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A Conversation with Michael Kuntz of Simusolar

Katherine Noble
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Katherine Noble: Please introduce yourself and tell me about your work.

Michael Kuntz: This is Michael Kuntz. I'm one of the co-founders of Simusolar. We provide income-generating solutions to farmers and other agriculturalists in East Africa. The way we think about providing income-generating solutions is by delivering equipment and services that allow farmers, livestock keepers, and so on to increase their income to become more productive. Our solar water pumps and generator replacements were introduced, and we're doing a pilot with the solar milling, solar winnowing, and solar holding and threshing machinery. We provide services around designing the equipment to make sure it fits the needs of the user. It's almost like an EPC (Engineering, Procurement, and Construction) as opposed to just selling a kit. We also provide financing and after-sales service, which are unique in our sector. That's a bit about us.

It's basically like an engineering firm. Someone that you would hire to come in, and if you're trying to build out a full irrigation system for a 1,000-acre farm or your factory, and you want to put in solar and a backup for your factory, they come in, the engineers. They would come up with the designs. They'd go procure all the equipment. They would do the implementation and construction and make sure that it's all up to standard. It's very, very much like a bespoke contractor, which is different from, say, do you want to buy this box or that box?

Katherine Noble: So, you provide implementation and support as they're beginning to use the product?

Michael Kuntz: Yes, and we've developed a lot of tools to automate the pieces of the process from the design to the fulfillment to the service to make it scalable. We can do what normally, from a cost structure, you could only do for a $30,000, $40,000, $50,000 ticket. We can do it for someone spending $500 on a pump that's only farming on 1 acre. The reason it's important is that farmers are more different than they are similar. Every farm has different topography, water sources, and water needs, and pumps are not one-size-fits-all.

They're specifically designed for us to provide a certain amount of pressure and a certain amount of volume. If you get out of either the pressure range or the volume range, then it won't be effective and may not even work at all. That's unique.

The innovation is that, to provide this EPC-like service, this custom engineering procurement, everyone is getting their unique bill of goods. There's a lot of moving parts and a lot of skill sets required, so it's typically unavailable to a small farmer. It's that the cost structure doesn't make sense to have a professional engineer come to your one-acre farm. Or to have a company write up a custom bill of goods for you and do the pricing and give you your own custom invoice. That means that small farmers, and small can be up to 5 acres, 10 acres in some cases, basically don't have a way to get a system that will meet their needs.

What we've done is we've automated the design process where we don't need to send an engineer to the field. We can send a regular field officer. They can get us some data points on the farm and then auto-design a few systems. It's like, we've got an algorithm that we'll design and figure out the exact components in it, in the full design, put a price on it, and allow an invoice to be produced on the spot. Then, all along the chain from fulfillment to service, we have innovated around that to ensure that we can provide this level of service to farmers, which is needed. If you don't provide this level of service to them, the odds of them failing are high.

Katherine Noble: What led you to this work?

Michael Kuntz: I spent the first 12 years in the traditional financial services sector. I wanted, from early in my career, to do something more impactful. Learned about microfinance and became interested in that, but couldn't quite see a way to make the leap. School debts and other things I do attend to, and it was just such a nascent sector. I couldn't find any jobs or opportunities there. Finally, after years and years of tracking and trying to get involved where I could, I volunteered within a microfinance bank as just a project for a few weeks one year.

It was dipping my toe in, but I realized I wasn't going to be able to transition without just fully diving in. I quit my job working at a big bank in 2011 and just started my own self-financed sabbatical/career transition. I had a bunch of different incarnations of that, everything from working with farmers in the Amazon to farmers in Northern California to helping Kiva as it was trying to expand into China. Then, I eventually got to where I was given an opportunity to run an organization in Nigeria doing youth employment and focused on youth employment through entrepreneurship.

That got me on the continent. I was not really interested in being in the African continent. My mom is Peruvian. I grew up in Texas. I have a real strong affinity for Mexico. I was excited to stay in this hemisphere, but that's where the opportunity was, so I took it. Then, after, I led them through a pivot and built the capacity of the team in Nigeria and then pulled out just as a board member so they could focus their resources on the team there and started looking again. Then, I saw there was a posting for an organization looking for a cofounder to build out this thing in Tanzania.

I met with my cofounder, Marianne, and the other one, David Katz. We sat, we chatted, and I felt excited about what they were doing and aligned. Started by saying, "Hey, why don't I consult with you while we get to know each other better?" After a month or two of that, she said, "Listen, fish or cut bait." That was 2015. Then, in 2017, my wife had quit her job. Our firstborn was about 11 months old and we moved to Tanzania.

Katherine Noble: What is your target audience? Is it for farmers with 10 acres and below?

Michael Kuntz: Yes, because if you go larger scale, you can afford to hire an engineer with a master's degree and 10 years of experience to come out and give you a custom design, and someone else will be doing all the procurement and negotiating with all the vendors. At 100-plus acres, it's a different kind of service provider, and they already are getting services. They don't need this sub-100 acres where you start to see the gap.

Katherine Noble: How do you find your clients and the types of communities that benefit from the service to farmers?

Michael Kuntz: We started in Tanzania and then expanded to Uganda, launching in 2020 there. We find customers in a number of ways. We either host a demo event, or we'll work with, say, an agribusiness that works with farmers or an NGO that provides training to farmers. Any kind of group that's already aggregating farmers, we'll try to work with them so that they can convene the farmers to learn about our services and learn about solar irrigation because most farmers don't even know that solar irrigation is a thing, and the ones who do have doubts that it works.

There's a lot of education and demand creation in the process. Working with partners to create awareness, and we've got some traction now, so referrals are a big component, too. People will tell their neighbors and friends, and that's the recurring customer generation side. Those would be the big ones.

Katherine Noble: How does the financing work for these small farmers?

Michael Kuntz: When we visit the farm, if they need to pay overtime, we ask them some questions. Then we have a credit expert call them from our home office, verify some of the information, understand a bit more of their plan, and then we offer them a payment plan. We're effectively doing the financing. Now, we've also started to work with a few banks in both Tanzania and Uganda. Microfinance banks and other specialty finance organizations are where we are, in a way, the servicer. What that means is we're the ones who take care of the equipment, ensure it works, and follow up if the customer is late. The finance partner takes on the credit risk.

What we're trying to do is allow banks to get into asset financing, and that also allows us to focus on our core competency, which is getting technology and systems to people and supporting them in using that. It's been slow. It's a small portion of the financing we do, but our goal is to expand it over the next 10 years because that's probably how long it will take. Eventually, from a financing standpoint, we'd like to be the intermediary providing a lot of the services, the last mile interaction, but allowing the financial services sector to take on the credit risk.

Katherine Noble: Could it be done both ways with you staying as the finance partner?

Michael Kuntz: It could be done both ways. It's a capital-constrained environment, so we're always underfunded. The funding we do get is always unreliable. It doesn't always come on time. In the case of USAID [United States Agency for International Development], sometimes it just gets canceled. The less we have to finance internally, the shorter the cash cycle is, and the easier it is to run the business in the current environment. So, having a bank partner is very helpful. It's not necessarily a critical path, but it could allow us to accelerate.

Katherine Noble: Can you give me an example that illustrates the impact of your work? And how did your approach lead to their success?

Michael Kuntz: I'll give one example, a gentleman named- I've visited his farm twice now- Iwaro Pascal. I think it's Pascal Iwaro. He's like a minister. They were, before, farming on a small, small chunk of land, I think, near their church and using buckets to water. They could only do, I think, a quarter of an acre because you only want to invest so much. If it's dry for a long period of time, you have to water it on your own manually. People typically just reign during the rainy season when they can count on the rain coming from the sky, but there are periods where it gets dry even then, and you need to make sure that you've not farmed so much land that you can't afford to keep the plants alive. They learned about us from an event. They adopted our smallest system. It's made in the USA. It's called the Kilimo Kwanza. It's from a company that is in California. We provided it with financing, he got it, expanded to an acre, paid it off. Then, he decided to start working some other land that he and his family had and bought a second pump. This time, a submersible one you stick under the water. They dug a small well and bought this slightly bigger pump, and then started also getting into different kinds of crops.

I think they did papaya, they got into peppers. Everyone is always doing corn. That's a staple. Done well with that. Now I think they've already bought or were preparing six months ago to get a third pump, a bigger one. Meanwhile, it's created probably 10 jobs for youth and ways that they can learn and see best practices. Others in the community are seeing this. He's referred several people who've adopted as well. That's the classic and our ideal progression. We have cases of that all over the place now. Not everyone does that. Some people buy a pump, and they just use it and stay at a certain size. It's a real mix, but that's the path, the journey that we are here to facilitate.

Katherine Noble: Are there challenges with water scarcity in terms of the well that he built and the submersible pump that he has, or are they small-scale enough that it's not an issue?

Michael Kuntz: They're small-scale enough for the most part. Tanzania has good groundwater sources in most parts of the country, but it's an issue. We're tracking it. It's one of those things if we weren't constantly just trying to survive, we have a lot of ideas of how we could try to address that through also offering some water capture services, and technology, and training, and other things we can do, pushing drip irrigation more because drip uses half the water of the more traditional forms of irrigation. But we just don't have the bandwidth to do anything but the basics. I'd say it's coming down the pipe.

Katherine Noble: How pressing of an issue is it, and do you feel like it's something you need to address, and do you need funding or capacity building to address it?

Michael Kuntz: I'd say it's probably a second-order funding issue. We are looking at, at some point, acquiring some portable low-cost drills. For $35,000, you can get a drill and make an 80-meter-deep well. Groundwater in Tanzania is expected to maintain over the next 30 or so years, in the last report I saw. Uganda also is very rich in its water source of the country. Now, there's a part in the north that's quite dry. I'm not sure about the groundwater there, but as you get towards South Sudan, it's a different setup. In most parts, it's just a matter of accessing the groundwater.

We'd like to be able to do that service. The typical well drill is this entire truck that we'll have to drive somewhere and has all the machinery built into it. It's very expensive. Oftentimes, the truck can't reach certain farms in certain locations. In contrast, this drill we've identified, you can throw in the back of a pickup truck and take it out and still go down 80 meters. It's quite impressive. We want to acquire some of those and just continue. We do have on our roadmap over the next three years to build out our water access capabilities because there's a lot that goes into that.

It's not just drilling a well. You've got to identify where you've got to drill it, cast it correctly, and then set up a maintenance schedule, because they build up sediment over time. You've got to flush it. We have a roadmap there, but I'd say our funding that we're raising now is to, one, just stabilize because we're just coming out of COVID, and then all the money had left the sector because everyone got burned by the solar home system space. Then, finally, we start to see people start coming back.

We had a president in Tanzania, [John] Magufuli, who scared off investors. Tanzania is our biggest operation. Then, finally, people are coming back, we get a USAID contract, and that gets canceled. We keep trying to get our balance and getting punched. This round is to just get us firmly on our feet. We need to get to profitability. We've been losing ever since we started. We've gotten quite lean. We've got a path. We're getting closer. We need to get there before and stabilize and restructure as well. We got a lot of investors going way back in different positions that have been waiting for us to either die or make it and willing to do anything until we either close up or until we have some big success and announce a big round, and then they all will decide what they're going to do.

We want to get rid of that baggage by raising some money, and then take the next few years, fix, patch any wounds we have from the last five years, and get to profitability. Then, during this three-year period, we'll also be building our water capabilities. This funding round should help us in that, but we'll probably, once we get it, start looking at grants and ways that we can build out that capability. It's very hard for a business like ours to finance innovation with equity because it takes a long time to get a return on investment.

It's very risky, and we're targeting people who can't afford big ticket sizes and large amounts. It's costly to reach them. We're not just providing them a digital service, we're going to their farm and helping them. This is not a rapid-scale unicorn story. This is slow and steady trench warfare. It's hard to say, give us $500,000, and we're going to develop this new thing, in our kind of model. It's fine in a VC (Venture Capitalist) tech model, but for us, the payback is way too long for a private sector investor in the equity side to do that. A lender is not going to invest in a new unknown technology innovation. You're stuck if you see a need and want to innovate to do that.

Now, we've been able to innovate a lot over the years, but when it comes to big things like this, we need grant money. We use grant money to expand into Uganda. We also invested, but it de-risked it a little bit for us. Similarly, we're developing agriculture processing machinery on a finance basis. Grant money is helping us to do that. I believe if we have a major innovation we want to do, we hold until we can find someone that will help us cover the costs because there's no logical private sector funder for our kind of business to do it alone.

Katherine Noble: What type of funding that addresses that issue have you received from Rippleworks?

Michael Kuntz: Nothing from Rippleworks; we got our first-ever funding from them just a month ago. That was just emergency relief. They surveyed us. They found out that we lost $630,000 from USAID and said, you know what? No questions asked, here's $100,000. Hopefully, that helps. I've never had anything like that happen before. It is probably the coolest thing I've ever seen an organization do and just speaks to what a unique organization Rippleworks is. No strings attached. No, “You have to use it for this, this, and that.” Just, here, we hope this takes some of the sting off USAID and helps you get through.

It's prompted us to now go to some other foundations that we know and say, can you help us? Anything counts. Alms for the poor because that's what we need. What Rippleworks has provided has been a lot of technical assistance. They've hooked us; they've done several different programs where they've found an expert, and that expert has been willing to mentor us over four to six months. It's built our capacity, it's built the capacity of the team. It's allowed us to engage future leaders and existing leaders in the company and build our capabilities and take our operation to the next level because we have smart people.

There's no lack of intelligence in other markets around the globe, but there's a lack of exposure. Most of what you and I and anyone else learns is what they learn on the job by watching others and being trained and having a chance to see that, and that you just don't have that. Most of the businesses that operate in Tanzania and Uganda are either local businesses that are run extremely cheaply and don't leverage technology very much. Or they are a telecom or a global company or a mine that's coming to extract value. Probably, the telecoms and banks do the most to expose people. Banks, at least, are quite conservative and behind in their use of technology.

Anyway, what Rippleworks does is it exposes us to best practices over a period of time so that our people can grow, we can build our capabilities, it's enough time that we can implement some changes that can stick. That's been huge. They do expert office hours and things like that, but our main interaction has been on that front, and it's been great.

Katherine Noble: That's separate then from this $100,000 emergency grant?

Michael Kuntz: The $100,000 is just to keep the lights on. With USAID, there's money that we have contracted to do deliverables, and they were paid for, but there's also stuff that we did for USAID, and so far, they're stiffing us on. It's covering some of our outflows for activities done that we would otherwise have gotten. That's allowed us to make payroll. It's a lot. That's allowed us to not go out of business, probably.

Katherine Noble: How does that relate to the Leaders Studio? Is capacity building part of it?

Michael Kuntz: Yes, I think that's what it is. Every once or twice a year, we're able to submit two of our teammates to participate. They go to the studio that improves their capabilities and strengthens them as professionals. That's just individual-specific capacity building around a soft skills or a leadership topic. That's different from what I was talking about, which is more of a project.

Katherine Noble: When you say your team members, are these Tanzanians and Ugandans that work?

Michael Kuntz: Yes. My co-founder and I are the only non-Tanzanian Ugandans. We're increasingly sidelining ourselves. The team has grown. There's still the leadership. It's like they're managing directors. My co-CEO was the country director at one point, and he went through one of these. They're our top teammates. It's all locals who have been benefiting.

Katherine Noble: Is there anything about that Leaders Studio that could be done differently that would make it more helpful?

Michael Kuntz: I can't say. The feedback I've gotten has been positive. I guess it would be interesting if some closing report was shared. I don't want to create a lot of work for Rippleworks, but just something to say, this is what we covered with them, here's some observations about your colleagues who went through this and how you can continue to support their growth, because they do it and I don't hear much about it. They come and tell me they've done this thing, and I'm like, oh, cool, I'm glad. Obviously, I have to nominate them, but still, I'd be interested to know. If it were not too hard to do, some kind of FYI could be helpful and also be a prompt for me to then go back and say, let's sit and talk about what you learned and what you can apply, and so on. That would be the only thing I could think of.

Katherine Noble: Are there insights that you have that other funders could learn from?

Michael Kuntz: It's a big question. Right now, Rippleworks is generous with its funding. We could use some more of it! Not necessarily from Rippleworks, but from others. Many organizations are operating on the verge. There are always surprises and shocks in this landscape. Anything can knock you off.

One of the challenges with the funding environment is that these kinds of windows come up. It's like a window for a specific theme that donors have gotten excited about. You apply to do something for that theme, and it's useful. There are themes out there for productive use equipment and ways to expand it. That's great. We apply for those. That's helpful. There's themes for job creation, there's themes for all kinds of things. The challenge is, and I think there's a couple organizations, I forget if it's Echoing Green, no, not Echoing Green, it's maybe the Mulago Foundation or DRK (Draper Richards Kaplan), one of these, they say, we're going to give you unrestricted, unconditional grant money. Every year, we're going to give you this amount. They take them on. That's a great model for organizations in our space now, especially for ones that might be locally owned, locally founded. We could have used it too, but I think those especially may not have access to and sophistication to go about private sector capital raising. That'd be one thing. I'd say that nobody wants to raise money to help a company get out of trouble. There are sometimes companies that are doing good work but have gotten in trouble. They borrowed some money, they had some growth expectations, and they got hit by a bunch of surprises. Then they're not able to pay, and now, all of a sudden, they're in debt.

Some of this is commercial. That's what happens, and companies restructure, renegotiate with their lenders, do whatever. In our sector, at least, there are a lot of companies with lenders that, while they're impact lenders, many of them still just don't want to write off anything. They'd rather you go out of business than have to write it down. Getting out of trouble with them, sometimes you need an impetus, or they'll say, we're not going to write this off unless there's some new money or some reason for us to write it off. We're not going to renegotiate against ourselves.

Sometimes, new money can come in with the purpose of others cleaning up. It's like, I'm going to invest in you because I think you have got a good future, but my money is only going to come up if all these other investors agree to write down the amount that's owed and extend it or something else. It'd be fascinating if there were a fund that was like a get out of jail free card fund, which is, the premise has to be that the company is doing good work and has a good future potential. It's not good money, and it's not bad. The idea is that companies that have the potential to do a lot of good could go away, but for someone who can come in with the stomach to get everyone else to fall in line.

It'd be like, we're going to give you this money, but we only give it to you if your other investors agree to do the following. That becomes your leverage to go around and get everyone to fall into line. That's an interesting way of seeing that, I'm just throwing that brainstorm out as what would be; we and a lot of companies in our sector are in this position.

Then, of course, like any kind of new innovation, we'd love to acquire a couple of these drills, these portable well drills, and start upskilling there, but we'd need a grant for that, and there's not really a grant designed for that.

A lot of times, there's specific work you want to do, but there's no window available to it. Operating leanly and being based in East Africa, as I have been for most of the last seven years, you just don't have time to network with all the foundations here. The companies that are here or where founders live here, or there are founders who travel a lot, they can build all these relationships and cultivate them to the point that they can co-design something, but we're not able to do that. It's more of a systematic issue, but a way to connect with funders and be able to propose things to them and co-create some things where we think it could be impactful, but we have no way of really getting those relationships going in that interest.

Katherine Noble: Could you identify things that need to happen for you to scale?

Michael Kuntz: One is bringing $2 million in funding in mixed-up forms. It could be some grants, some equity, some loans. We lean towards grants and equity because we feel like it's a long road to getting to the point where we're generating cash and are robust and self-sustaining. Taking on obligations that we have to pay back right away doesn't fit as well. Most advice to companies is like, don't take out a loan until you're profitable and have good cash flow, which is nobody in our sector. [laughs] Yet most of the funding coming in this space are loans because everyone wants to get paid back.

Also, the narrative of, oh, we have to create companies that can stand on their own two feet, and we can't have them be dependent, and so on. I get that, but many companies in this sector are hybrid NGO (non-governmental organization) companies. They're filling in public needs that the public sector is not taking care of, operating in extremely challenging environments, and targeting clients and audiences that typically have low capacity to pay. If you say only the ones that really can stand on their own two feet within a few years, then you're not going to have a lot of innovation, and you're not going to have a lot of organizations.

You'll have more NGOs that decide to also make some money on the side. Anyway, that's my beef against so much debt money versus equity and grant money in the space. Grant money for companies, organizations that say, grants, we only give to NGOs. I can get that from a tax perspective, but you can use fiscal sponsors and still work with companies. It shouldn't be a barrier. That's one thing. The next thing would be, I feel like we could benefit from almost an organizational consulting review, like an audit and support because through this COVID and the period since, and now USAID, we just keep cutting and reducing the number of people and and running leaner and leaner.

We've been able to amazingly make it work, but it comes with a lot of operational risk. Operating lean means there are a lot of things you're not doing and a lot of areas where things could turn quickly. The thing is seeing where the biggest gaps are, where are the risks, what can we do without having a huge budget that could make us sustainable? Maybe there are a couple of roles we need that we cut and then put back. Maybe there's technology we can implement that will help fill in the gaps. Maybe it's some training and processes we need to do to just strengthen the team and the resources we do have. I feel like that's needed as we're going to be holding our costs and continuing to grow. I think there are some real risks if we don't do something to ensure that the people and systems are all intact.

Katherine Noble: What bold shifts are needed in the funding landscape?

Michael Kuntz: I get there are systematic reasons that it's the way that it is. People have to get funds from DFIs (Development Finance Institutions); they're the ones who have the big amount of money, and there's all sorts of reasons for that. I'd also say the kinds of financial instruments available are typically either debt or equity or convertible notes. I think more people are starting to look at royalty base or structured securities where a percentage of some KPIs (Key Performance Indicators) are paid out.

It might be personal income, EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization), or revenue-based models, though I have my concerns with those. Number one is you need more securities that are designed to solve some of the problems and risk return profile of organizations operating here. Typically, organizations aren't big enough to patch a bunch of different funding to get that set up themselves. Ideally, you construct your security to do anything. I think more thought and then general promotion and acceptance of securities that have longer payouts and lower expected returns, there's not the VC model, and some flexibility because, if anything, businesses, what happens is always very different from what they think it will. That's one thing. The second thing is blended finance.

Blended finance is when you pair different kinds of securities together as a package, like a grant and a loan and equity. It's like, take a bit of each, and then it's a structure, almost like project financing. It's different kinds of finance all brought together. Now, people have talked about that for a decade. The only time I've ever seen someone try to do that was when several organizations said they would try to coordinate, but they never did, and it never worked, and the timelines were different. You need a single organization to come and say, here is a product that includes one part grant, one part equity, one part debt, or whatever your mix is. We offer it to you as a package.

Internally, what's required is the funder has to create almost all of this in advance, because, otherwise, you have issues of conflicts of interest and walls internally, where you have all those different groups doing separate underwriting, and that also just increases the cost. You need to make it a single package instrument so that one group within a fund or foundation can underwrite and offer it. Then, it can solve these various problems you have in the sector around timelines, risk, and mix. That, it's still not made. I'm surprised that no one has tried that yet, but that's needed.

Katherine Noble: Who have you seen trying to make this happen?

Michael Kuntz: I would say that it has to happen within a single fund offering all three itself. I don't think if you try to coordinate across organizations, I think there are too many differences in processes that it would just be structurally setting themselves up for failure. I would say that you need to have a single organization offer this from their own balance sheet or manage someone else's money, but getting to make the decisions and offer and contract and engage on their behalf.

Katherine Noble: Is there anything that comes to mind that we haven't talked about?

Michael Kuntz: Rippleworks has been amazing in how they've supported us. The variety of kinds of support they do is really helpful. I'd say it'd be great if they could give grants to companies as a programmatic thing. Amazing what they did with USAID. If there's a possibility to have something there, that could be interesting.

Katherine Noble: Thank you.

Katherine Noble directs editorial partnerships at Sentient, including syndication, co-publishing, co-reporting, collaboratives, and special projects. Before joining Sentient in 2024, she worked for eight years to spread the practice of solutions journalism through the Solutions Journalism Network. As a reporter, she specialized in water issues, particularly in the western United States, and she also covered philanthropy, health, religion, education, and crime for daily, weekly, and monthly print publications. She has a graduate degree in history from Duke University and in business from University of Redlands. Her undergraduate degree is in political science from UC Berkeley.

** This interview has been edited and condensed.*