

SESSION 5 PANEL DISCUSSION

Achieving transformational outcomes

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Moderator: The Hon John Anderson AC FTSE⁵

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Hon John Anderson, Dr Ismahane Elouafi, Ms Karen Mapusua, Dr Line Gordon and Professor Wendy Umberger during the panel discussion.

Hon John Anderson: Welcome to our four panellists. To get the ball rolling, I am posing the question: Are we using appropriate language to set the scene for engaging people in the climate challenge?

Steve Koonin was President Obama's right-hand man on climate; and in London last year when he was asked, 'What is the first thing we need to do about climate?', I heard him say: 'Stop the catastrophizing'. I think he meant that, for young people particularly, every event now seems to be labelled a 'crisis'. It's mental health or it's the cost of living or it's geopolitical realities, or it's the economy or it's climate.

As one of our scholars said to me over lunch today, we run towards a challenge to have a go at it, but we run away from a crisis or catastrophe. I'd be interested in the panel's views on how we engage people in a way that doesn't simply frighten them off. There are stories in newspapers and the like of young men saying they have just had a vasectomy because the world is so frightening they don't want to bring children into it. How do we get the right tone?

Dr Line Gordon: I can try to kick off. I think this is a big challenge in terms of how we speak about climate change, and I personally feel quite torn. On the one hand, I agree with you: it's a risk that people run away from a crisis. On the other hand, it *is* a crisis. Look at what happened during the pandemic, which was a real crisis perceived as a crisis. It made the world come together and collaborate to solve it, turning that crisis into the challenge of: How can we solve this?

Also, sometimes I am almost worried that if we tone down the language we will also reduce that capacity of coming together. I do agree that we also need to have a more imaginatively positive view of where we are going

– from potentially going from this crisis situation into one that is more positive. I talked a bit about that in the Sir John Crawford Address.

How can we create a more positive Anthropocene? We need to combine that feeling of crisis with a positive imagination. That would be my perspective.

Ms Karen Mapusua: Yeah, it is a crisis. It's an existential crisis for some of us. It's not something that we can play around with or water down or just say: 'It's a challenge. We should do something about it.' It is the end of the world for some of us. I think the word 'emergency' is appropriate, because we respond to an emergency. We don't run away from it; we respond to it; and that's what we need to do. We need to respond strongly and clearly and with very firm intent.

I agree that knowing what our response is, and then envisioning a positive future, is also critical, because there is strong evidence that the climate emergency has mental health impacts on some people, where it is existential.

We need to be able to give people hope as well and look for something in a future ... look for those positive outcomes from the world we have today.

Hon John Anderson: Can I challenge you a little bit? Essentially the same physicist who was Obama's adviser says that the climate change science is clear; the modelling is not. But you have just asserted that there is a crisis coming. How serious is it? As I understand it, the IPCC does not predict the end of humanity as we know it. You have just asserted that you think it *is* an existential crisis.

Ms Karen Mapusua: Yes, it is. If you live on a small island that is at sea level, it is an existential crisis. It might not appear that way for everyone, but for some it does. And while the modelling is uncertain, that is part of the risk. We know that the models ... well, we have already broken the boundaries; we don't know what's going to happen. Will we flip into an ice age? Will we continue to heat the planet? Those things are unknown and that makes it difficult to respond. But I don't think that we can lessen the risk that is around that.

Dr Ismahane Elouafi: I agree with both of you, but I think for the agriculture sector it could be an opportunity. And it *is* an opportunity, because when we think about it, what can sequester carbon? It is only plants, soils and oceans. It's not electric cars that absorb the carbon!

We are giving away money to renewable energy, and particularly electric cars, saying that, if we give subsidies, we are paying somebody to stop a potential emission. Whereas for agriculture, if we are well organised, if we can monitor all the carbon sequestration that is happening right now, and if we use different practices to increase sustainability and increase that sequestration, it could be a winner! But we are not doing that, because we don't have the data and because, more importantly, we are not well organised internationally. I think that is the flipside story – that we need really to put forward agriculture as part of the solution.

However, we need to understand it; we need to monitor it; and we need to use the right incentives. Right now, farmers are not really incentivised, particularly small-scale farmers, because (as I mentioned earlier) the carbon didn't really benefit them at all because the monetarising methods we have right now carry a big question on the standards *per se* and the monitoring. And there is also the cost. We are not simplifying it in such a way that we create a market of credit and conservation, of diversification, of biodiversity, through agricultural systems.

It is doable, but we need to get it right. Hence, I think it's very important that we see this as another area where we need *more* partnership and *more* collaboration.

Professor Wendy Umberger: I agree with what my colleagues have said. My comments are related to Ismahane's, but from a different point of view, in the sense that there is an opportunity to communicate the need for more investment in agriculture R&D, because climate change and climate issues and the crisis, they are creating food security issues that mean we need to be more productive. We cannot just talk about the positive things that agriculture can do with respect to sequestration. Demand for meat and protein in emerging

economies is increasing, but meat does contribute to emissions. We must drive innovation and increase funding for agriculture R&D so that we can innovate, increase productivity, find how to bring in new crops and crop varieties that are climate resilient, good for soil, that are more sustainable, that keep us from having to extend our land use. Su McCluskey, who is the Special Representative for Australian Agriculture, speaks passionately about the benefits of investing in agriculture; that agriculture has so much to contribute in this debate, and not just from a carbon sequestration point.

Speaking as a behavioural scientist, not just the ACIAR CEO, we try to think about what drives people to change their behaviour or attitudes. We want people to understand that we need to invest, that we need to pay attention. However, some people will only change their behaviour and wake up when they see what is threatening them, and that it is a threat to their livelihood. Also, some people *like* to respond to a crisis. Yes, it might not excite some people, but some other people want to help and want to contribute. It might get *them* excited.

I think, yes, we do need to talk about opportunities. I don't disagree with you; but using the word 'crisis' is not so bad because some people will get excited by it. It might drive some people to get involved to help do something good; because a lot of us get into things because we want to try to do something good in our lives.

Hon John Anderson: Let me then say, as a farmer, and having talked to a farmer from Australia and one from Pakistan, in the context of what you've just said, we are confronted with a blunt reality. Global consumption of oil, coal and gas is still rising very quickly. It is as simple as that. So, what should an Australian farmer or a Pakistani farmer do on the ground to argue for mitigation? Let's get on with it. Let's try and reduce, or go for adaptation, because nothing we do in Australia is going to make any difference (the former Chief Scientist made that point in this place). What do we argue for? For mitigation? Or do we say: This is coming anyway: we need help in the area of research, to adapt and somehow make the most of it.?

Professor Wendy Umberger: Absolutely both.

Dr Ismahane Elouafi: Maybe I can champion that. I think we have exhausted discussion around mitigation, but that doesn't mean we don't need it. But we haven't discussed enough about adaptation. I think what we need now is mitigation with co-benefits of adaptation as well. It isn't either/or. It's both of them.

But the reality is that we have invested a lot in mitigation – although some of the commitments never made it – but we haven't invested in adaptation, even where it's a reality. And I go back to what you said: all the scenarios are very bad; the +2, +4, +6, all the scenarios are bad, and that's where the crisis would resonate with me as well.

We need to invest more in adaptation, because even +2 needs a huge adaptation. I tell people that maize in +2 degrees in Africa would not flower. If there is no flower, there is no production. It is as simple as that; and most plants, let alone animals, are very sensitive at the flowering stage, which is the mating stage that gives you production. So it's very serious.

We talk about +1 as if it is nothing; it is as if today we have 30 and tomorrow it is 31.

No! +1 is huge. +2, +4, +6 – that is a burning planet. It's *very* serious. In my thinking, adaptation, particularly for the Global South, is very important, and it has been neglected for so long. If you ask me where to invest more now, it has to be into adaptation with co-benefits of mitigation or vice versa.

Dr Line Gordon: Yeah, I also want to emphasise that need for both adaptation and mitigation. It's not that we can now focus on adaptation because we have done enough with mitigation. We must continue with mitigation.

If you want to be a successful farmer in the future, you need to be part of that argument also, because the more we hit the planet, the more vulnerable you are going to become.

Of course we need mitigation. And I completely agree that we have had too little focus on adaptation. It is not either/or. We need them both at the same time.

Ms Karen Mapusua: Often many of the agricultural technologies that are supporting adaptation are also mitigators. I think it is a bit of a false dichotomy in a lot of cases.

Hon John Anderson: The Crawford Fund is an organisation that has been committed for a very long time to what I call the noble objective of feeding people, lifting them out of poverty, giving them decent lifespans, the opportunity to ensure that their children get a better start. Until the last couple of years, we've been making remarkable progress.

We know, from research that is quite clear on this, that younger people right across the West in particular are now less inclined to support humanitarian causes than they are environmental causes. It raises an interesting question: When we have to choose between trade-offs, should our objective be saving the planet, or saving humanity?

At the back of my mind is the comment made, brilliantly, by somebody in England the other day, that one of the worst things you could do for the environment, and indeed for climate, is to force people back into poverty.

So where should our first emphasis be? Lifting people out of poverty (because we know that with increasing living standards people are then in a position to care more about the environment)? Or should it be saving Gaia, so to speak?

Dr Line Gordon: This is a false dichotomy, I feel. As I tried to show in the Sir John Crawford Address, I basically don't care about the *planet*. The planet will survive. Without humanity on the planet, it could be rich in many different ways. I don't worry so much about that. What I worry about is humanity and the capacity to have a good life on this planet, and that is why we need to care about the environment. We need to care about the way that the environment can support human well-being and support agriculture. Also, we see that some of the poorest communities on the planet Earth are the most vulnerable to climate change and environmental degradation and so on. So, we need to combine these objectives, now and in the future.

Hon John Anderson: Any further comment? Can I say, it might be a false dichotomy but it's a real one. A friend of mine recently came across a paper written by a youngish person in one of the big financial houses saying that climate change is so urgent that we need to become realistic: there are too many of us, and we will have to jettison people. It's called 'lifeboat ethics', and it had its origins in the Club of Rome in the 1960s. There are too many of us; we need to do the brutal thing and throw a few people 'overboard'. I don't know whether you would rather be thrown overboard, or be the person who decides somebody else should be. But lifeboat ethics is back.

It may be a false dichotomy but, as someone who has been involved in public life for a long time, can I tell you this is an important debate we need to have. I'm not disagreeing with you, but it *is* real. A lot of young people have been convinced. There are almost religious overtones in this attitude that the earth must be saved at all costs. And I would suggest that we if do it at all costs without regard for humanity, we will do immense damage to both.

Dr Ismahane Elouafi: I agree with you, John. I think it's a real debate, and you are very brave to bring it up. It's humanity at its worst and I think it began during the COVID-19 period: if 'I' am a rich person, would I care about humanity, or would I care about the environment that can affect 'me'? So you find that you choose to support the environment because the environment affects 'me', whereas humanity, people in poverty, that wouldn't affect 'me'.

I think it's a real issue that we have to face and that we have to discuss. That is why in my talk earlier I spoke about SDG 10 and reducing inequalities. Inequalities are getting worse, and getting worse to the point where we now have poverty in high income countries, which was not something we talked about a few years ago. I think it's a real issue. Do we want to be one population on this planet and support each other? Or do we want to put a 'wall' between the south and the north and leave the Global South to deal with their problems and the rich countries to deal with their own, like we did during COVID-19, when so many countries locked up?

In many countries there was a debate about access to vaccine. There was a debate about equality and access to knowledge and innovation. There was a debate about the IP. Can we, should we, reduce the multiplication of vaccine in certain places, or should we not? It's a global issue, so – no IP and let everybody produce it.

I think really your question, John, is very deep, and it addresses maybe our lack of humanity, or the humanity values that are becoming different with time, and getting, I would say, less human with time, as well.

Hon John Anderson: I am not being particularly brave, because this is an audience of people who are concerned for humanity. I know that, and we are doing our best, and that's great. Many of us in the West hold 'luxury beliefs', because we can afford to. We are not worrying about where the next meal comes from for our children, and so forth; and that does colour our perspectives, I suspect. And that leads into the next question.

I was really interested in what Dr Seesei Molimau-Samasoni said in her presentation. Samoans are such a lovely warm people that I can believe that they prefer to have a good party with the family than worry about what they are eating. It's very concerning to me that in Australia's neighbourhood there are still those issues where we need to step up and help look after this region's people.

Seesei, you made that fascinating comment about cultural colonialism. We need to be careful to be sensitive to local cultures, and they vary hugely. There is a temptation, from countries like Australia I think, to impose our values, sometimes almost with the veiled threat that if you want our help you need to adopt some of our approaches.

Wendy, how do we do good things in ways that are genuinely, appropriately, culturally sensitive? And how important is that, in your view? I am starting with you, Wendy, because you spearhead Australia's efforts in this regard, and I know that you are very alert to these matters. What are your views?

Professor Wendy Umberger: It has been part of the conversations and the talks that we have had today: this partnership discussion, and 'partnership' as in 'sitting down and listening'. This is ACIAR's mantra or ethos. We don't always do it right, but when we talk to our country partners about what Australia can do to assist, if it's wanted, we actually listen and ask: 'Okay, then how can our innovation system contribute? What is our comparative advantage?' (because we are talking about research and capacity development); or, 'How can we leverage multilateral institutions like the CGIAR? How can we most effectively help address the issue?'

One of the questions this conference has aimed to address is: what does Australia do well, and not so well, in the partnership space? I think that is very relevant. We want to be good partners, but sometimes we have some very colonial or old-school thinking about what we have, versus what our partner countries have. One of the speakers today made the comment that 'Capacity exists; resources do not'. I think that is a very important point. I am proud that in ACIAR, and in my former life as an academic, we have tried hard to build capacity, through scholarship programs, and through Master Classes which the Crawford Fund does very well. So now there is significant capacity in most of the places where we work in our Indo-Pacific region and throughout Africa. The researchers are well trained, there is so much talent; but they are lacking resources. How can we try to leverage more funds into helping our partner countries in the right area where they need it?

Maybe there is still something in our innovation system that we can do? I do believe there is. We are getting asked to help in climate issues, in policy and all these areas. So how can we work together? It requires really sitting down together, listening and respecting each other.

Wahida Maghraby, who spoke this morning, knows how to make partnerships work. During my early time in Australia the best lessons I had about development and partnerships came from working with Wahida. She completed her PhD with us, and our whole team learned from her. We learned how to truly listen, ask questions and learn how we could help.

Australia's strength is in what we've built in relationships every time we go into a country, with our alumni – who are not just scholarship alumni, but also alumni that have worked on research projects, Master Classes and

similar – and *friendship*. Wahida mentioned friendship in her talk and other speakers have also talked about it today. Friendship is that deep connection that we get when we work together in countries, and that is what we do well when we listen and have genuine respect. Respect is the big thing, and we try to listen to the issues of other countries.

Hon John Anderson: One last question from me, and it goes back to the frustration that a farmer might feel on the matter of mitigation versus adaptation. As you say, we need to work on both. However, the blunt reality is that Australia has no impact on what is being done by bigger, more powerful nations that are less committed to this issue. That is a real problem. We must face reality. Demand for fossil fuels is rising very strongly, and if we accept the science on that – that it is causing problems – that means those problems are not shrinking.

That, I think, is at the heart of a lot of the despair. What hope is there, realistically, of influencing the countries that are intent on lifting their people out of poverty by providing abundant cheap energy?

I know this has been rehashed many times, but give us some hope on that front, if you can.

Dr Line Gordon: I think in the European Union changes are advancing very rapidly, with new carbon markets and trends of rapidly falling use of fossil fuels and rapid adoption of renewables. In China, there is super rapid adoption of renewables, ...

Hon John Anderson: How many new coal-fired power stations is China building?

Dr Line Gordon: Yeah, but as soon as renewables' prices start falling, that trend is going to shift. We see that is also starting to happen globally. So I think there is definitely hope.

Ms Karen Mapusua: I think we need to use the processes that exist, flawed as they are, the UNFCCC processes. We have to keep hammering away at that. And we must also look at other things that we can do. The private sector is incredibly powerful here. We need to be able to find ways to make it worthwhile for people to make the transition, and part of that is understanding the impact if they don't. I think that is critical, in this conversation. We can't give up. And although Australia might be a relatively small player, there's a lot of room for improvement, so I think that we all also have to keep working at home.

Dr Ismahane Elouafi: From my perspective, the only way out for us is to develop the Global South. Let us look at this from the perspective of food, for example, because food uses a lot of energy as well. Right now, the same productivity in Europe, for example, or in North America or Australia, you get about 10% of that in Africa. But if we go to Africa with the right technology, with the right investment – I agree with you, Hampus Eriksson, there is need for resources as well – you could increase productivity easily by six, by seven, eight, nine, ten times, and then you need to produce less in the north.

So this solution, for everybody, is the development of the Global South.

But how can you develop in the Global South when farmers have no access to carbon credits, no access to mechanisation, no access to road transport and to storage? We all need to invest in the Global South so that they produce the food that they need, and this ought to be part and parcel of the global economy.

And for energy, if we help energy in the Global South to be partly renewable – accepting that some won't be renewable – it is going to bring the cost down.

So, I think the opportunities are really general but we don't understand them because the multinational companies see it from *their* perspectives as companies. If there are companies in the South, maybe they're going to be much more local and they would see it positively.

I didn't have time to talk about this in my address, but there is an interesting study from IFPRI that shows what we call Total Productivity Factors, which are the output minus the input. Looking at 1990 to 2020, there is a huge difference between high-income countries and low-income countries. In the high-income countries, we are producing more with less, despite all our problems, including in Australia. There is more production and it is

because of innovation. Looking at the low-income countries, they are producing more, but doing it by clearing new land and by using more inputs. So, what we need to do is to make it possible for low-income countries to produce more with less. And we cannot do that without innovation and without investment.

The important point is this: developing the Global South is a solution for humanity, not only for the Global South.

Hon John Anderson: I think it's fair to say that that's where we in Australia, headed up by ACIAR, can truly maximise our contribution.

Professor Wendy Umberger: I want to add to that point, Ismahane. Yes, we are producing more with less. There was the Green Revolution and since then we have gained significant knowledge about how to produce more without having negative impacts on the environment, or not as bad impacts, not destroying the soil or worsening biodiversity loss. We have that knowledge now, and we are learning more. So as we work, and try to get funding, I think we should make sure that we are doing more with less in *sustainable* (for lack of a better word) ways, as well.

Ms Karen Mapusua: I think it is also important in this conversation not to undervalue what is already being done in the Global South. Also, touching back onto the conversation around being culturally appropriate, and capacity building, and what that means in that context, there are a lot of solutions that already exist in the Global South. There is a lot of traditional knowledge and traditional practice, a lot of adapted traditional knowledge and practice that can be built on and shared and learned from.

I think that it is important that, as ACIAR and others go and work with partners in the Pacific and other regions, there's recognition that those knowledges are equal, and equally valuable, and to make sure that we are not using a lens that produces outcomes expected from an Australian perspective but that might be very different from a community perspective.

The vision of success has to come from the communities, and not from the external partners.

Hon John Anderson: To what extent can each of you see a pathway for the business of feeding people, paddock to plate – that is, agriculture through to the last mile, the grocery mile – to achieve net zero in the business of feeding people by 2050, as a sector?

Dr Line Gordon: Well, I think there are four different things that need to be happening. We need to look at our diets, and we need to look at what makes a healthy diet, and have that as our centre, and start from there. It will require dietary shifts in many places around the world. The second need is a big investment in agricultural innovation, so that we close these gaps in many places around the world, and produce more food with less impact – and that will require substantial innovation and resources into agriculture. The third need is to cut food loss and waste: if we are throwing away 30% of what we have used today, halving that is very important. And fourth, moving into more circular practices, and we need to do that while we also protect and maintain our ecosystems. Those are the four key areas.

Dr Ismahane Elouafi: I completely agree with that. Diversification, I think, is very much needed, and the other point I want to talk about is global trade. I think there are huge inefficiencies in the way trade is organised right now. The World Trade Organization says that many commodities cross the border twice. They are produced in one place, go somewhere, get processed, come back, and maybe go across again. So we need to look at efficiency. And now we have data. I don't know why we use traceability for diseases, but we don't use it for trade. I normally eat as locally as I can because I believe that we all need to eat what the ecosystem allows us to produce. We can get some things from other places, but we can't have strawberries (for example) all year



round. We are getting too spoilt, and the trade is very inefficient, and it is emitting a lot. As a matter of fact, we know that certain multinationals are emitting much more than countries!

I think it's important to really look at data and use data to understand our trade movements and try to make sense of them. Diversification of food, and better understanding of nutrigenomics – maybe this way we can be healthy with what we eat, not what we would *like* to eat. In short, I think we need diversification, trade (to some extent), and increasing productivity in places where there is a huge yield gap.

Ms Karen Mapusua: I live in a place that is a net importer of food. Every Pacific Island is. So one of the biggest changes we need to make, assuming we will continue to import at least some food – and I think that is a realistic assumption – is sustainable transport. We need to cut emissions of the transport that brings our food in. Production and consumption is one thing. How the food actually gets to us is a significant emitter.

Hon John Anderson: As a former transport minister, I must say I think that is absolutely loaded with challenges. We are effectively now seeing the airline industry acknowledge that the challenges they face are almost insurmountable. It raises the question, how seriously should we stop and think about our carbon footprint when we jump onto an aeroplane? They're making it quite plain that there is no pathway that can be identified for that sector. I think these things are enormous challenges. Forgive me for playing devil's advocate, but I think for some of these matters, we need to put ourselves on the spot. We need to understand how people might be questioning, and thinking: 'Well, how do I fit into this?'

Reference

IFPRI (2024) Indicators. In *Global Food Policy Report*. <https://gfpr.ifpri.info/indicators-2020/>

SESSION 5 Q&A

Chair: Hon John Anderson AC FTSE

Q. Tony Fischer AM: A number of points cropped up during the conversation.

The greenhouse gas intensity per kilo of food, which is the criteria we should be using, is actually less in modern well managed agriculture than in any other form of agriculture. That is true. That's factual. The problem with modern agriculture, and with all high yielding agriculture, is its dependence on nitrogen. If we can produce ammonia, green ammonia, we will substantially reduce the greenhouse gas intensity of food production. Nitrous oxide is a part of it, and there is scope to breed biological nitrification inhibition into our crop plants. That is starting and we should be investing much more in that. That would, from current experiments, reduce substantially the nitrous oxide from the root zones of crops. There is also possibly scope to breed for reduced methane production by rice, but that is far more theoretical at this stage.

We shouldn't forget that the CO2 increase ameliorates – quite substantially – the effects of temperature increase in C3 crops. I've just analysed 60 years' data from northwest Mexico. The temperature increase is cancelled by the CO2 increase on yield in that environment. Admittedly, the temperature increase on that coastal environment is a little bit less than elsewhere.

Breeding for high temperature adaptation has scope, a lot of scope. But we must remember that the temperature that a crop sees depends very much on the water supply the crop gets. You can grow very good wheat in Sudan if you irrigate it. It runs along at about 6 to 8 degrees below the air temperature because of transpirational cooling. So it's not very efficient in terms of water-use efficiency. You have to be pretty careful about breeding for high temperature: is it with, or without, lack of water? They are very different situations.

I totally agree with Ismahane in particular. Let's fix up sub-Saharan Africa. The yield gaps are massive. We know what to do, but it's very different to change institutions and policies and governance in those places.

Finally, the dilemma. What we do in Australia has no influence on the global balance of any of these things. But why shouldn't we be setting an example? If we are wanting to be able to speak in global fora, we should have our own 'house' in order.

Chair: Thanks, Tony.

Q. Tony York, Commissioner with ACIAR: I have enjoyed this couple of days that I have been here, but I just note the gender of the guests we have on the panel, and the lack of conversation with reference to the male and the female views of nurture, nature and science, and how we might solve problems and globally, noting that ACIAR as part of its extension and research program has a strong emphasis on empowering women. So I am inviting the panel to comment on whether you think we have gone far enough in empowering women in all aspects of global politics and decision making?

A. Ms Karen Mapusua: Okay, I'll be brave on that one. The short answer: No, because it's not the same all over the world. Having four women sit on a panel doesn't mean that the balance of power has changed in the decision-making echelons of any of our countries. But I also think this is one of the things where gender is very cultured, and it looks different in different places, and predicting what gender equality in Australia looks like on other communities is also not helpful.

A. Professor Wendy Umberger: I agree with everything Karen said, and I think we also have a lot of work to do to understand the different gender roles in the different places that we work in. I think there's research on gender that needs to be done, and inclusivity; not just gender. I am a big believer in equity, and that means understanding what we each can contribute, and making sure that it's equal. You don't want anyone to be marginalised, right? But I think there's a lot of research still to be done to understand and, as Karen said, to not impose our values on other places.

A. Dr Ismahane Elouafi: To add to what Karen and Wendy said, I think we need at least another century of positive discrimination to women, to get us a role; and I think we need that because it has been going on for a long time, and many things are more made for men and decided by men. As Karen said, having a woman here doesn't mean that we have succeeded. I think we have to be intentional about gender, particularly, and social inclusion. We have to set KPIs. We have to shoot for the moon until we achieve having the same opportunities across the globe.

A. Dr Line Gordon: I am happy with those answers.

Chair: Thank you, four wonderful and amazing ladies, for allowing me to cross-examine you, and to act a little as an agent provocateur to try and draw some of these issues out. You've been magnificent. Let us all thank you in the normal way.

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Dr Ismahane Elouafi is the Executive Managing Director of CGIAR. She previously held the position of Chief Scientist at the Food and Agriculture Organization (FAO) of the United Nations. She was earlier the Director General at the International Center for Biosaline Agriculture (ICBA) based in the UAE. Dr Elouafi previously held senior scientific and leadership positions, including Senior Adviser to the Assistant Deputy Minister, Agriculture and Agri-Food Canada Research Branch; the National Manager of Plant Research Section; and Director of Research Management and Partnerships Division at the Canadian Food Inspection Agency. She worked as a scientist with several international research organisations and has been a member of various strategy expert panels and advisory groups, including the Global Commission on Adaptation and HarvestPlus. She was a board member of the International Food Policy Research Institute (IFPRI) and the Centre for Agriculture and Bioscience International (CABI). Dr Elouafi was also a member of the Scientific Group for the 2021 UN Food Systems.



Karen Mapusua is Director of the Land Resources Division of the Pacific Community which provides technical and scientific support to the Pacific Island countries & territories on all aspects of agriculture and forestry. She has worked in rural development in the Pacific region for close to 26 years including co-founding the Pacific Organic & Ethical Trade Community (POETCom), leading in implementing the Pacific Organic Standard and Guarantee Scheme, building tools to support organic policy development, and establishing alternative forms of certification that empower farmers. Karen has driven the development of the Pacific Community Flagship on Food Systems for improved health, nutrition and resilience outcomes and has actively promoted economic empowerment of women through agricultural value chains. Karen is President of IFOAM-Organics International, the global umbrella body for the organic agriculture movement, and previously served on the Board of Directors of Fairtrade Australia New Zealand. She is a national of Samoa and Australia.



Line Gordon has over 20 years of experience leading interdisciplinary teams in Sustainability Science. Her leadership focuses on investing in a collaborative, trust-based and creative working culture that enables us to achieve impact, while ensuring that scientific integrity underpins all our work. Line Gordon's research focuses on water and food systems as key entry points to build Biosphere resilience and improve governance of social-ecological systems, livelihoods, and public health. Her research is problem-oriented, interdisciplinary, and highly collaborative. She often leads and contributes to collaborations that bridge disciplines and technical skills to advance scientific frontiers. Gordon's current research focuses primarily on the role of food system transformation for public and planetary health. This work includes leading the Just transformation working group of the EAT-Lancet 2.0 Commission, developing national Swedish food systems scenarios in the Mistra Food Futures programme, and working on gastronomic landscapes. She has previously done research on livelihood resilience and ecosystem services in sub-Saharan Africa (Burkina Faso, Tanzania, South Africa, Senegal, and Ghana), and on the critical roles of 'invisible water flows' across local to global scales, in particular highlighting how global land use change, and evaporation and precipitation interact. Line Gordon has an undergraduate degree in biology and a PhD (in 2003) in Natural Resources Management, Department of Systems Ecology, Stockholm University. She was a postdoctoral fellow at the International Water Management Institute (IWMI) in Colombo, Sri Lanka. She has also been a visiting researcher at University of Kwa-Zulu Natal, South Africa, CIRAD in France, McGill University in Canada, and STIAS – the Stellenbosch Institute for Advanced Study, in Stellenbosch, South Africa. She was appointed the Curt Bergfors Professor in Sustainability Science with a focus on food systems in 2021. Line Gordon serves on many different boards and advisory boards.



Professor Wendy Umberger is the CEO of ACIAR. Previously, she was the President of Australia's Policy Advisory Council (for International Agricultural Research and Development) and an Honorary Professorial Fellow in the School of Agriculture and Food at The University of Melbourne. She is an expert in agricultural economics and development and food policy. She has worked on food system issues across the Indo-Pacific region and led interdisciplinary value chain research projects in Asia, Australia, North America, the Pacific Islands and South Africa. Her research has explored opportunities for agricultural smallholder households in producing high value (horticulture, dairy, beef) food products and adopting new technology to gain access to modern food value chains. From 2013 to 2022 she was the Foundation Executive Director at the Centre for Global Food and Resources at The University of Adelaide and a Professor in the School of Economics and Public Policy. She served on the Board of Trustees of the International Crops Research Institute for Semi-Arid Tropics (ICRISAT) from 2015 to 2021. She is also an Independent Director of Grain Producers South Australia (GPSA), a Director of the International Association of Agricultural Economists, a board member of Food Bank SA, an Honorary Fellow of Food Standards Australia New Zealand, and a Distinguished Fellow of the Australasian Agricultural and Resource Economics Society. Wendy has a B.S. in Animal Science (1996) and M.S. in Economics (1998) from South Dakota State University and PhD in Agricultural Economics (2001) from the University of Nebraska-Lincoln.



Hon John Anderson AC has been a long-serving member of the Board of the Crawford Fund and has been Chair of the Board since 2017. He was appointed Companion of the Order of Australia (AC) in the Queen's Birthday 2022 Honours List for eminent service to rural and regional development, to leadership in international agricultural research and food security, to social commentary, and through contributions to not-for-profit organisations. John Anderson is the former Deputy Prime Minister and Leader of the National Party of Australia (1999–2005); Minister for Primary Industries and Energy (1996–1998); Minister for Transport and Regional Development (1998–2005); served on Expenditure Review (Budget) Committee, National Security Committee and Standing Environment Committee while in Cabinet. He was the member for Gwydir, New South Wales, from 1989 to his retirement in 2005. John has returned to farming, and is also active in the not-for-profit sector.