

WE ARE THE PEOPLE OF THE BEANS

SERIES 3 EPISODE 4



@mothersinvent  

[Theme Music]

Maeve: So yeah, Thimali yourself and myself are barely holding it together. And then just to explain to the listeners, I'm looking at you, Mary, and you're wearing a blazer and a broach and a pearl necklace.

Mary: That's not a broach.

Maeve: Is it not?

Mary : It's a symbol of the 2030 agenda with its 17 sustainable development goals.

Maeve: It looks like a broach, honestly.

Mary: It's the only emblem or whatever you might call it of the UN that I've ever liked because it goes with everything. Because it's got all the colors.

Thimali: Oh, I love it!

Maeve: Okay. Just to explain what it looks like. It's like a circle with all different colors and -

Mary: - Yep.

Maeve: - And those 17 goals are somehow represented in there?

Mary: That's right.

Maeve: And those 17 goals are?

Maeve: ...Well. I won't bore you.

Mary: What's your favorite one?

Mary: My favorite one is probably goal five on gender equality, or it might be goal thirteen on Climate or it might be goal sixteen on justice and peace.

Maeve: Oh wow. Oh, that's brilliant.

Thimali: Aw Mary!

Maeve: I should have known you weren't just wearing a brooch with no meaning behind it.

Mary: Exactly, exactly.

All: *(Laughs).*

[Music Transition]

Thimali: Hello, everyone. Welcome to Season Three, Episode Four of Mothers of Invention. I'm Thimali Kodikara and I'm it's series producer.

Maeve: And my name is oooolll' muddy boots, Higgins, I'm a comedian and a writer.

Mary: And I'm Mary Robinson, former President of Ireland, and Chair of the Elders and I suppose, you know, from Maeve's little, um, quip back there, that we've finally arrived at our agriculture episode and that's great.

Thimali: *(Laughs).*

Mary: So many of the most inspiring climate leaders I've met are farmers.

Thimali: Ahh, it is indeed Mary, Maeve Higgins, I think you might have accidentally been looped into Mary's compliment there aren't you from a farming family.

Maeve: Yeah. I'm going to take that as the compliment Mary. My grandad was a farmer and farming is in my family, uh but I think that's the case for a lot of Irish people. There's farming in probably all of our blood.

Maeve: Mary, I, I vaguely remember something about you suggesting veganism for the planet and you getting some flack about that?

Mary: I didn't specifically say vegan for the planet, but I do recall I was taking part in a One Young World meeting in Ottawa in 2016, 2000 young people - an exciting group, wanting to change the world. And I said, you know, 'I think we need to think about how we will reduce our emissions and everybody has to take responsibility'.

Maeve: Right.

Mary: So, 'I think you should think about maybe eating less meat, maybe becoming a vegetarian or even vegan' I said, and I was cheered to the echo. And that was that.

Thimali: Yeah. As you should.

Mary: But then it came back to Ireland as a broadcast and I got an official letter from Mayo County council, Mayo being where I'm from and where I had my home until recently and the official letter said that I should withdraw those remarks.

Thimali: Wow.

Mary: That was 2016. I actually think, you know, happily a lot has changed since then. I think we've moved forward. I think farmers and others, we all know that we have to reduce. We don't have to cut out meat. Eh, we have to talk about, uh, ways in which we can reduce emissions in the farming sector as a whole and yet produce good food and good food security, which is vital. So farmers have to be and are essential to this argument.

[Music Transition]

Thimali: So we're seeing an arc develop now in our first episode, we realized that we don't actually want to go back to how things were before lock down because we'd rather build back better. But then we also realized that we needed to take a really good look at our past first to put climate justice in our sights. So in episode two, on reparations, we looked at the effects that European colonization had not only on occupied societies, but on occupied landscapes. And then in episode three, on immigration and migration, we talked about how that destabilization forced people to migrate away from their ancestral homes in search of food and shelter. But what if we were able to rejuvenate dead land and make it rich for food production again, but also make it super climate friendly as well?

Maeve: Yeah. It's a great question to investigate Thimali because smart farming really could be a game changer for the climate crisis, gassy cows and synthetic fertilizers never really feel as aggressive as burning fossil fuels, but actually those account for around a quarter of global

greenhouse gas emissions and that fact always blows my mind.

Mary: Yeah, you're right about that Maeve and to keep global temperatures under two degrees and at 1.5 degrees, what I always emphasize global agriculture and land use sectors will have to reduce their emissions by how much can you guess Maeve?

Maeve: I'd say around by half?

Mary: No, no, even more, two thirds.

Maeve: Wow.

Mary: So that means we have to stop mowing down forests for agriculture. In fact, we need to reforest some of that farmland and we need to maybe combine forest and farmland while making it more efficient for greater food production.

Maeve: Wow. Forests on farm land. It's hard to make sense of that.

Thimali: *(Laughs).*

Maeve: I always think of like wide open spaces with rows of cows.

Thimali: Yeah.

Mary: It's going to take ingenuity, smart, smart agriculture for the climate and why not? We can do it. Humans can be very clever and very inventive as we will see, I hope.

Thimali: Well, yeah, actually on that point, I think you're both really going to enjoy meeting this week's guests. I've invited two totally brilliant women to join us. One is working with small family farms and the other on higher production farms, but both live and work in regions that have experienced a lot of blight for many years and still continue to, but they are looking to their communities and to the ground to completely defy the odds.

[Music Transition]

Thimali: Vivien Sansour is the founder of the Palestine heirloom seed library and she's known locally as "The seed queen of Palestine". She works with farmers in the West

Bank which is Palestinian land that has been occupied by Israelis forces since 1967. But once we've heard her story I know we're all going to be applauding her resistance. So Welcome Vivien!

Vivien: Hello!

Maeve: Hi Vivien, welcome.

Vivien: Hi! Hello everyone.

Mary: Welcome Vivien, great to talk with you.

Thimali: It means a lot to us that you could join us for all the reasons. So thank you.

Vivien: Yeah it means a lot to me to, to continue to be connected with the global movement.

Maeve: Vivien. What are your memories of home-grown meals with your family?

Vivien: Uhh, fruits were always something that was grown in our yard, like the grapes, the figs, the loquats, so that's something we definitely didn't buy from the store. And actually right now, as I speak to you, we are during the grape harvest season.

Vivien: Like restaurant culture. Wasn't so big in my childhood. So I grew up in a, in a small, it was really like a village and I think my mom in particular was very much connected to the kitchen and to basically nature. And so even though I grew up in the eighties, which is the time when industrial food was becoming more and more popular, she was ahead of her time, in the sense that she really refused industrial food. So she tried to make everything herself. Even when I talk about grapes, she would make molasses and then she had this belief that in winter, we must drink a whole cup of molasses in the morning before we went to school for protection.

Mary, Thimali: *(Laughs).*

Thimali: Best Mom ever!

Vivien: And I mean, like a small cup of coffee size, but that didn't taste good to me as a child.

Maeve: *(Laughs).* I love that. So what was your relationship with the land as a kid growing up in the West Bank?

Vivien: I like your questions. So when I was a child, the land was my life. It was everything I knew it was my playground. I didn't really have much of an indoor life. Basically I would come home from school, take off my school uniform and just go outside and figure it out with my cousins you know. We would play with soil. So soil was very important in my childhood in terms of smell and touch.

Maeve: Wow. So in season one, we had Dr. Vandana Shiva on the show. Now, of course, she's a pioneer of seed saving and maintaining seed diversity in India, but Vivian, your work is focused on heirloom seeds that are indigenous to your land. So can you explain why that's become necessary work and also maybe how to seed connecting has become a source of peace?

Vivien: Yeah. So an heirloom seed is exactly that, an heirloom, like somebody who passed down something to you. So the reason they are precious is because they've been selected and proven across generations that you can plant this variety every year and it gives you the same exact characteristics.

Vivien: People really talk about seeds, as just these things that you put in the ground and they become plants and you eat them. And then, you know, but that's not what seeds are for me, and that's not why I started this work. So I, I'm really, I think I'm just somebody who really believes in the power of story and imagination and the seeds really offer this platform to imagine so many different alternatives. And so why these seeds are important to save because with each seed, there's a story that allows us to see ourselves in a whole new way to liberate our minds, as we liberate our bodies from the toxins that the world has injected in us.

Vivien: Our ancestors developed these seeds over literally thousands of years. somebody here, had the imagination and the courage to imagine something into existence that didn't exist before. So when we're talking about the development of wheat, we are talking about a wild grass and someone had to keep selecting and keep selecting until we have the wheat we have today that we make bread with. And so that literally offered bread to the world. And, um, I think a lot about that, about what it means to come from an ancestry that offered bread to the world, like, you know, the English with cookies, the Italians eat pasta.

Vivien: And so when you've been taught over and over again, that, you're a worthless person because, you know, because of the color of your skin or because you are Palestinian or because you're black or because whatever it is, how colonization has really managed to, to be very successful in convincing us that who we are is something not even worth living, but only like worth consuming, whatever trash they give us. Uh, saving seeds for me was so important for my community because first of all, the seeds literally are very important for the future of the world. As we face climate change, we need this diversity of seed. We need it in our toolbox so that we can face all these changes that are happening, that we're seeing.

Maeve: That's huge. That's so huge. What you've just said.

Vivien: Yeah!

Maeve: Thank you for sharing that as well, because of course, you can see seeds as something symbolic, but then when you actually break it down and it's a very real thing.

Vivien: Recently I have been thinking a lot about people who consider a lot of my approach sometimes too unrealistic or too dreamy.

Maeve: Yeah.

Vivien: When a farmer puts seeds in the ground, these are things that look completely dead and you put them in the ground and then you have to really have faith that this is gonna someday become a lettuce that you crunch on and you eat and becomes part of your body.

Maeve: So with this, the local town of Battir, could you tell us about the heirloom seeds? And these, you know, a thousand year old farming practices?

Vivien: Sure. I love to speak about Battir so much, uh, my seed library lives in Battir.

Thimali: Ohh!

Vivien: I consider that my community. And, Battir is a gorgeous place once you visit [Battir], your life has changed forever. It is quite a paradise and it's no coincidence that actually people in Battir don't call their terraces farms -They call it the 'paradises'. And when you say I'm going

to, to my farm, you say 'Anra Al-Janaah' which is plural for 'Jannah'. And 'Jannah' means paradise.

Maeve: Mmmhmm.

Vivien: It is the epitome of agrobiodiversity in live color.

Maeve: Wow.

Thimali: One story that I found whilst we were digging around is about the *Jadu'l* watermelon seeds. I was wondering if you'd tell us that story because it's so beautiful.

Vivien: Everybody loves this story. It really is a story about how story, really can start something new. And, and the reason I started looking for these watermelon seeds is actually because so many elders shared with me the story of the watermelon. And I was living in Jenin, in the North, which is where this watermelon is famous.

Vivien: They were so proud to talk about their heritage as one that offered the whole region, a delicious succulent fruit. A fruit by the way, that grows with zero irrigation. So, uh, the *Jadu'l* watermelon is a watermelon that grows with no water.

Maeve: This sounds like a magical substance.

Vivien: Well, this is why these seeds are so important because we have a whole series or varieties that our ancestors developed that grow with zero irrigation. So they didn't try to force nature to do anything for them. They actually surrendered to nature and to the micro climate. And so they are seeds that live off of the moisture retained in the soil from the rainy season.

Thimal: Wow.

Vivien: You know men would be so proudly telling me how they used to go on trucks with their fathers to Lebanon, to Damascus, to deliver, you know, these delicious fruits. And now I ask you, where is it? And you say, 'Oh, you're asking about the dinosaurs'. So for me, the loss of this watermelon felt like the loss of who we are.

Thimali: How did it die out?

Vivien: So apparently there are several reasons why it died out. One of them is that, with the introduction of chemical agriculture, the soil structure completely changed. And so there were new diseases that actually we're still

struggling with today, as we are trying to replant and recultivate this variety, but also a big part of it was of course, restriction of movement. So when people no longer were able to send it to everywhere in the world, so it wasn't as economically viable, but most importantly, the hybrid seeds, uh, that Israeli agribusiness companies, tried out with farmers in Palestine. So it's important to understand, we were talking about Palestinian farmers that actually we have been the rat lab for Israeli agrobusiness so-called innovation.

Vivien: So where, where is the best place to try out these new things that you develop? Oh, of course, uh, the West bank.

Vivien: When you have your heirloom seeds, you also have complete control over what you have and what you grow. And you don't depend on somebody outside of yourself. But we became dependent on Israeli, agribusiness for seeds. We became dependent on Israeli agribusiness for all kinds of farm inputs. And so, again, it's why the story is important. The story is important because over generations, the story of farmers changed from 'Wow - we are the people who feed the people in the city' to, 'we are the workers who just do what we are told'.

Mary: Vivian, I'm still very, very keen to know, how did you bring the seeds back?

Vivien: One day, a friend of mine told me to go visit this guy who now is a dear friend of mine and an amazing farmer who I work with a lot. His passion is heirloom seeds. But most people don't go ask him for that. They go asking him for whatever, 'how can I kill whatever pest I have?'. So I walked in his shop the first time and I said, 'Hey, I heard you're into heirloom seeds'. And he sorta like, dismissed me, like, who's this crazy woman. I went the second time.

And then finally I came the third time and I actually had given up conversation with him, like, but something in me said, 'Oh, let me ask him if he's even heard of this, Jadu'l'? And I said, well, 'have you heard of the Jadu'l watermelon?' And he goes, 'you know about the Jadu'l?', so that kind of sparked his interest. Okay. I'll pay attention to this woman. She knows something. So he opened his drawer. That's full of everything. His screwdrivers, his nails, his torn up papers from a hundred years ago. And he started to take out these seeds and he put them on the table and he's like, 'you

want Jadu'l? Take it? Nobody wants it'. And for me also, when he said take it, nobody wants, it was a, was a major moment for me because what does it mean to not want who you are?

Mary: So you then took them and developed?

Vivien: Yeah, I took them and I started working with farmers, I wanted to put them in different farms because I, I wasn't sure, you know, first of all, they were old, so I wasn't sure how viable they were.

Mary: Hmm.

Vivien: And second, I really wasn't sure who I can trust to be a good guardian of the seed. And to be honest, most our efforts failed except for one really successful effort, in Jenin, which makes so much sense because that's where the watermelon really comes from. And that should tell you something too.

Mary: Hmm.

Vivien: And that farmer, he was able to produce a whole lot of seeds that we are now able to have and share.

Thimali: That's such a good end to the story!

Mary: I just wanted to ask you about how you went from collecting those seeds then to linking with farmers, educating farmers?

Vivien: I don't educate anybody. The farmers have been my educators. I have learned everything I know through their really diligent work in farms and also -

Mary: That's a good point, yeah.

Vivien: - You know, who am I really? I work with people who have had their hand in the soil since the day they were born and they didn't go to Los Angeles and come back, like I did, they stayed, they endured, and they built these terraces that I like to climb on and enjoy.

Mary: I want to ask you one question Vivien because it's just interesting to me. Do you think there's a value in adapting seeds to make them more resilient, which is a lot of discussion now? Or do you think the organic seeds, the one that you're talking about are in themselves more resilient?

Vivien: I don't think either or actually.

Mary: Yeah?

Vivien: Of course my interest is in heirloom varieties. I mean, the world changes.

Mary: Yeah.

Vivien: The world is a dynamic thing and nature's also changing and calling us to constantly be imaginative. First of all, plant breeding has been ongoing since the beginning of time. This is why we have the food we have today. And that requires a lot of, really scientific effort on the part of farmers. I always say farmers are truly scientists and artists because you have to apply your imagination and you have to apply observation, which is science.

Mary: And traditional wisdom. Yep.

Vivien: Yeah. So basically I think that we do need, to be informed by traditional wisdom and at the same time, be willing to try new things, to engage in plant breeding for the future.

Vivien: That is not so invasive as genetically modified crops.

Thimali: Got it. I also really wanted to ask about your traveling kitchen because it's such a brilliant way of sharing this information. Because something I've also learned through researching this episode is that the best way to encourage this more climate friendly style of growing is peer to peer exchange. The kitchen is such a great idea.

Vivien: Well, thank you.

Vivien: I love it too.

Thimali: Yeah!

Vivien: One constant thing the farmers always said is like, 'Okay, we like it. We're willing to take this chance with you. We're willing to put this work. But like in the end we are not making money because people don't want to buy this stuff. We need to make money'. Which is obviously a very legitimate concern. And so I love cooking and for me, cooking is very therapeutic, but it's also a way to engage people and I was also really inspired by several women that I've visited throughout my work, where like, for example, they sit to make

maftoul - you know, the, maftoul is like the Palestinian couscous, like small pasta thing, it's a process. And so they sit and they tell, 'what did your husband do yesterday?' 'Oh my God, this happened. That happened' 'Oh, I can't believe it'.

Thimali: *(Laughs).*

Vivien: And so everyone shares a story through doing something together. And so I felt like the best way for us to get people excited about buying these new varieties and eating them and wanting to try them is to literally want to eat your history. And then I sat down with my, um, uh, partner Ayad, who is an artist. And he sketched for me a kitchen that has wheels and that can come apart and fit in my car.

Thimali: Wow.

Vivien: And I was like, 'Oh my God. I want this and I want it now'. And so he had never made such a thing. So it was an amazing collaboration between the art world and the kitchen world, because he really just disappeared for a couple of weeks and the next thing I know is I have this magical kitchen that comes apart, fits in my car and I go around like a fairytale. And I didn't know what would happen really. And I don't like to necessarily know. I love the unexpected.

Thimali: Spontaneity, yeah.

Vivien: So children came, elders came women, everybody came and was like, 'What is this? Like, what is this thing? That's suddenly in the middle of the village'. And then the conversation started 'Oh, we're cooking this heirloom beans'. 'Oh, what, heirloom beans, all of this for the heirloom beans, the heirloom beans are important like that?'

Vivien: And so that started the conversation started on why heirloom beans are important like that. And then a guy would say, well, came and he was like, 'I thought you had meat' and I'm like, 'I don't have meat but this is some fine beans right there'.

All: *(Laughs).*

Vivien: So he's like, 'What do you mean? We are the people of the beans'. And then this other guy who was not from the same village was like, 'No, we are the people of the beans'. And so all of a sudden, these guys who were not

interested in the beans ended up like competing, who are the people of the beans, And we had also an amazing conversation about why it's important to eat our heritage rather than stored in some refrigerators, somewhere in the past. And talk about it as some relic of the past.

Thimali: Wow. That is amazing.

Mary: That's a great story. You know, what's great about your capacity to tell stories like that is you do link it also with what it is to have dignity. One of the things that I bring away as a sad memory of various visits to the occupied Palestinian Territories, is the humiliation of the people again and again, trying to go into Gaza, trying to go anywhere, trying to go from Jerusalem to Ramallah, not a very long distance. I saw a woman in a wheelchair being humiliated, left in the middle and almost thrown through the turnstile. She was pushed through like a bag of rubbish to the wheelchair or the other side. And I can see from the way you tell your stories, that's part of it is to have the seeds affirm the culture and dignity of the Palestinian people.

Vivien: What is dignity?

Mary: Yeah.

Vivien: It's to be in full alignment with who you are and to be brave enough to stand for it, no matter what is in front of you. And I think, uh, that is something easy to do when you know who you are. And so the humiliation doesn't really fall upon us when a woman is pushed over in a wheelchair, the humiliation should be really felt by the person who has been unable to be true to who they are, to who God created them to be, to their soul, to the point where they do follow orders like that.

Mary: Yeah.

Vivien: What is happening all over the world? We are being constantly told and forced to abandon who we truly feel we are and to adopt and to be, and to pretend things that are not real, that we call happiness, but they actually are so hollow because they really like at the end of the day, when people go to bed, I don't know, like if, if what you did today, isn't an alignment of who your spirit is then, you know, you should really look into why you're doing what you're doing and it's really not worth surviving. Like I do not, I'm not interested in

surviving just to survive. I'd rather die than to live undignified.

Mary: You remind me of, you know, this was my gospel when I was high commissioner for human rights, but it's still my gospel, the universal declaration of Human Rights. And article one says, and I can always quote it easily 'All human beings are born free and equal in dignity and rights'. And I've often had conversations that dignity comes before rights and I've rarely heard somebody talk about dignity as well as you have today.

Vivien: Hmm.

Thimali: Our audience definitely will want to stay in touch with you after they've heard this interview. So how can they do that? How can they learn more about you and your work and follow your progress?

Vivien: So people can follow my Instagram, which is [@Vivien.Sansour](#) or follow us on Facebook, [El Beir, Arts and Seeds](#). We also have a Facebook page, the [Palestine heirloom seed library](#), and hopefully very soon our [website](#).

Thimali: You're amazing Vivian. Really appreciate it.

[Music Transition]

Thimali: This week's listener soundscape is from Phoebe in Cairo, Egypt. She's been living there for 3 years while working with the UN on climate! Let's listen in to what she's noticed since lockdown..

[Soundscape audio]

[Traffic sounds]

I live right on the banks of the river Nile in the city center.

I have absorbed this unrelenting heartbeat as background noise.

Loud voices, car horns, and Mahraganat music that reverberates late into the night.

Most nights I'll sit on my balcony and watch the city bustle along the banks of this great river.

On the 25th of March, 2020, the Egyptian government imposed a curfew to stop the spread of the coronavirus. The city fell silent.

[Call to prayer].

You could finally hear the call to prayer reverberate, uninterrupted over the waters of the Nile.

Cicadas and bullfrogs, the natural sounds of the riverbank chorus late into the night, no longer drowned out by the party boats.

I honestly didn't even realize they existed in the city until that moment.

I always wondered what Cairo would be like without the incessant harm of humans. What it would have sounded like when the Fatimad's founded it over a thousand years ago.

Now coronavirus had offered me a once in a lifetime view of what that world would have looked like.

Maeve: Cool, the call to prayer really sounds fabulous doesn't it?

Thimali: Ahh it's beautiful, yeah.

Maeve: So I know that Egypt's got a massive population that are really vulnerable to climate change..

Thimali: 250 million people rely on the River Nile for water and it's at risk of drying out by 2080 from hotter weather, and there is some tension with Ethiopia on how that river water is used and distributed as they develop a large dam. But hopefully lockdown will give them some breathing room to develop new ways to adapt.

[Music Transition]

Thimali: So our next guest has been working on a quiet revolution in Colombia. Zoraida Calle is collaborating with farmers across the region on ecological restoration, And in particular, a system called silvopasture that is really breathing new life into the land. So welcome Zoraida. Thank you for coming to chat to us!

Zoraida: Oh thank you so much. Hello.

Mary: Hi Zoraida, Nice to meet you.

Maeve: Lovely to meet you. I'm wondering what inspired your love of nature?

Zoraida: I cannot trace back the origin to my love of nature. It's just too old, I've always been fascinated by huge lush gardens and forests and the rainforest and monkeys. It's a very old fascination.

Maeve: I can imagine and are you from a farming family?

Zoraida: Uh, well, yes and no. I am from a farming family, but the relation with farms was cut down for almost one generation as a result of the generalized violence in Columbia in the 1950s.

Zoraida: Many families moved into cities trying to escape from that situation. And that's the reason why both of my parents grew up in the city of Medellín and went to college, studied medicine in the city of Medellín. So then when I was a little girl, they bought a farm that was in the 1970s.

Maeve: Oh, I see. I see, I see.

Mary: I remember when I visited Columbia, it was my first time visiting as the UN High Commissioner for Human Rights.

Mary: That would have been about 1998 or 99. I visited Bogota first and such a beautiful country and such lovely people and such terrible violence. I couldn't believe it, that combination.

Zoraida: Yes, Yes.

Mary: Zoraida, What role did the civil war play for your family? How does it affect you?

Zoraida: I have never known a single day of peace in my whole life. All of Colombian history for the last century has been a succession of different types of Wars and civil conflict. So there was this violence of the 1950s, and then this was the, there was the internal conflict related to the narco traffic. And then after a really imperfect peace process, now we are beginning to see different forms of violence emerging. So it's just like the background of your life when you live in Colombia.

Thimali: In our last episode, we, um, in our last episode, we discussed the dry corridor in central America and the migration from the social unrest and food insecurity that it's caused. Are you making the same connections in Columbia?

Zoraida: What we have been seeing is lots of displaced communities, and this has been going on for several decades. People trying to take control over large areas of land and causing the peasants to move away and mostly relocate, in our cities. So this has changed rural landscapes a lot, and this has broken down small communities. And of course there is a huge amount of violence behind this. And I don't completely understand this. I'm not very good at politics. I just try to navigate!

Maeve: Well, what I'd love to hear about is your work with CIPAV and restorative agriculture. What is that?

Zoraida: Okay. So CIPAV is the center for research on sustainable agricultural production systems. We are a very unique organization because we are a research center and an NGO. So we're not attached to a university and we don't have direct government core funding. We dedicate ourselves to the transformation of agriculture, trying to make it more, biodiversity, friendly, and more sustainable. And, in Columbia, most of agriculture is cattle ranching. 86% of the land dedicated to food production is under cattle ranching. So, inevitably this is one of the largest issues in CIPAV. We also work with ecological restoration, which is the small group that I coordinate within CIPAV.

Thimali: Are you familiar with Project Drawdown?

Zoraida: Yes! I'm familiar with project drawdown and something that makes me really happy is that they rank Silvopastoral systems within the top global solutions for change.

Thimali: Yeah.

Zoraida: That made me so proud and so happy. It was a big surprise.

Thimali: Yeah! So [Project Drawdown](#) is a brilliant resource that names and rates solutions, which very successfully draw greenhouse gases out of the atmosphere and it named silvopasture as the 11th, most powerful solution to keep us at 1.5 degrees centigrade at the end of the century.

So Zoraida, what is silvopasture exactly and why is it a carbon sink?

Zoraida: Silvopasture is the deliberate combination of trees plants and shrubs. I mean, woody vegetation with grasses, for feeding livestock in grazing systems. So these are grazing systems that try to imitate the structure of a forest. One of the main principles is the cattle should not work to look for water, but water should be available for the cattle within the paddocks. Another important feature is very careful rotational grazing. So cattle should not stay in the same area for a long time. They should move constantly from one paddock to the next.

Thimali: And something that also seems really amazing about the silvopastoral system is that you're growing at different heights above the ground through shrubs and things, but also on trees. So it's multiple food sources that can be grown and harvested at different points in the year.

Zoraida: Yes. And it's very beautiful to observe when you go to a silvopastoral system and you just watch the cows, their feeding behavior, you see them move from the grasses to the shrubs and then eating some fruits from trees. And they're continuously combining different food sources, just like we do. So basically we understand that it's a big mistake, thinking that grass mono-cultures are the perfect habitat for cattle. They are not, they prefer to choose their own food, just the same as we do. And they love to eat fruits. And this is also very important because you can bring in plants that will make them release less methane from their gut. So actually you can cut down methane emissions by bringing some certain specific plants into the pastoral system. So it's one of those wonderful nature based solutions.

Mary: And how do the crop yields and the yields from the cattle compare with standard farms?

Mary: I can tell you about a specific conventional farm that was already very efficient. It produced above 8,000 liters of milk per hectare, per year. And after transitioning to intensive silvopastoral systems, they produced 18,000. So it's more than double.

Thimali, Mary: Wow.

Mary: You know what I like about your whole approach is, the idea of, uh, you know, linking trees and grass and shrubs in a way that builds a kind of ecosystem of itself.

Zoraida: Okay. Uh, this is a little bit of a personal story behind because, my husband -

Mary: We like personal stories *(laughs)*.

Zoraida: My husband is a veterinarian. He's an expert in sustainable cattle ranching. So he just loves cattle and he has this very positive view about the things that cattle can achieve.

Mary: Mhmm.

Zoraida: And I came into this marriage, like the tree lady, my obsession in life was always trees. So I think about silvopastoral systems, like such a beautiful way of bringing together both of our interests in a harmonic way that works well for, for everything, for us, of course, as a couple, but also for nature and it just makes sense.

Thimali: How scalable is a silvo pastoral farm? You're working with medium sized farms, I think, but what about big agrobusiness? Can we really do it anywhere in the world? Cause it seems like good to be true.

Zoraida: It works from the very, very, very small scale to the scale of hundreds or even thousands of hectares. It just adapts because Silvopastoral systems are not a recipe, they are a set of principles that you apply to transform your farming system. Large farms have to go stage by stage and work like small areas at a time before completing the transformation of the whole farm while small farms can be transformed one year, two maybe.

Mary: Maeve given your farming background. I just wonder, are you taking notes to take back to County Cork by any chance? *(laughs)*.

Maeve: I honestly am, I mean.

Thimsali, Maeve: *(Laughs)*.

Maeve: It just sounds like such a no brainer, you know, it sounds so, so straightforward and I was looking it up and currently, 2.7 billion acres of land worldwide is suitable for this silvo pasture. So I guess my question, Zoraida is what is stopping everybody? Why isn't it more commonplace?

Zoraida: Okay. That's, that's the key question there? What, what are the barriers? So first there is knowledge because these are complex systems.

Maeve: Yeah.

Zoraida: You really need to understand the agro ecosystem and the interrelations between species, because you have to, to build something that works efficiently like a natural ecosystem. So knowledge is one of the main barriers. And there is also an important investment to start your silvo pastoral system.

Zoraida: You have to plant for the shrubs and you have to plant the trees and you have to bring in the electric fencing system. And you have to guarantee that the animals have water, good high quality water in each paddock, and that requires an investment. So that would be the second really important eh barrier. And those are basically the main ones.

Maeve: It's information and investment. Mhmm?

Zoraida: Knowledge and, and investment. But the good part about the investment side of this is that this investment can be recovered really fast. If farmers have access to capital, to implement a system, we're fairly sure that they will be able to recover these investments soon.

Mary: Really, it's been a wonderful pleasure to talk with you, Zoraida. Do please stay in touch with us. And I hope everyone listening stays abreast of your work on this because silvopasture is a real solution for our future. And you're doing very critical work there. Can you just share with our listeners how they can stay in touch with you? What's your contacts are?

Zoraida.: So, we have our CIPAV web page,

Maeve: And that's at www.cipav.org.co I believe.

Thimali: And on the mothers of invention website or on our social media platforms, of course, which is consistently a very exciting place to be. If you want to keep learning about all of our mothers and other brilliant feminist climate leaders around the world, or watch some additional video content, or if you enjoy a good quiz or you want to be part of the show by submitting your own soundscape.

Maeve: And that's on Facebook, Instagram, and Twitter at @MothersInvent

Thimali: Very kind of you to join us and please stay in touch with us Zoraida!

Zoraida: Thank you very much!

[Music Transition]

Thimali: Ahh. I don't know about you, but I'm feeling pretty good about the world after listening to Vivian and Zoraida. I mean, unearthing a path to food justice - in such volatile areas - can relieve entire regions of so much pressure, let alone the incredible carbon sink. Not to mention, I'm inspired to farm all my own food now!

Maeve: Yeah. I think they were fantastic guests and I'm looking forward to following their work too, definitely.

Mary: I loved the way Vivian talked about dignity and about her passion for the seeds because they were part of the culture, part of the identity, part of looking forward. And I thought there was something of that in Zoraida as well.

Thimali: Mmm.

Mary: They were really good because they spoke from the heart and they spoke very knowledgeably actually about our links with nature in a particular way. And I think we need to bring that out and women need to really reinforce that, you know, that our way forward out of both Covid and the climate crisis is to be more linked to nature and to stop the injustice of the destroying of biodiversity, the extinction of species.

Thimali: Yeah.

Maeve: Yeah. I'm learning so much this season. I can't believe that we're halfway through already. So what's on the menu for next week, Thimali?

Thimali: Well now we've got great sense of the agricultural systems that can get us moving as Zoriada just said, we

need strong ecosystems to keep our land oceans and atmosphere clean and thriving. So next time we're going to get into the magic of biodiversity and specifically what the ancient and modern techniques we can use to protect or redesign our natural environments are.

Mary: So I suppose that means listeners can bide their time by catching up on all those comical minisodes, that both of you have been doing since then. Too much giggling in my view, but not enough work!

Maeve, Thimali: *(Laughing).*

Maeve: Mary, I'm just delighted that you're listening to them.

Mary: I need to know what you two are up to! Mhmm!

Thimali: What do you mean?! *(Laughs).*

Maeve: Keeping an ear on us. You know, I caught up with our friend, Tara Houska and all of her wins for indigenous tribes in the US.

Thimali: Nice.

Maeve: I also planted the tomato plant from Thimali on my street.

Thimali: Yup - looking beautiful Maeve.

Maeve: Good. And what else did we do? Oh, I told Donald Trump to fix the fish problem, but he hasn't written back to me yet.

Thimali: *(Laughing).*

Mary: Uh, he may be just having a tough time sending you a letter, Maeve. He's not enthusiastic about letters being delivered these days or voting papers. \

Thimali: *(Laughing).*

Maeve: I know. I know. It's true.

[Music Transition]

Mary: Mothers of invention is brought to you by Vulcan productions and Doc Society. Our series producer is Thimali Kodikara.

Maeve: Our development producer is Shanida Scotland. Our minisode producers, India Rakusen.

Maeve: Our editor is Sefa Nkyi and our sound designer is Sami El-Enany.

Mary: Rebecca Lucy mills is our line producer and our engineer is Lisa hack.

Thimali: Our social media strategist is Imriel Morgan for content is queen. Our impact producer is Quan Latif Hill. Our partnerships lead is Micha Nesta and Aisha Younis oversees our satellite project Climate Reframe, the BAME climate leaders in the UK.

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Thimali: Our theme tune was written by Jamie Perrera and we are proudly distributed by PRX.

End of Episode.