 5kW inverter

In normal people language, this means the system can generate (in ideal conditions) 750 Watts per hour of sunlight, can store up to 2 kilo Watts of energy when the sun is not shining, and can power things up to 5 kilo Watt. The whole system, including all the accessories, cost RM 12,670 (approximately USD 3000).

There is room to expand on the power being generated (by adding more solar panels) and on the power being stored (by adding batteries), but that's for future me to worry about.

If I were to nitpick, I would complain only about one thing: the super short 1-year warranty on the inverter made by a Singaporean company, as compared to the 3-5 year warranty typically given by US companies. The inverter is a major part of the system, and also a pricey one, and I would've preferred a more confident and longer guarantee of its quality.

But that aside, I can easily power the lights and fans, and charge my various electronics. The system has been functioning well since it was installed. Thank you again to the Solar NRJ staff: Joseph, Shideh and Maha for (literally) lighting up my house!

Rainwater Harvesting

Installing an off-grid rainwater catchment system to water the tiny house with.

Now that the rainy season has begun, at least in my part of the world, it seems to be a good time to introduce the water system I have going on at the Meraki Tiny House. The house is located up on the hill, with no access to the public utility grid at this point in time, which means I cannot plug into the electricity grid or the public water ways that my neighbours down below are on.

Which is just fine, because I never intended to anyway. This house was always meant to be an off-grid structure that can sustain itself. To that end, a solar power system was installed to provide the house with electricity, and it has been running smoothly ever since.

As for water - well, I didn't have to try very hard. It literally falls all around me almost every other day.

Why harvest rainwater?

Because it's free!

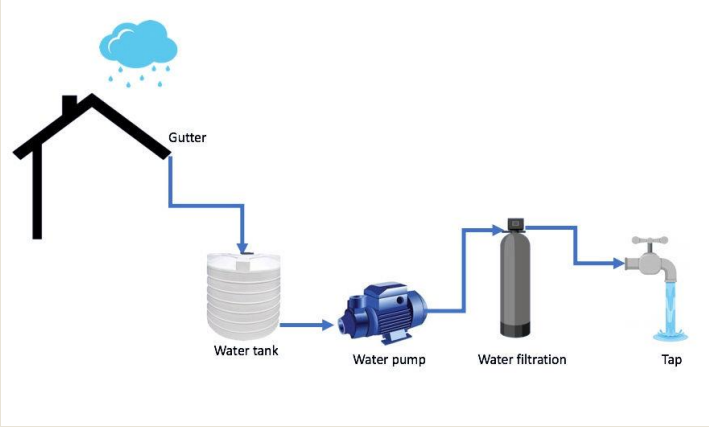
And in a tropical country such as Malaysia, there is an abundance of it (and with climate change, it only means that it'll get wetter in the tropics). Where the Meraki Tiny House is situated, the average rainfall is about 3000 mm in a year.

In fact, given that amount of water dropping down on us from the heavens above, it seems ridiculous to not capture any of it.

Overall System

The system itself is pretty simple, and not much more sophisticated that simply collecting water in a barrel, to be honest.

Below is a walk through of the system:

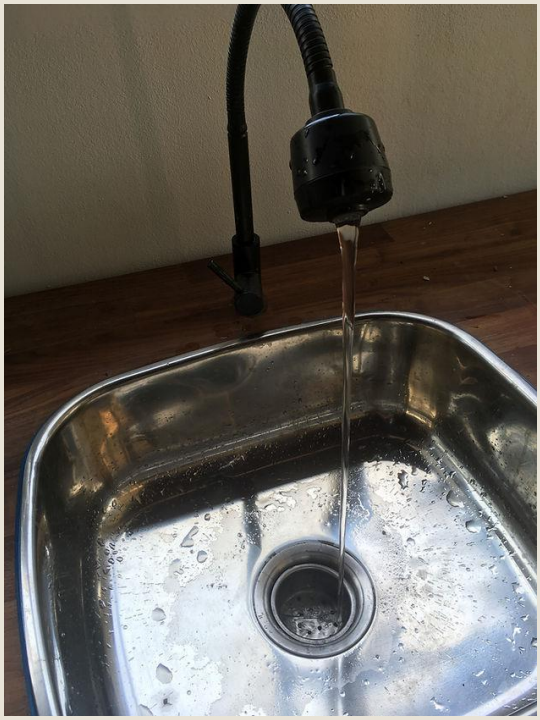


Rain falls on my roof and slides down the sloped surface into the gutter...

The gutter carries the water to the pipes that will bring the water down into the storage tank...

The storage tank is hooked up to a water pump that shoves the water through a water filter...

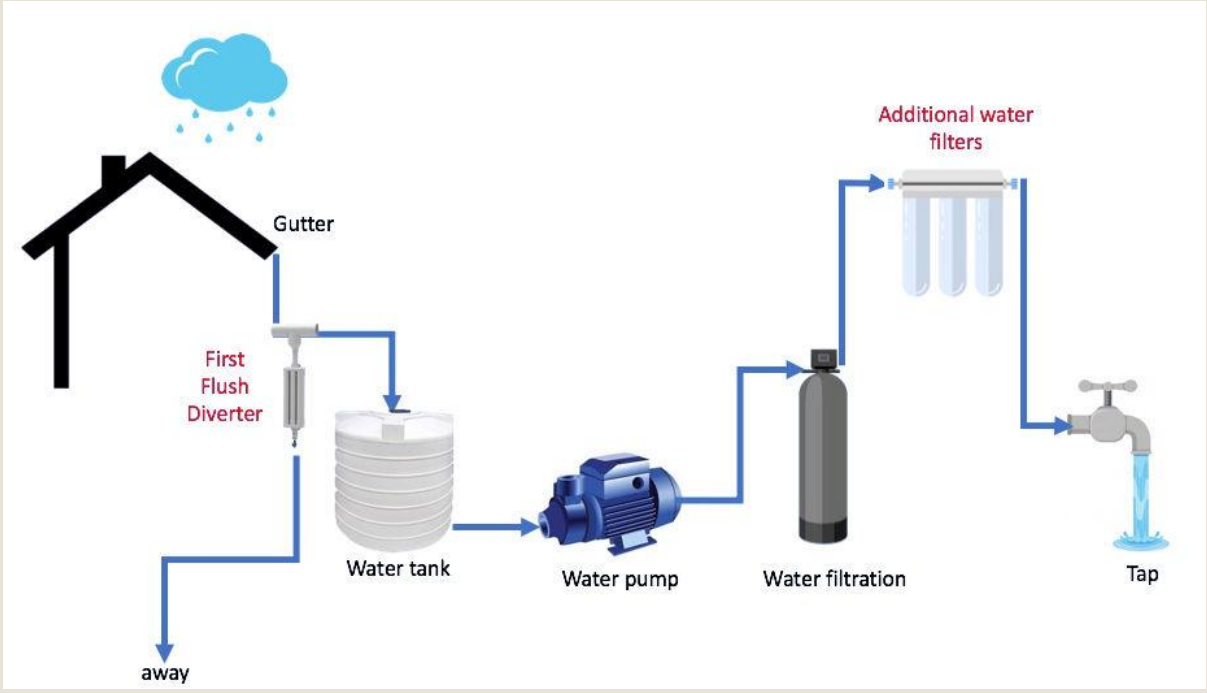
And clean water is piped up into the house, right up to the bathroom and kitchen sink.



Additional elements

What I've described above is a very basic rainwater harvesting system that's adequate for showering, cleaning and the occasional boiling and cooking.

You can get a bit more fancy by adding the following:



1. A First Flush Diverter
When the rain begins to fall, it cleans up my roof a bit by sweeping whatever is on it with water. This means whatever gunk that's on my rooftop (which can be anything from dead leaves to monkey poop) is flushed down the gutter and into the water tank. This can be a major no-no for some of us.

A first flush diverter stops this from happening by diverting the first few litres (which will contain the gunk) of rainfall away. The diverter will then fill up and close itself via a floating rubber ball, which will then direct further incoming water (that is free from gunk) into the water tank.

2. Filter for Drinking Water
If you prefer to have drinkable water straight from the tap rather than having to go around boiling it, you can add additional filters to get the water to clean, drinkable levels.

3. Additional Storage Tanks
To capture and store more water and have more to play around with, beyond just basic necessities.

There you have it - a straightforward rainwater harvesting system, in a place with plenty of rainwater to harvest.

You don't need to build a house to be able to benefit from rainwater harvesting - as you can tell from the above, it's a relatively simple system to setup, and at its most basic, requires only a barrel and a pipe.

Give some thought to how you can take advantage of the rainfall in your area - you don't need to use it for human activities like I do; simply catching rainwater to water your garden and backyard or to wash your car is a good start!

Costing the Meraki Project

How much damage building a house does to the wallet.

Below is an overview of the costs related to the build:

Item	Description	Cost (RM)
Courses & Learning	Courses & lessons on permaculture & home building (totally optional!)	1,000
Land	Includes purchasing, surveying and modifying the land	93,000
Materials	Includes foundation, footing, steel, timber, cladding, livres, roof, glass walls, paint, electrical wiring, finishing & miscellaneous	75,000
Labour	For professional work on site clearing, structure, flooring, painting, pest control & miscellaneous	24,000
Logistics	Includes Epic Home fees, tool & equipment rental, material delivery, catering, accommodation, transport & miscellaneous	33,000
Solar Power	Includes solar panels, charge controller, batteries, inverter and accessories	13,000
Rainwater Harvester	Includes water tank, platform for water tank, other equipment & rainwater diverter	8,000
Furnishing	Includes furnishing the living room, kitchen, bedroom and staircase-cum-wardrobe	12,000
Garden & Landscaping	Includes retaining wall for under-house workshop space, tools and plants	11,000
Unexpected Expenses	Repair costs from damage done by monkeys and humans	7,000
Security	Includes metal grill on door and windows and security system	3,000
	Total	**280,000**

What I Would Do Differently

All the things I would do differently if I were to build a house again

We kickstarted the build in September of 2017, after approximately 1 year of doodle sketching on my own and another 1+ year of actual serious planning with actual professionals. A couple hundred days after the build, seems like a good time to reflect on the journey!

GOALS FOR THIS BUILD

Because I have Type A personality, I naturally had a list of goals that I wanted to achieve with this particular project.

- Have a place to call my own
- Learn new skills
- Find like-minded people
- Have fun

For the most part, all of the above were achieved. I did end up missing a lot of the the last stages of completing the finishing work on the house because I was stationed abroad for work. That meant I didn't get to witness how the plumbing was done or how the house got wired or how they sprayed the entire place down with anti-termite stuff.

LESSONS LEARNED

Ever since the house was sort of completed, I've gotten a number of curious visitors. One question I was recently asked was this: "What would you do differently if you were to do it again?"

I have yet to live in this little house full time, so it may be a little early to be able to comprehensively list down all the mistakes I made. But at this point in time, at least, I could think of five things I would do differently:

Lesson #1: Plan the land shaping better
"Flat land is boring", one volunteer quipped at me, "Sloped land is much more adventurous!"

It is an adventure, indeed. Choosing to put a house on a sloped land comes with complications that you wouldn't have to face with a flat land. Complications in clearing the land, complications in building the house, complications in managing the risks of erosion and flow of rainwater, complications in drainage, and most importantly, complications in the ever-present risk of falling on your butt every two steps.
I don't regret putting the house on a steep piece of land, but if I could do it all over again, I'd do a better and more thorough job of shaping the land so that I won't have to keep coming back to fix it over and over again, which does cost a lot in both time and money.

Lesson #2: Use better flooring wood
The house uses Balau hardwood for pretty much all of the wooden components, including the flooring. A year after we finished the build, the wood on the floor have shrunk and distorted themselves over time, leaving rather unsightly gaps as opposed to a clean straight finish.

Part of this, I was told, is because Balau is less suitable for flooring to begin with, and another part is because during the build, the wood had been left out in the rain and sunshine for days. They didn't cure enough by the time they were installed as flooring. The excess moisture in the wood that evaporated over time caused the shrinking and bending. So, if I could do it all over again, I would look into better, more suitable wood, or be a bit more careful with how the wood was handled.

Lesson #3: Better clean-up habits
A year after the build, I'm still finding bits of construction trash and human trash around the property that are buried in the ground and take a bit of work to clear. Amusingly enough, I even found a half-burned rice pot and an abandoned pair of pants.

A lot of the litter were from the various contractors who passed by to do their respective parts in finishing the house, and who may have forgotten about their plastic cups or their ten billion cigarette butts. But a large part of the litter were also the construction materials that were dumped and left haphazardly against a tree or two.

Upon retrospect, I would institute rules and habits on cleaning up after ourselves, and better manage the trash and waste that were produced. That way, I won't find myself having to dig out Coke cans and styrofoam bits from the bowels of the ground months after.

Lesson #4: Do not underestimate the monkeys
I've had people email me asking how it is living in the jungle. Just to be clear, the house is not quite in the jungle, only in the outskirts of it, and am actually closer to civilisation than you may think.

That being said, I do have unusual neighbours that only come by and party when no one is around. I don't know how drunk monkeys can get, but just like overenthusiastic frat boys, they have definitely caused some unexpected damage.

Some of the shenanigans the monkeys got into include:

1. Throwing raw eggs (that someone had brought with the intention of cooking them) on the wall, causing a mess on the freshly painted interior that had to be painted all over again,
2. Tearing open a large bag of ponchos and opening each and every poncho up before proceeding to spread the poncho all over the property - I found one floating at the top of a tree,
3. Deconstructing the clerestory louvres that we had painstakingly screwed in one by one, which gave me no choice but to fork out more money for stronger, metal-based louvres that were monkey-proof.

Lesson #5: Calm the eff down
Being a Type A also means being riddled with anxiety, sometimes for absolutely no reason at all. So it's no surprise that I've had various anxious moments over this house: Am I doing enough? Are things going well? Should I have done this differently? Is it too slow? Is it too fast? Is it too cheap? Is it too expensive? What if [insert any and every horrible scenario] happens? There's so much to do, OMG how am I going to do all of them, what was I thinking…etc

Even now, I am reminding myself to calm down. The only deadlines I have are my silly self-imposed ones, and the truth is, I have all the time in the world. This is meant to be a lifetime's worth of work, not a weekend project, and if I'm stressing out and not having fun, then what is the point?

Fun is the point.

OWNERSHIP IS OVERRATED

On a side note, I've also learned that owning things is actually one big headache. Why people scramble to own ten cars and five mansions is beyond me - even this one little house is stressing me out beyond belief!

Not that I'm the least bit daunted. At one point, I started dreaming about replicating this whole project by the seaside, or on a mountain top somewhere. That is, until my father (infamous for his quip about shoebox-sized houses - see page 5) came through with yet another piece of his wisdom:

"Why must you go and build houses all over the place?" He sighed at me. "Why can't you just go to a hotel?"

Even so, this house and the experience of building it from scratch was a dream come true!

Thanks for following along the journey!

THE MERAKI TINY HOUSE