

# Transcript

SIMON BELL: Hi. I'm Simon Bell, emeritus prof at The Open University. This is a conversation all about systems, and systems are all around us in all our fields of experience.

We can think about systems, and we can think with systems anywhere, anywhen. And we can use a wide variety of methods. Over the years, I've used a number, and I particularly like diagrams. It's one of my foibles.

One of my efforts in 2016 resulted in a book about the systems technique called Rich Pictures as a means to understand complexity, and I still kind of like that. I like diagramming a lot. Diagrams help me a lot. I'm talking to Arwen Bailey, who's based in Rome, and she works for the Alliance, which is the alliance between CIAT, the International Centre for Tropical Agriculture, and Biodiversity International.

ARWEN BAILEY: Nice to be with you today.

SIMON BELL: It's lovely to have you on the podcast, Arwen. Perhaps you'd like to start off by telling listeners a little about your work with the CGIAR, which is the Consultative Group for International Agricultural Research based in Rome, maybe how you think about systems in the context in which you work.

ARWEN BAILEY: OK, so the CGIAR is an agricultural research organisation which works in the field of development, and my role in that organisation is I work for part of the organisation which is an alliance of two centres. So one is called CIAT, and the other is called Biodiversity. And my role is a knowledge-sharing specialist, and that is about connecting people and connecting ideas so that knowledge flows through the organisation, so a little bit into the organisation and then a lot about in the organisation so that ideas travel from person to person and so that people are linked one to the other.

SIMON BELL: So I understand, also, from something that you sent me earlier on that you're involved in creating space for dialogue in order to generate knowledge. Now, I'm particularly interested in this. I did a short consultancy for CGIAR a few years ago, and I was working with metrics and data and data sharing. And I found it incredibly difficult for people to share knowledge across this planetary organisation, the FAO and the CGIAR. It must be very challenging for you creating these spaces for dialogue.

ARWEN BAILEY: Perhaps times have changed a bit, at least in the organisation which I'm in. I mean, also within the whole CGIAR, things are changing a lot, and there's a greater recognition about how we need to be connected. So we're going through a reform process at the moment, and it's all about systems transformation. And it's all about busting silos. Within the organisation I work in, which is just a part of the CGIAR, our strategy is all about bringing together disciplines and outcomes which often aren't thought about together.

SIMON BELL: All the people I work with who work in systems, part of one of the things we talk about is understanding complexity, and as you work in knowledge creation and knowledge communities, using systems as a way of understanding complexity must come into what you do. Tell me about that.

ARWEN BAILEY: So obviously, "complexity" is a huge buzzword at the moment in my area of work, so in agricultural research and in development, people have really bought into this idea of the world of being complex. And I think a lot of what I do is knowledge sharing to not break down the complexity but to bring different perspectives to bear on the complexity because one thing that we know about situations that we perceive as complex systems-- everybody is seeing them in different ways, and everybody's experiencing

them in different ways. Everybody's got different ideas about what the problem is. Everybody's got different ideas about what the solution might be.

And so a lot of my role is bringing together some of those different perspectives, whether it's different academic disciplines or just different people who have got knowledge about different parts of that complex situation so that we can come up with more options. And I think sometimes people misrepresent systems thinking as closing down options because they want to use it to really analyse what they see as a system and to pin it down to its parts. And what's in this system?

I've just been having a conversation with a colleague about food systems. Where do you draw the boundaries in the food system? Do you put pesticides? Are they part of the food system?

Food waste is part of the food system. Is sewage part of the food system? How far do you go?

And so people-- they want answers to those questions, and they actually want us to be able to say, the food system is. This is in. This is out. And so I see that as closing down opportunities and options whereas I think it's much more helpful to flip it around and say, OK, so let's say we're looking at food being produced. What, from your perspective, are the most important, salient things interacting to get to that outcome of food being produced?

And so once you have different [INAUDIBLE], that gives you options for entry points for making it better. How can we make that food more nutritious, for example? Or you can say, well it's producing an outcome of food, but it's also producing an outcome of high global greenhouse gas emissions. Is there something we can do here that can still produce food but maybe lower those greenhouse gas emissions?

So for me, systems thinking is addressing complexity in the sense that it's creating options. You can't simplify complexity down into linear relationships. This is this. This is in.

This is out, dah-dah-dah, and it has this outcome. That's the whole point of complexity. So since there are so many options in what's going to happen, we need as many options as possible.

SIMON BELL: It doesn't sound like an easy option. I mean, to some extent, making a list and just saying it's this and we're going to do it that way-- that sounds straightforward, but admitting or opening yourself up to what complexity brings sounds to me like it makes your life more difficult but maybe a more satisfying way of working.

ARWEN BAILEY: I think people are embracing this a lot more, and they can see that it's actually more effective because things aren't so predictable. And in the world of agricultural research for development, they have been going with this paradigm for decades of, this is the problem. This is the solution, and then having these unexpected outcomes.

They managed to get [INAUDIBLE] they wanted. Maybe that was a higher yield of a certain crop, but then maybe they now have problems with water. Maybe they now have problems with incorrect use of fertilisers or whatever it might be. And so I think now, even though it might not seem so simple, I think there is a great embracing of a need for a different way of looking at problems.

SIMON BELL: That's brilliant. I mean, that sounds like the systems approach is gaining real traction in your working environment. You're finding it-- maybe you're pushing against more of an open door now than maybe 10 years ago.

ARWEN BAILEY: I think in every organisation, there are different pockets of people, and I don't think that either the Alliance, where I work directly, or the CGIAR as a whole is different in that. What I do see is that there's a huge change in the focus of people's work. So whereas people once maybe were looking at a

small problem/solution, now they're looking more at outcomes, and that has been a huge paradigm shift in the Alliance.

So now it's like, OK, so we need to improve nutrition for a certain group. What are our options for improving nutrition, rather than saying, we're starting with this nutritious crop. How can we get it out there? There are still constituencies within CGIAR and the Alliance maybe who are more of that sort of supply-driven attitude. But I think increasingly there's this change of focus from "what can I make using my discipline" to "what's the outcome we want and how can we work in partnership to try and achieve that outcome?"

SIMON BELL: It must be really, really interesting working in forming conversations between disciplines because many disciplines have been siloed, and as you say, many people are realising within disciplines that the silo-- we're talking in echo chambers. We're talking to ourselves, and the world is more complex in any need given discipline. So being an enabler, if I think of you as an enabler of conversations and dialogues, generating knowledge and sharing knowledge, that sounds like an immensely rewarding area of systems practise to me.

ARWEN BAILEY: It is immensely rewarding. I love my job. I love sharing knowledge. I love connecting people. I love connecting ideas.

I make this analogy. I think disciplines are hugely important. We need people to go deep within their discipline. We need agronomists to know a lot about agronomy, and we need social scientists to know a lot about social science.

I make the analogy of plasticine. When you have kids and they get their red Plasticine and the blue and the yellow and the green and they mix it all together, they make this gorgeous rainbow. And then they keep going, and it just becomes brown. And from your beautiful coloured Plasticines, you just end up with this lump of brown, and we don't want that.

What we want is for our disciplines to keep their vibrant colours, which they are, and to bring them together in this rainbow where everybody's colour is exalted and complementing the others. So it's about the interconnections.

SIMON BELL: Maintaining the independent coherence of each discipline but blended together to give you something greater than the sum of the parts.

ARWEN BAILEY: Exactly. It is exactly what we need, and I do worry sometimes when people start busting silos and they're busting the silos so much, we could end up with brown. We could just end up with this mucky old Plasticine, and for me, the trick is connecting the silos more than busting the silos. We really need people in different disciplines to be well connected with people at the right moments, talking about the right things because also time resources are limited.

So you can't really-- talking to everybody about everything, and I think systems thinking helps with that as well because you can see things at the big level. Do we all need to be involved in the big level? No, let's get it down. This is a role for a subsystem on your discipline, but we need that subsystem on your discipline to be connected with other subsystems in different disciplines to have an outcome that's greater than the sum of the parts. And I think systems thinking can help to see disciplines as subsystems that are valid as disciplines but very well connected to other things at the right times for the right purposes.

SIMON BELL: Oh, and that's fantastic. And you raised the issue of time, and we are out of time. It's been a lovely conversation. This could have gone on for hours as far as I'm concerned.

I'm delighted to have spoken to you. Thank you so much for making time for us today and coming on the podcast. Thank you, Arwen.