EIT Food Fight UN FSS Part 2 V2.mp3

Matt Eastland [00:00:03] Welcome to The Food Fight Podcast from EIT Food, exploring the greatest challenges facing the food system and the innovations and entrepreneurs looking to solve them. I'm Matt Eastland and we're back for the second instalment of our Good Food for All competition mini series. This serie is exploring the innovations acknowledged for their merits in transforming food systems for a better tomorrow, from the recent competition held in conjunction with the UN Food Systems Summit. Once again, I am joined by my very good colleague, Barbara's Corekoglu, who's our Strategic Relations Manager here at EIT Food to talk about these innovations. Hey, Barbaros, good to have you back on the show.

Barbaros Corekoglu [00:00:45] Thanks, Matt. It's amazing to be here and welcome to the show everyone.

Matt Eastland [00:00:48] Thank you very much, Barbaros. Now, if you are just joining us, I absolutely implore you to listen to part one where we talked about the competition in detail. But in case anybody needs a refresher, Barbaros, could you please briefly highlight again what the good food for all competition was all about?

Barbaros Corekoglu [00:01:06] Of course, Matt. This year, the very first ever United Nations Food System Summit took place and adjacent to that summit we organised together with the United Nations and stakeholders across the world a competition called Good Food for All. Our objective was to identify the most out-of-the-box, innovative, interesting change making SME's from across the world who really make a difference for the food systems and food systems transformation. So nearly 2000 applications came in to identify the best SME out there. And as a result, 50 of them have been selected and awarded and recognised by the United Nations. And yeah, we'll be hearing shortly about some of them as well.

Matt Eastland [00:01:48] Fantastic. Thanks, Barbaros. Thank you for re clarifying for everybody once again. During the first episode, we heard from the winners involved in improving farming practises. And in this episode, we're going to look at the SME's using natural elements to their benefit and particularly solar power.

Nnaemeka Ikegwuonu [00:02:06] Hi everyone. My name is Nnaemeka Ikegwuonu. I'm founder and chief executive officer of Cold Hubs in Owerri, in Nigeria.

Matt Eastland [00:02:17] So Cold Hubs is a company that builds and maintains 100 percent solar powered walk in cold rooms in developing countries. And this allows farmers to store food, helping to extend the product's shelf life from 2 days up to 21 days.

Nnaemeka Ikegwuonu [00:02:33] First we realised that solar was the way forward for us because we were building out cold rooms in the middle of nowhere, you know, where there was no greed. So we realised from day one that for us to actually power the cold rooms and the cooling units, we needed some form of solar energy. Fortunately, Nigeria, our country is abundantly blessed with sunlight approximately more than two hundred and fifty days of sunlight, starting from 7AM and going on to 6PM, you know, so we harness that. And the third reason was we wanted to look very green. You know, on my radio shows, I've talked a lot about green leafing and we clearly couldn't be seen running fossil fuels, which we have criticised. So we needed to appear green today. Nigerian pubic, which is more or less practising what you preach, we leverage on that. We also wanted to

demonstrate a new green cooling and the model of green cooling that we wanted to demonstrate was to prove that a cooling can be done in a way that is sustainable.

Matt Eastland [00:03:49] So that was Nnaemeka talking there, and, you know, I guess it's one of these things, it just seems so obvious, right? So the country has so much solar power and it's free, it's sustainable and it seems like an obvious solution. So Barbaros, do you think more companies should be, sorry excuse the pun, seeing the light in this opportunity?

Barbaros Corekoglu [00:04:11] They absolutely should. And I think we already see some good examples from across the world. I mean, I live in Belgium, I'm from Turkey and here in Belgium the wholesale markets are now covered with solar panels to provide the green electricity to these wholesale markets. But again, what this SME is doing is quite fascinating. They're harnessing the power of solar energy to power cold cooling rooms, which we know are in quite dire need in these countries because we know, for example, in these countries that farmers, largely smallholder farmers, cannot bring their produce to markets. Exactly because there's a lack of cooling units, there's a lack of preservation facilities along the route. So such cooling facilities will definitely help these small farmers, small or large farmers really, to bring their produce to market so that they can earn a living from what they produce from their own land. The land that they largely managed themselves. So they're also the stewards of their land. So it's an amazing infrastructure. It provides storage for produce to reach the market, to reach to those in need. It provides an income for these farmers. Again, talking about food systems, right? It tackles food loss from happening, it prevents food loss. It ensures food security for everyone so that the food can be preserved more. It ensures above all else, of course, food safety, which is very critical. You know, I mean, foods are quite perishable in heat, especially in countries like Nigeria and elsewhere. So cooling units are extremely important there. And of course, the resilience of the food system. So how again, with the COVID, we have seen a major shortage of food from across the world and this kind of infrastructure off the grid independent from fossil fuel or energy shortages. They really helped build the resilience of our food system.

Matt Eastland [00:05:57] Yeah. Thanks Barbaros. And I guess one of the things that I take away from this is I genuinely myself had no idea that something so simple as cooling can extend the sort of the shelf life or preserve foods from 2 days up to 21 days. I mean, that's incredible. You know, it's something which I think we probably take totally for granted. And it's great that Nnaemeka and his SME is really looking to solve what is obviously a really big problem for them. And do you think that an innovation like this will really transform the supply chain in Nigeria, for example?

Barbaros Corekoglu [00:06:33] I think, yes, both in Nigeria and elsewhere, right? It is definitely a replicable solution and the one that should be encouraged in all honesty. So how can you reduce our dependence on fossil fuel or, you know, grid electricity grid energy? Definitely we should be looking into this kind of solutions and again, just replicate wherever possible, solar energy is out there. We just need to harness it, harness it for the benefit of greater populations, greater society.

Matt Eastland [00:06:58] And it's obvious that Nnaemekas got really big big plans as well, because when we spoke to him, he highlighted the next 2 to 3 years. They plan on building what 500 cold hub rooms for farmers, which is, you know, growth wise, it's pretty astounding. And here is what Nnaemeka said about their technology's current impact.

Nnaemeka Ikegwuonu [00:07:16] The impact of Cold Hubs is incredible. In 2020, we were able to save 40,200 tonnes of food from spoilage. This is typically the food that is thrown away, which is aggregated volume of food stored inside the cold rooms, we're able to increase income for 5,250 users from $60 every month to $120 every month at minimum. You know, we've created a total of 54 new jobs for women by hiring and training them to work as our hub opporators and market attendance, and the 40,200 tonnes of food that was saved inside the cold room had no chemical, biological contamination. These became safe, hygienic, nutritious food for public consumption. And by leveraging on the immense potentials of solar energy, we have been able to save more than 1,000,000 kilograms of CO2 by kicking out diesel generators from any of our cold rooms and relying on renewable energy exclusively. So the impact is multifaceted around reducing food spoilage, increasing income, ensuring gender equality, contributing to a greener world today.

Matt Eastland [00:08:38] Wow. I mean, I know that Barbaros is big into impact on our side at EIT Food, and that just seems to tick all the boxes, right? He was talking about reducing food loss, reducing the need for chemicals to preserve food, which means the food is healthier, saving 1,000,000 tonnes of CO2. There's a social agenda angle here, there's jobs. I mean, phenomenal, right?

Barbaros Corekoglu [00:09:05] Absolutely. Co-benefits all the way and changing the food system, right? So it's fascinating. It's certainly fascinating what they're doing. And especially now, I mean, we heard that they have reduced 1,000,000 tonnes of CO2. And as the world, we are looking at these kind of tangible solutions that really do make an impact to really reduce our climate footprint and really stop and reverse climate change. It is massively, massively important.

Matt Eastland [00:09:31] Yeah, big kudos to Nnaemeka and his team. This is amazing what they're doing, and I wish them all the best as well in the future in terms of their scaling up so well done. So now to our next winner, who's also seen the potential in solar energy.

Clementine Chambon [00:09:47] Hi, my name is Clementine Chambon and I'm the co-founder and CTo of Oorja Development Solutions. Oorja is a social enterprise. Our mission is to increase the income and livelihoods of smallholder farmers, and what we do is we provide different vertically integrated clean energy services to farmers in northern parts of India.

Matt Eastland [00:10:07] You just heard there from Clementine Chambon from Oorja Development Solutions, which, as she explained, is a company that provides, installs and maintains solar energy systems for agriculture use.

Clementine Chambon [00:10:19] So basically, the problem is that lots of farmers are reliant on diesel to irrigate their crops and for other applications, like for milling what they produce. And there's a problem because it's really expensive and they can't irrigate properly, so they have pretty low agricultural yields and they're also trapped in poverty as a result. So basically, what we do is solar technologies for agriculture can be way cheaper, but the upfront cost in buy one in the first place is really high. So instead of trying to sell a solar pump to a farmer or a solar mill, we provide it as a service. So we provide milling as a service or irrigation as a service where we buy the solar pump and then any farmer can use it and they just pay according to how much they use it. So that's kind of the model. It's

like it's an innovative business model to be able to bring needed technologies to smallholder farmers.

Matt Eastland [00:11:08] How interesting so from what I take from that is that on the farmers, there's no upfront costs here and it's a pay as you use model. So Barbaros, what are your immediate thoughts about the business model and how useful that will be?

Barbaros Corekoglu [00:11:21] I mean, we see this business model applied by various companies across the world. I mean, there is this one automotive company in China who developed a battery as a service model. And indeed, when you buy a car, you actually do not only buy the frame of the car, not the battery and the batteries given to you by the company. And then when you want to charge your car, you just go into a fuel station, you charge up the battery. But that's also a membership, so you actually pay a very low fee for getting your vehicle charged and go. We see the same business model here as you said, Matt, pay as you go, no upfront costs, benefiting everyone.

Matt Eastland [00:11:56] And I suppose what it means as well is that this should then allow farmers to have much greater access to this kind of technology as well, right? Because it seems to me that this was obviously a barrier before.

Barbaros Corekoglu [00:12:08] Definitely. I think access to energy is always an issue. We know that, for example, diesel prices are quite prohibitive, but they also fluctuate quite a bit so farmers can never rely or hedge their risks for these price fluctuations. But if they have access indeed to this kind of a clean energy, it is fantastic.

Matt Eastland [00:12:27] Thanks, Barbaros and coming up, you've now got Clementine talking about the future of her company.

Clementine Chambon [00:12:33] There's this disconnect between the fact that actually, most of the world's farmers are very small pieces of land. So we're talking about 1 to 1.5 Acres, and they're really not very profitable. It's difficult to earn a sustainable living out of such a small piece of land. And there's also, you know, disproportionately, even though these farmers grow a huge amount of the world's food, they don't have the same access to services, goods and information that they need to be able to grow things more efficiently. Plus, they face the already devastating impacts of climate change. So what we want to see happen is that better distribution of these technologies and information that farmers need so that they can plant crops that would be adapted to the local climate, stresses, that they will also feature higher market price, and that they can earn a better income from. Because you have to remember that even if it doesn't represent a huge proportion of a country's economy, agriculture still creates jobs and provides income for a huge proportion of the population in the global south. Basically can play a really catalytic role in pulling people out of poverty, and that also is interlinked with all the different STGs you can, you know, the UN STG's you can inter link them in part to agricultural activities. So, yeah, we want to see agriculture being used as a bigger force for pulling people out of poverty while also having an impact on the climate.

Matt Eastland [00:13:51] That's really interesting, and I think this is one of the things maybe we forget sometimes is how important agriculture is in developing countries from an employment and a jobs and bringing people out of poverty point of view as well. So it seems to me that what Oorja are doing is really looking to build on the existing need and just make things better. Is that something you would agree with, Barbaros?

Barbaros Corekoglu [00:14:16] I agree and also food is a human right, right? So the more we can improve access to food, healthy food, we're actually contributing to the development of our civilisation as a whole. And indeed, STG's have been mentioned, absolutely, this is very, very critical.

Matt Eastland [00:14:31] So what really excites me about this is that Oorja have just raised an equity round now, so their focus is very much on growing globally. And we also found that they want to expand and provide even more services to farmers. So looking to diversify. So, for example, farmers might not have access to quality goods and seeds, so they actually want to start providing solutions so that they can continue to sustainably increase their income. So obviously, Oorja have started with one particular product and model looking to provide more or more services to make life easier and better for farmers, which is fab. We love that. So moving away from solar power now to a company tapping into the potential of saltwater,

Ryan Lefers [00:15:14] hey, it's Ryan Lefers. I'm the CEO and Co-Founder of Red Sea Farms.

Matt Eastland [00:15:19] So Red Sea Farms are reducing the carbon and water footprint of our food sector by developing and delivering environmentally sustainable, saltwater based agricultural systems.

Ryan Lefers [00:15:30] Red Sea Farms develops technologies to enable agriculture on marginal lands using resources that haven't traditionally been tapped. So one of our claims to fame is that we use salt water in a lot of our systems. My co-founder, Mark Tester and I met on the shores of the Red Sea about eight years ago, so that was at a university called Kaust. And what's amazing is that you look to one side and there's all this water and you look to the other side and it's just a complete desert and you think to yourself, we have so much water and yet we can't grow food with that water because it's too salty. So really, that's the inspiration behind Red Sea Farms is how can we use this significant resource that we have? You know, 97% of Earth's water supply is salty. How can we use this significant resource to meet this real need that we have for food and especially for local food security?

Matt Eastland [00:16:28] Yeah, I have to admit, I mean, I'm really with Ryan on this, and it's something that I've often wondered about. In fact, I did my masters in renewable energy. We actually focussed on this region. I was always thinking, It's so crazy, that really, really dry, arid regions where you've got so much sun, for example, yet you've got so little water and surely there is a really nice way of pulling both these things together. And it seems that this is exactly what Red Sea Farms are looking to do. Barbaros, you know, what kind of impact do you think this technology might have on the region?

Barbaros Corekoglu [00:17:02] I think if if you look at the latest IPCC report, in the best case scenario, sea level will rise by 35 centimetres across the world, which means that actually we will lose a good amount of our fertile lands into becoming marginal lands or remaining under water. So that is one point. The second point is we are using a lot of energy actually today to convert seawater into drinkable portable water. And indeed, this solution sounds like it's actually using saltwater to grow agriculture to grow crops. So it is quite promising I think I'm curious to hear more about it now.

Matt Eastland [00:17:42] Well, funny, you say that we spoke to Ryan about the technology they use, and he's going to explain a bit more now.

Ryan Lefers [00:17:49] Red Sea Farms has 4 broad bins of technology, so the first bin is plant science, so there's a lot of work that goes on into breeding and hybridisation of plants that are more salt tolerant that can grow in marginal environments or with saltwater. We also have a bin around active cooling, so our active cooling systems use saltwater for evaporative cooling. We also have some liquid desiccants that we use for humidity control and also a night-time cooling and chilling, which is really important in tropical and humid regions. And we have an active cooling system that captures and re-uses humidity in the cooling process to reduce the total water footprint, as well as purify the air. So that's really attractive for industries like indoor livestock, poultry, etc. And then we have bin around passive cooling, so we have a film that blocks infra-red light from entering into the greenhouse, so that prevents heating and reduces the amount of cooling that's required, all being fully visible in the spectrum that plants need for photosynthesis. In addition to that, we have some solar PV that we use for operating our cooling and our irrigation technologies within the greenhouse. And then the last bin is monitoring and control. So we have our own in-house developed sensors, hardware as well as software for controlling the systems that I described as well as monitoring the performance. So those are the broad 4 bins - plant science, active cooling, passive cooling and autonomous control.

Matt Eastland [00:19:22] So that's pretty amazing then, so it sounds to me that what they're doing is they are actually using salt water to, directly on plants that are just more resistant or maybe more adaptable to this anyway. Which again, why has nobody thought about doing this before? Maybe they have. And the other thing again, we don't think about this because we're, you know, in our regions, wars like, we need more sun, we need more sun on plants. But actually, by blocking the UV rays, they're actually reducing the need for cooling, which in the southern regions is going to be a lot more important. So yeah fascinating, fascinating things that they're working on. Any thoughts, Barbaros on this technology?

Barbaros Corekoglu [00:20:00] I think what's Ryan and the Red Sea Farms have done is, again, what the other SME's did, right? They looked at the challenge and instead of being discouraged by it, they just like tackle it head on and came up with a brilliant solution from out of it. So indeed, it's super innovative. It's super interesting and very promising for the future. We know that we all have to deal with the climate change. We have to adapt to it. We have to mitigate it as much as possible. But climate change is part of our life. So this kind of technology, this kind of solutions will be needed more and more as we go forward.

Matt Eastland [00:20:33] Yeah, thanks, Barbaros. Yeah real innovation and, you know, tapping into an untapped resource, which is really fantastic. So onto our final guest who is also focussing on sustainability.

Taly Nechushtan [00:20:48] Hello, my name is Taly Nechushtan, CEO of Innovopro. Innovopro is a food tech company. We were founded at 2015 by Dr. Ascher Shmulewitz. We have a proprietary technology for the extraction of 70 percent chickpea protein and other chickpea derivative.

Matt Eastland [00:21:10] That was Taly Nechushtan describing Innovopro who are bringing plant based protein ingredients to the global food market to create nutritious, tasty, safe and sustainable food products. And I'm also really pleased to say that in over one of our EIT Food Rising Food Star start ups. And we're really championing all of the work they're doing in the plant based protein market.

Taly Nechushtan [00:21:33] Chickpea protein is unique because it has a combination of properties that it's hard to find today in other plant based protein. It has a high concentration of protein, a very nutritious one. It has a very mild taste. It is a very strong emulsifier and the very soluble protein, and it enables the creation of clean label applications.

Matt Eastland [00:22:02] I love Innovopro and mainly because I absolutely love chickpeas and just think everything to do with chickpeas is great, but I think the innovation here and again, you know, I knew that chickpeas were high in protein, but being able to just extract that out was just a pure protein is phenomenal. So some serious potential in chickpeas, then Barbaros?

Barbaros Corekoglu [00:22:23] I think there is great potential, as Taly explained, right? I mean, it's easily soluble. It has a good taste, people are quite familiar with the chickpea as a taste and the texture as well. So absolutely great potential there. And again, chickpeas, we should not only look at the chickpea as a source of protein but also what the chickpea plant does right for the soils. I mean, it's part of the crops, it's part of those plants that actually fix nitrogen into soil, so absorbs the nitrogen in the air, fix it into soil and make the soil more fertile for the next harvest. So massive environmental positive impact it can be grown in arid conditions. And as far as I know, even the plant itself can afterwards be fed to livestock so as humans consuming the chickpea and then the remaining plants being consumed by livestock, or being marched into the soil. So amazing, amazing. And again, we are looking here at the protein diversification. Yeah, and reducing our environmental impact in consuming protein.

Matt Eastland [00:23:21] Yeah, the power of the chickpea, I mean, I have to admit, I never realised all that you were just saying there about the sort of the chickpea plant as well. So it's this seems like an all round good thing, which is brilliant. And what do you think gave Innovopro the edge over other plant based solutions in winning this competition? Because, you know, we know that there are a lot of alternative proteins out there.

Barbaros Corekoglu [00:23:44] Yes, I think. Of course, chickpeas available to be grown in many countries, so the solution itself could be scalable. So it's a pulse that can be grown across the world in the most arid conditions, so people can have access to this valuable precious protein source. And again, at the moment, everyone is in the race to put on the market the next meat alternative, the next protein alternative. So I think, and Innovopro has a very tangible product at hand. So yes, exactly why not harness it.

Matt Eastland [00:24:14] Yeah thanks, Barbaros, and I'm sure there is some amazing tech and innovation goes into it, but on the face of it, yeah, like you say, we are taking an existing foodstuff here and just extracting some of that goodness which then can be used in other things. So like I say, there's probably all sorts of tech that I'm not aware of that does that, but it sounds nice and simple, which I like.

Taly Nechushtan [00:24:35] Our process is all based, I think about the idea of sustainability. We source the chickpeas in North America. They grow in large scale in North America, and we process them based on our sustainable technology that uses less water, less energy than other technologies that are common in use today. And we use the wet processing for that. At the end, we use all the by-products we would like to basically have a zero waste process in the end.

Matt Eastland [00:25:20] A sustainable technology, which also uses all of the by-products so that you actually get zero waste, that's pretty incredible. So Barbaros, what impact do you think making changes like this are going to have on the food system?

Barbaros Corekoglu [00:25:35] Again, here we are looking at co-benefits right Matt? So chickpea protein, put in diversification, positive benefits to our health, growing chickpeas, positive impact to our environment. And again, using all parts of components of chickpea. That's amazing. That really contributes to a circular economy and towards zero waste society.

Matt Eastland [00:25:56] Yeah. Thanks, Barbaros. And again, big congratulations to Taly and the Innovopro team for all the great work they're doing and we love having you in the community. So thank you very much. And it's great to know that companies like Innovopro are around for sure, but we definitely need to see more clean labels and sustainable solutions appearing to meet the UN Sustainable Development Goals as well. So big congrats. So it's been fascinating to hear from some more winners from the Good Food for All competition, which is held in conjunction with the UN Food Systems Summit. Please don't forget to check out part one if you haven't already. Shame on you! And we have plenty more exciting innovations to hear about. Barbaros I have a hard and slightly unfair question, as always for you. If you had to pick one of the innovations that we have heard from that you'd like to follow even closer, which one would you pick?

Barbaros Corekoglu [00:26:47] I would say, Innovopro but it will not be fair because they are part of our EIT Food Rising Food Stars community. So I would like to go for Red Sea Farms, absolutely game changing, super relevance and definitely a breakthrough solution to transform and make our food system more resilient to climate change.

Matt Eastland [00:27:06] Thanks, Barbaros. I mean, again, big congrats to everybody there, it's not like we're having favourites really. Barbaros, how connected are these SME competition winners? Actually, this was something I wanted to ask last time as well. So how does it work with the competition to all of these start-ups now kind of come together all the time? Are they following each other or are they working together? Are they supporting each other? How does the competition sort of support them along together?

Barbaros Corekoglu [00:27:32] Well, unfortunately, of course, SME's do not have the internal resources to be connected to the system all the time. I mean, we know that they are understaffed. They indeed deal with day to day business. But what we did is quite interesting, and I like to share with you and everyone listening to this podcast. Last month, we have launched a Good Food SME Hub together with The United Nations and stakeholders that are working in the space. And we want this Good Food SME hub to be the platform that connects all these SME's across the world, share the good lessons, share best practises and really interact with each other so that they can grow their businesses, learning from each other or collaborating with each other. This hub will also work with the different coalitions of action emerging from the United Nations Food System Summit, and we're really looking at identifying and matchmaking SMEs with the solution needs for challenge owners and really help for SMEs grow their business and transform the food system all of us together.

Matt Eastland [00:28:32] That's great. So does that mean that these first 50 who won this competition, are they like a first cohort or is it this 50 plus all sorts of other SMEs connecting together?

Barbaros Corekoglu [00:28:43] It is even better than that. So all 2000 and more SMEs can now be connected to the SME Hub that EIT Food helped co-found.

Matt Eastland [00:28:51] That's amazing. Well, in which case I'm really looking forward to seeing more innovations that come off the back of this because as we know, you put great people together, that's where the magic happens. So, yeah, it'll be interesting to see what comes out of the hub. Again, I just wanted to say a huge congratulations to all of the winners. Unfortunately, we didn't get a chance to speak to all of them. So make sure you head over to the United Nations website at un.org to read more about the competition and the winners there. And please also check out the EIT Food website to learn more about all the start-ups and about our involvement in the UN Food Systems Summit. That just leads me to say thank you very much Barbaros for joining me once again on the show.

Barbaros Corekoglu [00:29:30] Thanks, Matt. I could get used to this.

Matt Eastland [00:29:32] Well you see, you're two in, could be a regular feature, the Barbaros slot - I love it. And also, thank you, everybody listening to the show out there as well. This has been The Food Fight podcast from EIT Food. As ever, if you'd like to find out more, head over to the EIT Food website www.eitfood.eu and please also join the conversation via #EITFoodFight on our Twitter channel @EITFood. And if you haven't already, please everybody hit the follow button so you never miss an episode. That's it for now. See you all next time. Bye, everyone.