Transcript of ‘Farming and Carbon: An Update’

Season 3, Episode 38, Transforming Tomorrow

Paul: Hello and welcome to Transforming Tomorrow from the Pentland Centre for Sustainability in Business. I'm Paul Turner.

Jan: And I'm Professor Jan Bebbington.

[Theme music]

Jan: Today we're digging into a soil carbon measurement project between Lancaster University and the Lake District Farmers. And we're going to update you about what that project concluded.

[Theme music]

Paul: You used to live on a farm, Jan. What's more scary? A sheep or a cow?

Jab: Oh, a cow. But only 'cause I was raised on a sheep farm. But if you're raised on a cow farm, you might find cows really quite unscary.

Paul: Do you, no, I suppose you don't have to refer to them as dairy farms if there's cows, 'cause you might be raising them for meat…

Jan: …yeah, yeah…

Paul: …but I also assume just, like, dairy farms. What's more scary about a cow?

Jan: Um, for me, um, I, I don't know them very well, so I don't know their habits, I don't know how they, um, interact.

But also they seem bigger than sheep. [laughs]

Paul: [laughs] I don't think they just seem bigger. I mean, they definitely *are* bigger than sheep.

Jan: Yeah. So, so I feel like a cow could, could step on me and not even notice they had done it.

Whereas a sheep would definitely mean to.

Paul: Definitely would mean to step on you. And you wouldn't mind though, because it's a bit smaller and…

Jan: …yeah, but it's also, sheep are my favourite creatures, so…

Paul: …mm-hmm…

Jan: …yeah…

Paul: …and it almost seems like what you've said is you don't know cows. Does that mean therefore, because you've grown up around sheep, you know, every sheep in the world. Is there, like, a sheep network. [Jan laughs]

The sheep where, the sheep worldwide web that you're a part of.

Jan: There's a little bit, and recently I, I walked Hadrian's wall for, um, my, my Easter break. And what I loved about it the most is that there were so many sheep on it.

All different breeds, raising babies of different sizes. Um, and I talked to them all.

Paul: Ah, and did they say [imitates sheep] baa, hello Jan…

Jan: [laughing] …yes…

Paul: …and they said they knew, they knew you. They recognised you, knew your reputation.

Jan: Yeah, yeah. Well there, there's ways of baa-ing that can be reassuring to, sheep.

Paul: Is there Really?

Jan: It is. [laughs]

Paul: Is that, oh, but if you do reassuring baa-ing in a New Zealand accent, do English sheep understand it?

Jan: Uh, they seem to.

Paul: They seem to. Oh, so it's uh, the, the sheep language is universal. Sheep don't have accents.

Jan: You know, I could do a PhD on that, on top of my existing PhD, to try to find out the answer to that. I would be very happy.

Paul: I'll let you go and do that [Jan laughs] while I record series four of the podcast and we'll come back. You can rejoin us in series five for a special all on the language of sheep...

Jan: …it won't be baa-d. [Jan and Paul laugh]

Paul**:** Yes, it will. Um, right. [laughs] Really, if that's the level of your puns, [Jan laughs] yes, yes, it'll be very, very bad.

I talk about this because we're returning to farms today…

Jan: …excellent…

Paul: …you'll be delighted to know, but you'll be less delighted to know that mainly the farms we'll be dealing with are cow farms. So there's more likelihood of you being killed in a rampage of cows.

Jan: [laughs] I didn't ever say that I thought cows would kill me. I just don't know how to tell when they might.

Paul: You, you definitely said there's more likelihood that a cow will kill me without even thinking about it.

You, you think cows are cold-blooded killers.

Jan: [laughs] I, I don't know enough cows to make a judgement

Paul: Right, yes. You may remember, long-time listeners, that a couple of years ago we did a series with the Lake District Farmers.

We examined the work that was taking place on reducing the carbon impact of farming. Working towards, and that was the key word, net zero meat production.

We met some of the farmers. We met people from Lake District Farmers as an organisation itself, who help bring farmers together to sell high quality meat. We talked to people about soil. We talked to researchers on the project.

Essentially, if anyone was involved in that project, we talked to them. 'Cause we had five, six episodes all about the Lake District Farmers, and it made a lovely series for us.

We also got to visit, well, some of us got to visit two farms. Some of us broke down on the way to the second farms in their car and only got to visit one. But it was a good series all around.

Jan: It was indeed and, and it occurs to me that we never really closed the tail on that. We didn't find out what happened at the end of that long story.

Paul: Yes, and that is what we're going to do today. We're going to bring a conclusion to the work that's been done, not saying there's not gonna be more work in the future, of course, on the Knowledge Transfer Partnership that took place between Lancaster University and the Lake District Farmers.

And we're gonna be welcoming back Dr Laura Giles, who at the time was part of that project here in Lancaster, but who now is a Leverhulme doctoral scholar for regenerative innovation at the University of Dundee.

She's gone even further north than the Lake District farms, all the way to Scotland.

Welcome, Laura.

Laura: Thank you. And it's lovely to be back, and lovely to see you both again.

Paul: It's good to know that it only takes two years to overcome the trauma of speaking to us the first time to want to come back and speak to us a second time.

Laura: Yeah. I have been through quite a few cold, cold flannels to, to get back here today. [Jan laughs]

Paul: [joking] Every morning, Jan, when we record the amount of drugs she has to take just to be able to tolerate being in the studio with me.

Jan: Ah, well, I can't confirm or deny.

Paul: No, I wouldn't want you to. [Laura laughs] I don't want you to perjure yourself on the airwaves.

Laura, to start with, can you just give us a bit of a reminder about the basis of that project between Lancaster and the Lake District Farmers, and what its aims were?

Laura: Yeah, absolutely. So, um, as you've said, it was a Knowledge Transfer Partnership project. So that was a project between the business Lake District Farmers and Lancaster University, and with myself as the kind of conduit between those two, um, spheres of knowledge.

So as the Research Associate, I was tasked with, um, investigating three aims for that project, primarily. So there was to look at, um, the levels of soil, uh,

carbon on the farms in the Lake District that, um, Lake District Farmers worked with, to look at how those carbon stocks might change in the future. And also how that, um, affected the accounting for the carbon emissions on those farms.

So, Jan's very pleased that we're back to carbon accounting quite quickly. Um, so the Lake District Farmers, um, really wanted to get to grips with, um, understanding their greenhouse gas emissions from both their activities and their, um, their suppliers' activities, and to be able to communicate that to their customers.

So the purchases of their meat from the farms, because, uh, there's a lot of uncertainty around greenhouse gas emissions and how they're measured, and particularly in, um, areas or farming systems like in the Lake District on, on hill farms, where there's much less understanding of, um, the, the emissions process and where the, the carbon comes from and goes to in that system.

Because we have a lot more understanding of meat production on, say, industrial farms or lowland farms. And so really we wanted to get a handle on what's actually happening in these areas and how it compares with, say, more conventional farming systems.

Jan: That gives us a really good sense of what the project was about. What kind of things did you do in order to uncover some of those answers?

Laura: Um, quite a lot actually. [laughs] We did an awful lot of work out in the field and in the lab. Um, and Jan, you helped us with some of that. We have some pictures to prove that Jan can get a, a spade in her hand and dig some holes.

Paul: We would like copies of those pictures [Jan and Laura laugh] to be able to share on our social media, please, Laura…

Laura: …they've been widely shared.

Jan: Yeah, I wouldn't, I wouldn't block them.

Paul: Okay, yeah, right, right, we're definitely getting those pictures out there.

Jan: Well, 'cause it's, it's fantastic, 'cause most of my research is sort of like inside my head and, and looking at numbers and talking to people.

Paul: We don't want pictures of that.

Jan: [laughs] But the digging of holes to find out what's underneath was fantastic.

Anyway…

Paul: …I interrupted, Laura, please carry on.

Laura: So, yeah, certainly. So we, um, began by, selecting several farms from the Lake District Farmers network to give us a, an understanding of the, the variety of landscapes and farming systems that are across the Lake District, so we could get a good sense of what was happening and how we can compare between them.

And then there was an awful lot of soil sampling went on. So we had about, um, well at least a dozen people helping us through, um, eight to 10 weeks' worth of soil sampling out in the field, which involved me going up and down a lot of fells, through a lot of bracken, carrying an awful lot of soil sampling equipment and keeping the likes of Jan under control and safe while we were doing that. [laughs] Which, it was, uh, tiring on its own. [Paul laughs]

And then we, um, took all those samples back to the lab and spent an equally long time sorting through them and analysing them. So that involved an awful lot of sieving on my part and drying samples in ovens and then heating them to very high temperatures so that we could analyse the carbon and nitrogen content of the soil on these farms.

Um, so yeah, that took up a lot of our time, really, during the last two years. And then after we had those results back, it was back to, uh, the desk-based stuff with, with Jan and back to the, the fun of accounting for, on how we work out the emissions and what's going on in the farm systems with regards to the, the greenhouse gas emissions?

Jan: And when you say carbon in soil, 'cause this is a learning curve that I had to go through as well. What is carbon in soil?

Because we, we use a phrase but, you know, scientifically, what's in there?

Laura: Yeah, sure there's, so we do bandy around those terms quite a lot, but not necessarily understand them. Um, and that's both us working as professionally in this, as well as people, um, talking about it in their everyday lives.

So soil carbon, there's two types. There's organic and inorganic carbon, if you want me to get really scientific about this. So that the organic carbon is what comes from, say, uh, plant material or from animal poo or from worms in the soil. And then inorganic carbon is the carbon that's maybe coming from, uh, weathering of rock and base material that makes up the soil.

So we were particularly interested in the organic form of carbon in these soils, um, because that's the form which, um, is able, we can increase that in the soil and we can use that, that biological mechanism to sequester more carbon as a way of, um, our way of tackling the environmental, uh, climate warming crisis that is, is facing us.

So, but carbon, not just as a way of mitigating climate change, but also as being part of that organic matter, makes much healthier soil. So soil that's full of carbon and organic material can then grow much more, um, nutritious, healthy crops for the animals to feed off. It can be more nutritious in terms of, um, the variety of life it will hold.

And, also, it has other services in terms of, uh, environmental services for us in terms of mitigating floods, um, perhaps, or being more resistant to droughts, which even in the Lake District, we're seeing more of, um, these extreme weather events as our climate's changing.

And so it's really important that we do look after the soils and, and keep them healthy and able to mitigate these effects as we, particularly as we go forwards.

Paul: So you've put Jan to work in the fields. Thank you for that. Someone needed to do it, make Jan do proper day's work in her life at some point.

You've carried out all the analysis from the soil that I hope other people, not just Jan, dug up, because if you've only got Jan's, that I can't imagine you've got enough. And you've looked at it all.

What have you found out? What have the results been of the work across this project?

Laura: So it was, uh, really interesting, um, results that we did find actually. And we were, we were actually quite surprised just how much carbon was in the soil on these farms. Because traditionally we kind of think of these, these farms in the hills as being highly managed in, in the past and quite intensively grazed.

But, um, in despite of that, there's actually, the levels of carbon in the soil was, was really high. And so that's, it's a good baseline for us to start with and actually made us realise what, um, what value we are, we are stewarding in these environments, and how we need to look after this, rather than just take it for granted. And we should be respecting these environments more for what they're, they're holding already.

Um, but having said that, there was an awful lot of variability within the results as well. And whilst we usually think, oh, variability in results, maybe we haven't done a very good job in our sampling. Um, we did try and control for that, to a, to a great extent actually by, by sort of homogenising where we took our sample.

So we were trying to sample like for like, and compare like with like. Where this high variability in the results we got back just really emphasised how difficult it is to understand these hill environments and the environments, um, where these people are farming.

Um, and that variability, the integral variability, then makes it very difficult for us as scientists to predict what might happen in the future and how these carbon stores might change or what the potential is for, say, carbon sequestration on these farms in the future as well.

So to predict that in a very variable environment is, is very difficult and, um, highly prone to error. So we can't just make one rule fit all, and the assumptions that are perhaps being made at the moment in terms of, say regenerative farming on hills can, uh, is gonna be a cure-all for sequestering carbon in the future is perhaps more questionable now on the, compared with the results that we found out.

Um, because as well as the, the variability, the, the, high levels of carbon in these soils already, um, makes it, or from the modelling we did, showed that it would take actually about, um, at least a decade to see even a 1% change in these, uh, soil carbon stocks.

And that's, um, and with the variability around that, we can't rely on that as a way of mitigating our, our greenhouse gas emissions. And so I think that's a really important message that we need to take home from this study is we need to look after what we've got already, but we can't rely on being able to increase the stocks.

As much as we would like to think this soil is a cure of for the future, we need to be careful in those assumptions we're making.

Jan: It does seem to me, though, that if you know that this past farming practice of these, particular, you know, sites that you looked at did make a difference, if you were a farmer and you were holding, uh, some soil that was quite low or maybe have been degraded over time, would they have more of an opportunity to build their soil carbon than these, these longer term stores that are already in these upland farms?

Laura: Yeah, sure. That's, that's, um, absolutely right. So farms that, uh, maybe, could be for environmental reasons, have soil which has held, held less carbon because of mineral factors or environmental factors.

Um, they, that lower baseline that they are starting from in terms of carbon stocks, they, the rate of change in those farms would be, um, potentially greater.

Um, so it would take, when I say that'd be fewer years to see a 1% change in carbon, and they would have much more capacity to store, um, carbon going forward.

So there's, there's debate in the soil world as to whether soils reach a, um, or get full up of carbon and can't take any more on, or whether they sort of reach a saturation point where then they start to cycle it through. Well, their losses are balanced out with the gains and that difference becomes smaller.

So they sort of saturate how much carbon they can store. And that's kind of the, the stance I take on it is that the, the losses and the gains become more equal over time. So those farms with the, or the soils with the low carbon to start with, they, you would see a big curve, a steeper curve of, uh, being able to sequester carbon under the right management conditions.

Paul: That's what could happen to other farms that have lower carbon storage to begin with. But what about these farms you have been working with that have this, like you say, surprisingly high levels of carbon within the soil?

What does all of this mean for them, how they operate and whether there may have been any changes that have applied to them in their operations as a result of this project?

Laura: So the, the main message to them that, um, we want to communicate, and to Lake District Farmers as well as the customers of these farms, is how

important it is to, to look after what's there already. But there were, on each of these farms, there are areas or fields where they, they're maybe more intensively managed 'cause they want to take a, a grass cut say to see them through the winter.

And so those fields did have, uh, slightly lower carbon stores. And so there might be the temptation there to suggest to the farms, you need to stop cutting your grass there. You need to manage that less intensively. Um, so that then we can just focus on increasing the carbon in the soil there.

However, there's, in my opinion, you need to be somewhat careful with giving advice like that because then we don't know what the consequences of that advice would be elsewhere, because those farms are still need, going to need to have some food for the animals in the winter.

So where's that grass going to come from? What are the consequences of suggesting that they're, they're going to do that? Does that mean that that grass is now going to have to be transported from a way away, uh, across the country for those farms to feed their stock in the winter? So there's some caution there in, in the advice you give about changing the farming system.

But there are ways that some of these farms have actually been adopting, um, and have increased their awareness of through this project, such as what sward they would grow in those fields and reducing the fertiliser that they put on them so that there's, there's more organic matter returning to the soil between the cuts.

If they, they'll grow the grass a bit longer before they take a cut, or not Cut it as short and then, or they will put fewer animals onto that land as well. So there's, there is, um, an increase in awareness on these farms about how to manage less intensively these areas, but without any serious consequences that we would not see somewhere else happening.

Paul: So when we met the farmers on a couple of the farms, one down at Cartmel Fell in the south of the county, one up near Penrith, more sort of towards the east of the county, they were, they were very positive about taking part in this project and about how it might affect them.

Did that positivity remain once the results were known and when the project had run its course, were the farmers on the ground still really happy to have been involved?

Laura: Yeah, sure. They were, um, they're really proud to know what the, the condition of the soil was. So they, the farms you were talking about had really high levels of carbon in the soil, and they were really proud that their work that they'd been doing was making a difference, and how they were looking after the land.

And they wanted to understand, and they communicate that to other farms as well about the way of managing the land. And it just, um, yeah, I've met them since and they were really pleased to have taken part and have taken part in other scientific, uh, studies as well. Sort of as a, off the back of this going, going well and being a positive experience, they're carrying on the work with LDF and with, with other, um, universities too.

Jan: And so for the, um, if you like the, the farms are the, the suppliers to Lake District Farmers, but Lake District Farmers have customers as well. And so these are people that are, you know, taking the products from Lake District Farmers and, um, you know, feeding people in restaurants or in, you know, corporate dining settings or whatever.

What was the key takeaway for *them* from this project?

Laura: I think carbon is not very tangible as a thing on its own. But I think that through this project, looking at soil carbon in particular, opened their eyes to perhaps another way of thinking about the environment and where their food was coming from.

Because soil is generally overlooked. We don't tend to go around digging holes, unless you're that way inclined, and smelling the soil and things. But through taking some of LDF's customers out on the farms and, and talking about the project, the work we were doing, and actually showing them the soil, smelling the soil, explaining about the carbon there, it really kind of brought it alive to them how we need to start at *that* point rather than start at the end point of the produce and look at the whole farm as a system and the whole environment as part of that system.

Um, and it really, I suppose, made them think beyond just that, um, reporting of their carbon emissions on the spreadsheet at the end of the year to see are they meeting their targets, and to actually be part of the environment, um, and understand that farm system was really, brought home through this work.

Um, the other thing that I would say is that, um, looking at the whole farm as a system, then people actually really appreciate the, the linkages between the soil and, say, biodiversity and other environmental services, cultural or social services that come through that action.

And so people that the, the consumers that I spoke to anyway, really wanted to understand that whole picture. So looking beyond just their greenhouse gas emissions but seeing the biodiversity and how that impacts the animals returning to farms that are managed well.

How the, the farmers are, um, kind of happier in themselves because they want a healthy farm and they are doing fewer hours work, maybe. And they really wanted to embrace that whole feeling, if you like, of, um, we can do positive things to the environment while still making brilliant food, um, that tastes really nice.

Paul: You mentioned biodiversity, and if we want to move beyond specifically carbon in soils, which I know is where your expertise layer within this, but I know also you've got a broader picture of the project, Laura.

What did the project uncover beyond carbon in soils? Was there anything specifically about biodiversity or were there other areas where there were results that came out?

Laura: Well, we didn't measure anything specifically about biodiversity, so a lot of it was, um, through conversations and sort of understanding of that social side of the farm, I guess.

Um, but I would say that through learning more about farming through the, the course of this, um, project, it was really evident to see that how farms that are managing their land less intensively, um, with fewer animals on the ground and be able to go out.

And I did go and do some botany surveys on one of the farms, and to see how many species of plants had returned to that farm because it being managed less intensively and more sympathetically with the environment, and to see how just beautiful it was, seeing all these, um, flowers and how excited all the botanists were seeing these rare species there.

And then how excited the farmer was to know that what they were doing was right. And every time I'd go back they'd be saying, oh, we saw some more of this type of bird, or there's some more red squirrels going along this, this

hedge line at the back, and we're connecting this hedge with that hedge. And it just kind of snowballs once you start to see some positive return and see how that makes people feel a bit better when they're going about their, their jobs on the farm, and then they want to do more.

And it does, um, yeah, snowball effect of wanting to, to increase that, um, positivity, I guess, all around.

Jan: So, the project's now finished. It was a two-year project and, and it's come to a close. What's happening now in the future with regard to Lake District Farmers and thinking about not just soil carbon, but other aspects of, of biodiversity, et cetera?

Laura: So it was something that was, um, under explored in this project, but which is of great interest to both the farmers producing the food, and the consumers, buying and eating the food, was about the nutritional quality of the meat that was coming off these farms.

So we'd go out and we'd see these lovely swards, really diverse, um, mixture of plants that the, the animals were eating, both trees and grasses. And it's really, um, it's not particularly well studied what that does to the new nutrition profile of the meat that comes out at the end of that process.

So something that Lake District Farmers are interested in is to look at how, or what the nutrient profile is of these, um, meat products that are coming off the farms. And just to emphasise, or reinforce, I suppose, that having this less industrial way of farming meat can actually benefit us, um, as human beings eating a more nutritious diet.

And, as well as that there's this sense of we don't need to eat meat all of the time and make it such an industrial process where we expect to have meat three times a day at every meal. But if we get, uh, smaller amounts of meat, um, but which was much higher quality, then that's actually better for us and better for the land as well.

And I think that was quite, um, it was lovely to see that message being, uh, communicated through to LDF's customers as well, who you might expect would just be demanding meat and a high throughput chain, if you like, to feed their, their, their consumers.

But in fact, they were really getting to understand and appreciate that this, um, way of farming where you have fewer animals on the land, but they're

better quality, they have a better quality of life, the meat tastes better at the end of it.

So we just need to be more clever about how we use that product. And actually not take for granted or expectation that we're gonna be able to eat meat all of the time like we have been doing for the last, I don't know, 40 years really, um, substandard meat, but actually appreciate it when we do eat it.

Paul: So I know, Jan, as well that you, because you were part of this project too, and other members of the project have been meeting with some of the customers of Lake District Farmers, and you've mentioned there Laura that interest that was there.

And it really does seem like that there is a desire from the customers, and Lake District Farmers mostly deal with large corporations, they're not selling to me or you as individuals. But from these large corporations there's an interest in communicating to their employees, their customers, their, their stakeholders about the quality and the carbon footprint and everything about their food, which is probably a, a good sign that this is an area where sustainability messaging and carbon footprint messaging is getting through.

Jan: And I, I think I would pick up on what Laura had said about whole system effects. I think that if you are working for a company, and you're being told you're gonna reduce your carbon footprint down, then you could do that by just looking at, you know, the carbon throughput, and you could make some choices that had these knock on consequences that wouldn't be so great.

But I think what the, the KTP has done is made that conversation much more sophisticated. And I, I think that, you know, that's the key. 'Cause the, you know, here are the five answers on the back of an envelope that everyone should do is not available to us in, [laughs] in this context as it's not available in all sorts of other contexts as well.

But what this, I think the really good, well there's many good things, but one of the good outcomes of the KTP was, um, the possibility to have different sorts of conversations, business to business, to be able to understand the system better and the role of each business in making it different, better, more holistic.

Paul: Mm-hmm.

And I think as well the, some of the points that Laura said there about highly nutritional meat with a lesser carbon impact and not necessarily, 'cause it's not so high intensity, it's a nice balance in the communication you might have with your stakeholders.

Where if you were to go, right, we're just cutting meat off, there's going to be a level of comeback on that from certain groups. They'll be saying, hang on, you can't just cut meat out entirely, what are you doing, woke nonsense, um, however you want to phrase it.

But if you've got this, I'm not gonna say it's a happy medium, but it's a medium, whereby you've come to a compromise there and said, yeah, we are doing meat, but look, this is how this meat's being produced. This is where the messaging is from.

It's a nice message to be able to say, look, yeah, we are taking this seriously. We're no longer buying this mass-produced meat that you talked about, Laura, that everyone's eating all the time. We're buying high quality meat with a better environmental credential behind it.

Jan: Absolutely. I think you understand the KTP.

Paul: I do. [Jan laughs] I, I should be a doctor that, that's, uh, that, that's it. I, I should get a doctorate.

Laura: I just wanted to talk to that point really about, um, the carbon footprint as it appears, um, to, um, say, a business. So if you're looking at the carbon footprint of meat, it actually can be lower in an industrial system compared with animals raised outside all year round on more regenerative systems.

And I think if we just start, if we just stop and just take that face value and look at those numbers and don't appreciate the wider system, the wider farming system that they're coming from, we're gonna be losing that message that we need to be more holistic in our thinking.

So if we just base everything on carbon footprinting, it would quite potentially go down the route of every, all of our meat becomes industrialised because we can produce it quickly. We can produce it with fewer emissions, controlled inside, compared with a, a cow that's out in the field eating rougher forage and potentially producing more methane in that way. And it lives longer so that, it's more, it's more intensively, it's intensive carbon footprint compared with an industrial produced animal.

And I think if we just, if we just have businesses looking at their end carbon footprint in that sense, we're gonna miss the opportunity to appreciate what regenerative farming can do for more environmental services. Both for us and, and non-human, uh, life out there as well.

Um, and I think the, the conversations that we were having towards the end of the KTP with, uh, Lake District Farmers and their customers were really encouraging, in that we were looking beyond just that accounting for carbon and the number at the end of the year.

Paul: And I said I could be a doctor. There's someone on this call who's deciding to be a doctor twice.

Jan: Well, Doctor, Doctor.

Paul: Doctor, Doctor. Yeah, it's the start of a bad joke. [Jan laughs] Something about I feel like a pair of curtains, or I feel like a needle, or anything like that.

Laura, what's going on? You've already got one doctorate, but now up at, um, Dundee, you are getting another. Can you tell us a little bit about what it is you're doing at the moment and how it ties in, if at all, with the work you did with the LDF?

Laura: Yeah, absolutely. So yeah, I've never, I've never claimed to be, um, not weird. [Laura and Jan laugh]

So yeah, I'm going back to university to do it all again. Um, so my first doctorate was quite a while ago now, in a completely different subject to environmental matters.

Um, but through doing this KTP and just, really appreciating the opportunities there are through, um, accounting, and accounting, not just for carbon but accounting for all other sorts of environmental services, and how people, um, operate with the environment as well, was my starting point for thinking maybe I should go and do another PhD in this and, um, learn more. And, I suppose validate really what, um, what work I've been doing and to be able to go further into it.

So, as we've been talking about looking beyond carbon, what really struck home with me doing this KTP was, um, yeah, just how we need to look at the whole system and not just be accounting for, for carbon and for greenhouse gas emissions.

But to be accounting for biodiversity, accounting for, uh, flood mitigation, accounting for nutrition, accounting for how, uh, people culturally relate with their land and social economic factors that are, along with side that.

Do I'm now at Dundee doing a, um, a study into accounting for biodiversity and its relation with, with placemaking in the landscape. Um, and particularly I'm looking at the energy sector. Because there's quite a tension there, if you think about it, terms of we need, we want to increase our, um, renewable energy system in this country to fight, uh, or as part of our solution to the climate crisis.

But in doing so, we often have a big impact on the land, and land use change, and by consequence, biodiversity and peoples' cultural landscape, particularly up here in Scotland, which is where I'm, I'm particularly looking at.

Um, so I'm looking at, um, the concept of positive effects for biodiversity and how we measure those. Um, do we use numbers, do we use, do we not use numbers, [laughs] and how is that all, uh, going to fit together?

Paul: I think it would give you a nightmare. Someone doing accounting without any numbers.

Jan: Um, accounts though are accounts, which may or may not have numbers…

Paul: …aah, yeah…

Jan: …we're quite relaxed about non-numerical accounts.

Paul: This is why so many people's taxes are all over the place…

[Jan laughs]

Paul: [laughs] …I know it's not the same thing, I know it's not the same thing.

Laura, thank you so much for joining us once again, taking us back to the farm and giving us a real good picture of how the project went with the Lake District Farmers.

Laura: Oh, you're very welcome. I'm always glad to go back to the farm.

[Theme music]

Paul: It's really good, Jan, to sometimes go back to things that we've talked about, in this case a little bit more than two years ago, and find out the progress that has been made, the results have come.

Because when we spoke to the Lake District Farmers, their whole organisation, and Laura, the first time, it was the middle of the project, essentially.

Jan: Yeah.

Paul: Some work had taken place. It certainly hadn't been completed, but now to know what's happened as a result, the fact that there's future collaborations that might be taking place, it's good to see something that's had definitive results and that it's been so positive that people want to carry it forward.

Jan: And I think as, uh, part of the, the project team, it's not that we didn't, we, we had some thoughts about what the outcomes might be, but we've, but they were so much more than what we thought about.

And so I, uh, that's one of one of the reasons I, I like being an academic and, and, like projects, is you invariably you end up saying, well, it depends a bit more. [laughs] So, you know, not definitive, which is really wise, but, but, um, you, you sort of come across things that you hadn't come across before.

So one of the things that are really, really important in carbon accounting terms is everyone talks about flows, no one talks about stocks. When in fact the stocks are really important even if on these, these upland farms, it's hard to increase them, but knowing that the stocks matters as much as the flows.

That was, you know, revelatory in the first instance.

Paul: And I know Laura has now gone off to do a whole different doctorate based around what she's learned from this, which obviously says there was an impact with her.

So it wasn't just an impact with the farmers, it was an impact with her, that's helped her decide where she wants to take her career to.

Jan: And indeed, one of my main, uh, uh, impact measures and something I'm always very proud of, is that the more I expose people to accounting, the more they want to be accountants.

Except for you. I don't quite know why you haven't gone down this route, but she's now doing accounting for biodiversity. What a, what a sound woman she is.

Paul: All I would say is I've never known, uh, academics to have an ounce of common sense. [Jan laughs] Therefore, as a non-academic, that's probably why I've not approached the accounting side of it…

Jan: …yeah…

Paul: …it really disturbed me when suddenly Laura, Laura pointed out that what she was doing did tie in with accounting…

Jan: …yeah…

Paul: …oh, Laura, Laura, no. Why? Why, Laura, why? [Jan laughs]

Jan: But it's also quite interesting that account, well, accounting and accounts is one thing, but accountability is another…

Paul: …mm-hmm…

Jan: …and then further beyond that, if you're thinking in a more holistic way, you get to stewardship and stewarding.

Paul: Mm-hmm.

Jan: So she used the phrase, at one stage, stewarding value. And I think that's, if you like, a really common interest and common concern for, for all sorts of people.

Paul: Yeah, and seeing how the farmers were recognising their stewardship of the land and the positive effects they had. Laura was telling us how some of the farms that were particularly part of the project we're delighted to learn how their stewardship of the land had had these benefits for nature, for biodiversity, for the soil, for their own animals, and things.

Laura also pointed out the importance of understanding how sometimes things that might be seen as basic as part of this project are actually hard to grasp for most people, like what carbon in soil actually is, and how it affects things, and being able to explain that to the farmers, being able to explain that to the Lake District Farmers as an organisation, and then to their customers and to spread the benefits of this project and its results far beyond the initial people who were taking part in it.

Jan: And that's, of course, one of the thrills from my perspective as well, is to engage with our, our, um, natural physical scientists at, at Lancaster because they have a really deep and complex understanding of the system, which would then it's, it's sustainability in business. You need that background to work then through well what does it mean for a business entity and the partners they work with, et cetera, et cetera.

Paul: I can imagine your only disappointment from this entire project was the fact you were mainly dealing with cows, and you didn't get to meet very many sheep.

Jan: Oh, one of them was a sheep farm.

Paul: One of them was a sheep farm?

Jan: Yeah.

Paul: You never took me to the sheep farm. [Jan laughs] Alright, it, it turns out you just don't trust me not to do some sheep rustling on the side. That was it, wasn't it, yeah…?

Jan: [laughing] …it is, it is…

Paul: …entirely logical.

Well, it's been really good going back to this as a topic we've talked about before, but let's go next week to talk about a topic we haven't discussed. And let's have a look at refugees, logistics around refugee camps, and the, the status of refugees and their lives in refugee camps, and what more can be done to help them?

Should we do that?

Jan: That, um, that sounds, like, very timely. Um, 'cause there's a, there's a lot of environmental change that will cause people to have to move around…

Paul: …mm-hmm…

Jan: …and environmental disasters. So I think, yeah, logistics, refugees, et cetera is, uh, a place where we need to know a lot more about.

Paul: Good. Well, let's speak to Dr Nonhlanhla Dube from here at Lancaster about that next week.

Until then, thank you very much for listening. It's goodbye from me, Paul Turner.

Jan: And me, Jane Bebbington.

[Theme music]