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**THE CRAWFORD FUND**  
*For a Food Secure World*

# **THE BUSINESS OF FOOD SECURITY:**

**Profitability, sustainability and risk**

The Crawford Fund  
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*Editor: Janet Lawrence*



## MORNING Q&A SESSION

**Facilitator:** Ms Catherine Marriott, ACIAR Commissioner and Managing Director of Influential Women, including morning speakers, structured around direct questions from the floor

**Facilitator:** So I'd now like to invite questions from the floor, and if we could please as you say the question give your name and where you're from to give a bit of context behind that question and keep your questions quite short so that we can pull the most out of the panel.

I'll start the ball rolling because I'm here with a microphone, Gerda I would love to address you if possible: Anthony Pratt this morning spoke about the need for, like 10 per cent of India's food is processed and it's important to decrease food wastage by processing food. Something I'm really passionate about is the debate around calories versus nutrition, and I was wondering if you could shed some of your thoughts on that?

**A.** Gerda Verburg (panel): Well I think both is necessary but in a balanced way. And until now we apparently have been thinking too much and focusing too much on calories and giving less attention to nutrition. So nutrition is everywhere right now. Last year in November we had the second National Conference on Nutrition organised by the Food and Agriculture Organisation of the UN and the World Health Organisations. Fine, and now the focus is on nutrition. But there is a little misunderstanding here in my view; many people tend to think that nutrition is something that has to be added to food and I think we should start with investing in nutrition-sensitive agriculture. Well I think both are necessary, both can be reached and both are crucial for a 'healthy and not hungry anymore' world.

**Facilitator:** Thank you. Who have we got up there? Yes, Tim Fischer.

**Q.** (from the floor): Just a brief question, of course many of us would have liked to have questioned Anthony but that was a good comment you made on Anthony Pratt. Tim Fischer. To our friend from Bayer Richard Dickmann, it's an obvious point but in all of this we need to trumpet the messages out to the great beyond within Australia and indeed Asia and beyond, food security and the like. With your conference in two weeks' time presumably do you have and if not will you have a media plan? I mean you could invite Donald Trump (I think not) to trumpet the message. But it's terrific that you are committing to



bringing these young leaders, as indeed Crawford has, and I just would urge that you try and maximise media for that event as well in two weeks' time as Cathy is doing here today.

**A.** Richard Dickmann (panel): Yes, Tim there will be an extensive media plan and I mean we're very proud of having it here in Australia obviously, I mean it was the obvious place to go. The first one was in Canada and we were looking for a place to go and around sustainability our low-input efficient agriculture was really a story that we could tell to these delegates. So we will definitely have an extensive media plan.

**A.** Gerda Verburg (panel): And they will present results to the CFS in October, which is also a media opportunity I would say, because in the plenary of the committee on world food security we can only have about 1000 participants – but we have a lot more applications just as is the case for side events during that week.

**A.** Richard Dickmann (panel): Yes, we've been successful in getting the side event, I don't know if you were involved with that, thank you very much. But if we could get two tickets for the plenary that would be nice as well.

**Q.** (from the floor): Bill Hurditch from Visy. Just a quick comment on the calorie thing, very good feedback actually, I mean Visy's a packaging company and apologies that Anthony Pratt couldn't have stayed to have the Q&A, he had to get back to Melbourne, but my question is to Jessica actually. I was fascinated by your dairy graph, about 66 million less cows with only a small increase, have you factored in or have the people who did that work factored in the attenuation of wastage in dairy, particularly wastage in lots of small dairies? So if you actually improved or eliminated wastage in the dairy cycle would you actually improve those numbers even further?

**A.** Jessica Ramsden (panel): The way that Elanco looks at wastage is the pre-harvest, so waste is absolutely a critical issue that needs to be addressed. It's often looked at in terms of post-harvest losses but the pre-harvest losses, particularly in developing livestock systems, are significant. So if you can do some very basic things around fresh water, around disease prevention and control and some of those very basic animal care and handling improvements or innovations, that can help to increase the amount of yield per cow and increase that consumption.

So there are some very simple innovations and then right up to some very sophisticated innovations in terms of the high-end feed efficiency tools and things like that.

**Q.** (from the floor): Thank you, my name's Tony Fischer, CSIRO Agriculture. It's a question to everybody really, there's a lot of discussion about corporate farming in the developing world and also in a sense in the developed world, particularly animal farming, intensive animal industry. I was pleased to see that the multinational people here on the table talked a lot about interacting with small farmers, I think that's fantastic, but I'd like you also to comment a little bit on where you see corporate farming going. I mean it's big in Latin America, it's big in ex-Soviet Union, what about in areas in which you operate? Does it have a role? Should we resist it or should we work with it?

**A.** Richard Dickmann (panel): Dr Lim I think you would be more on the ground to comment in Asia.

**A.** Lim Jung Lee: I think the role of corporate farms is very important and also the funds from funding agencies also very important. Now at the operational level we have a pool of funds for investment but then there is a lot of priorities that we need to follow, there are a lot of business priorities and where the funding agencies can come in is really to kick off new business models, to start off new business models. For example, like the project that we're working on, opening up new business in coffee They're in with funding which again helps to push and to turn the wheel in the coffee business.

In the mango project funds are available to kick up the project which I think has been well received by the farmers and very quickly this will be translated into education and training which then becomes much more sustainable. So I think the corporate funds will continue to invest once this, when we have proven the concept that it can be up-scaled, it can be moved up into business which I think then we will attract a lot of funding internally.

**Facilitator:** I've got a question up the back but before we do I'd encourage the students, it's an amazing opportunity, you've got four brilliant speakers up the front. And then you sir?

**Q.** (from the floor): It's Anthony Leddin from Plant Breeders Without Borders. Dr Lee I really enjoyed your talk. I worked a bit in East Timor where when you go over there it's a mecca of aid organisations all working on very similar projects but never the twain shall meet. So it's very interesting to hear about your talk about two large commercial companies working in the sort of same sector in some ways. How can we get to a stage of where you're getting commercial companies that are competitors in the commercial world actually pooling their resources into the one project to the help of humankind, working together?

**A.** Lim Jung Lee (panel): I think I'd like to go back to this morning's talk. It's about creating the trust, and if the other party does not trust you, you have to trust them first. Now I think in the business world that we are in we are all trained to compete and information is a competitive edge for us. So I think it's very difficult for us to say 'look you know we can share everything'. But the point is here like what I was showing you where Monsanto and Syngenta have a common objective, that is micro-financing. It's on neutral ground I would say. This is something that is new, nobody has any experience and by pooling our resources together we are able to make a move. So if there are other corporates and other companies who wish to join the team I think there has to be a strong common objective. Improving a farmer's income is not good enough, you need to have a more specific objective that can really hold us together.

Now the other point I'd like to point out is in crop life. In crop life various companies are actually working together but they have a very strong common objective, that is to ensure the crop protection and the seeds technology are well received by our end-users and that becomes a very strong objective, it's a common platform, it's a neutral platform and this is where many companies are actually working together. So I'm not saying that it's impossible. In this partnership program working with competitors is possible. We need to trust, we need to be a little bit more flexible and we need to ensure that there is some common understanding.

**A.** Richard Dickmann (panel): May I just add something, I mean I think the bases of these arrangements are very careful planning and division of responsibilities and expectations of each of the parties, and I would

throw it out there that I mean if Australian aid agencies want to collaborate in some of these arrangements I mean that's also possible. I mean it requires a very transparent discussion about, you know with business partners about what are the objectives and what is the planning and so on. I mean you should also think a little bit about that because I am, for example in the GTZ partnership, this German aid agency is a very extensive partnership involving a number of commercial groups; likewise PISAgro and other extensive collaborations have been set up. So I think we would welcome more discussion with Australian aid agencies as well.

**Q.** (from the floor): My name is Neil Inall, I'm a very old student! My question is to Richard and maybe some other members of the panel would comment, but Richard very early on in your presentation you put up the words changing consumption patterns. Now I'm wondering if you can expand on that please. Is it only pizzas and Big Macs or is it a lot more than that?

**A.** Richard Dickmann (panel): Yes, it's definitely a lot more than that! I think we all know that the trend in protein consumption in Asia I think only if they double their protein consumption in China will have tremendous impact on the production of cattle and also production of crops and so on. I mean that's their absolute right, I mean we've been omnivores for several million years and we've got to where we are because of that fact. So I mean you know we have to look at sustainable ways to meet that demand.

**A.** Gerda Verburg (panel): But if you allow me also from the part of society we should look at it because in some countries you have both people who are undernourished and people who are very rapidly going obese. If the living standards are increasing, you see that people who were in their childhood undernourished start to become obese. So it is something that has to be thought and discussed through by the different stakeholders, because there are a lot of different angles in this question, in this topic, and we need consumer representatives, we need business, we need government and a lot of stakeholders to tackle this very complicated problem of both undernourishment and over nourishment.

**Q.** (from the floor): Hello, my name's Justin Whittle from the University of Western Sydney. I'm one of the Ag delegates for next week's

conference, which I'm very grateful to be a part of. My question is: young people bear the burden of food, water and energy security in the next 50 years, we talk about innovation and solutions, and one thing I'm very passionate about and will be speaking in two weeks is creating disruptive and sustainable new markets in agriculture. Most of the feedback I've received from many people in the industry has been quite negative towards disruptive agriculture systems. What is your opinion on innovation and disruptive agriculture systems? Thank you.

**A.** Richard Dickmann (panel): I think the potential, and if we're talking about IT and I mean what is going on in Africa with the ability of farmers to access markets through, what is it Nokia 110 or something like that, that they are able to access these markets is rapidly developing. And I'd like to highlight some of the work of Syngenta in Africa with their underpinning of an insurance program which linked the supply of seeds to weather forecasting; with an SMS the farmer could geo-locate himself and therefore gain insurance for that piece of land.

It's that type of disruptive approach which really can revolutionise activities going forward and we really have to look at that and that's why we need you guys to really think out of the box about some of these things. Supply chains like being able to trace food, Australian food with its high attributes of quality which basically we lose the trace of that when it passes the border, being able to trace that all the way through so that we can deliver it to an Asian consumer with all of its associated attributes would be a fantastic.

**A.** Gerda Verburg (panel): But Madam Moderator, the question is what did these businesses tell you about innovative and disruptive agriculture? Why are they negative and about what facts are they negative? I presume you have asked them, otherwise you should go back and ask them so that you can work on it during your two weeks.

**Q.** (from the floor Justin Whittle cont'd): Well one of the key things I wrote in my essay was establishing an edible bug industry in Australia to help food and nutrition security worldwide. And I feel in Australia I have got quite negative responses maybe due to conservative views in Australian agriculture. But even seaweed farms for human consumption, edible biogas farms with cactus and prickly pear, these kinds of



innovations that I like to see happening but I still get the door slammed in my face most of the time when I enter these ideas.

**A.** Gerda Verburg (panel): OK, congratulations that you can make it to this meeting. Because it's really necessary to go back because there is a lot more to learn, there are much more edible plants and flowers than we use right now and they are also enriching let's say resources that we can use. Edible insects for instance, well to be honest I do not eat them right now. But I'm sure they are the future is and it's very encouraging what kind of possibilities we develop. So train yourself or get trained to go back to these kinds of businesses.

**Facilitator:** Just quietly I think Jess and Dr Lee have got a brief comment and then we'll go to the next question.

**A.** Lim Jung Lee (panel): I think you have a bright idea and if doors slam in your face you should continue knocking, you must not give up. Because ultimately a door will open for you and your ideas can be put into practice and with the help of some of the funding agencies, with a group of partners, you could get things going.

(No comment from Jessica Ramsden)

**Facilitator:** Next question please, up the back.

**Q.** (from the floor): Justin Borovitz from the ANU. I wanted to go back to Tony Fischer's question a little bit, first about corporatisation of agriculture. There's been a lot of discussion focused on the small farmer and improving yield gaps and access to markets and as we think about the future nine billion, six billion urbanised. Feeding the cities is the big draw and so if the path to development is for small farmers to stop being so inefficient, adopt new technologies and export to make revenue then how do they provide food security for themselves? I think we sort of are forgetting that the smallholder farmers are also food insecure. So it's sort of a contrast anybody could comment on about are we trying to be more productive and improve gaps or is the goal to provide food security for the people that need it most?

**A.** Gerda Verburg (panel): If you allow me, I think it's, I'm very happy that you've come forward with this question because indeed we talk a lot about smallholders and that smallholders have to increase production and to improve production, to improve income. But we

never, never can do without family farmers, also the bigger family farmers and if you, I don't know how you call it but it's sometimes named commercial farming. Well my brother is still on our family farm and he's a commercial farmer but indeed he's a family farmer. Sometimes we talk about farmers as if they are an endangered species, well to a certain extent this is the case but they are business people, they like to get support to get things done like access to land or the opportunity to buy the best seeds or the best fertilisers to organise their interests etcetera.

But we should consider them as business men and women and give them the opportunity to develop themselves because one of my questions to Dr Lee would be: 'OK 'til when do you support farmers etcetera and when do you invite them to work towards the future on their own feet and to organise their own interest?' Mr Pratt was talking about you can deliver fish but you can also teach people fishing. OK when the moment is that people are able to do the fishing and to present their interests themselves. This is extremely crucial but I agree with you we never should think that we can depend on only smallholder farming, not all smallholders are food insecure but too many of them still are.

**A. Jessica Ramsden (panel):** I think the important thing is, just to reiterate that it's not an either/or scenario and it can never be. So we definitely need all types of farming system, all sizes of agribusiness, any size of business whether it be corporate or smallholder can be sustainable. Any type of food production or livestock production system can have good animal welfare outcomes. So, and just to loop then back to the question about doors being slammed in the face of new innovation because they're a little bit icky, it reminded me of a dairy farm in the US called Fair Oaks which has 37,000 cows, they're all in, it's a factory farm I suppose, they're all housed, they use, they capture the methane which powers the trucks that takes their milk to market, they process 100 per cent of the effluent that's produced from those 37,000 cows, break it down into those individual nutrients and reuse them on the farm or sell them as ingredients into other processing chains. And they also, they're open to the public so you can do tours, you can watch the 140 calves being calved every day in a public auditorium like this, to see the cows being born.

Now the important thing about that is that they are building trust and transparency in farming and about livestock agriculture and about intensive corporate agriculture. And so it's that trust and transparency in the big company which is where we need to start innovating a little bit more so that people don't continue to slam the door in the face of some of those innovations that can play such an important role in sustainability and animal welfare.

**Facilitator:** We've got about 10 more questions and 15 minutes so we'll move it on. We've got two up the back, one down the front, one there, one there, one up the back! OK, wonderful, away we go.

**Q. (from the floor):** OK, so I think I cannot have two questions then! For Richard: in China, in the developing areas like in the southwest Yunnan province with the terrace fields, there are many sustainable, traditionally sustainable ways of using the traditional crop varieties where you put the seeds on the roof shelf, that's the method you have sustained for about 5000 years. So like the new powerful, like your company, I mean when you incorporated with China's government local ones have you considered how you deal with the traditional ways of, I mean that have sustained for many thousands of years?

**A. Richard Dickmann (panel):** I can't comment directly on what's been done in Yunnan with those traditional crops but I know well China and its regional specificities, in particular Yunnan. So you know I mean we've signed these national deals with NATESC and with MOA and so on, but you well know that in every province sub-deals have to be signed and the project has to be set up really province by province. So I hope, and I can't comment, but I assume that the correct approach has been taken in Yunnan to respect those traditional approaches.

**Q. (from the floor):** Robyn Alders from the University of Sydney. Thank you for your presentations this morning. You mentioned this morning the important of nutrition-sensitive approaches to what we're doing and so I would like to hear the panel's thoughts about the importance of involving human nutritionists and physicians in these discussions. If we're going to have efficient use and efficient nutrient cycles then we need to be able to compare food-based approaches to nutrition from supplementary feeding. Work on microbiome studies that have been done suggest that if you tried to supplement by just giving sprinkles or

vitamin tablets that you're not necessarily getting the optimum outcomes and you could on some occasions be leading to diarrhoea in children that would cause additional problems. So I'd like to hear your thoughts about how we get the health sector actively involved in these discussions. Thank you.

**A. Jessica Ramsden (panel):** Absolutely, in terms of involving the human nutrition community in discussions about animal production and the role of animal foods in the diet, I think that's a very important area and there's been some work that Elanco's been doing with the Academy of Nutrition in the US to help support broader education of human nutritionists about agriculture and innovation in agriculture and the role of sustainability.

I'm not sure that this is answering your specific question but it's an interesting area. A lot of human nutritionists are asked questions about farming practice or a lot of chefs are asked for nutrition advice and so on. So there's a lot of opinion which is asked of people who don't necessarily have those particular qualifications, so the more that we can share insights across the animal nutrition sector and the human nutrition the more we'll get some common understanding.

I was speaking recently with Dr Malcolm Riley who I think is here today, the President of the Nutrition Society of Australia which also includes animal nutritionists – which was a surprise to me but a pleasant one – so I think there's an opportunity for some greater dialogue between animal and food nutrition about how to address some of those issues.

**A. Gerda Verburg (panel):** We need nutritionists more than we realised before, and they are really engaged in the International Conference on Nutrition that was held in November last year. But let me make three remarks and probably three requests; my first request is when it comes through the health department be ready to open up for a multi-stakeholder approach because what I noticed is that health is extremely difficult to open up and to have multi-stakeholders involved. My second point is nutritionists please come forward also with concrete proposals for nutrition-sensitive agriculture improvement, because we really need this and we can do a lot more but we need your input there as well.

And thirdly my experience, my personal experience and I apologise for it, but my experience is that we need nutritionists that are also able to



move forward, to be movers, shakers, operators etcetera and make things happen. Around the conference I've seen a lot of excellent nutritionists disputing amongst themselves without any output that was very helpful for us negotiators to come to the best outcome. So if I may make that plea Madam please take it also on board. Thanks.

**Q.** (from the floor): I have a follow-up question for Richard, I wonder in your experience have you found involving government agencies in private sector driven projects speeds things up or slows things down?

**A.** Richard Dickmann (panel): Can I pass (laughs)? I think certainly five to ten years ago it was very difficult, but I think there has been a big shift in approach around the world and things are improving dramatically. I mean it still presents some challenges but, and it's funny in a way, working with competitors it's interesting when you really start to discuss there are so many things that we are united on that you can really work on and we have a similar mindset; you know results in a certain short period of time and so on. Whereas there's different timeframes, political issues that are influencing government aid which does complicate things. But you know, things are improving.

**A.** Gerda Verburg (panel): My experience is in the beginning it slows down because it takes time to build trust, and you cannot build trust by pulling it together or bringing people together and say I trust you and you have to trust me, no it has to grow etcetera. But in the end it will speed up because once the trust is there you can rely more on each other and you can add value from the different angles and the results you have is more sustainable and durable. So let it take a little bit more time, don't hurry because the result is better.

**A.** Richard Dickmann (panel): And I'd have to say Dr Lim you mentioned I think yesterday that the need to align anyway business activities in this space with government activities, so we really need to work together. So maybe slow in the start but in the end it's absolutely necessary and beneficial.

**Q.** (from the floor): I'm a PhD student at Charles Sturt Uni. We are talking about mainly the major crops like wheat which is important for the food security but we are missing the minor crops which might be restorative and two of the tigers of the world represented here. So I'm just thinking that maybe we can, because all these major crops are

exhaustive so they can deplete the soil resources but if we include those minor crops, I'm talking about forage legumes, so they not only produce the feed for the animals which ultimately produce the food for the humans but at the same time they restore the nutrients into the soil. So what do you guys think about that one?

**A.** Lim Jung Lee (panel): I think again this is minor crops/major crops. The two examples that I highlighted, again mango is not a major crop in Indonesia, it's a minor crop. And in PISAgro we have 11 working groups looking into all kinds of crops, from beans, soy beans, potatoes, vegetables, papayas, rubber. And I think whenever a member comes up with a suggestion and it makes sense and it fits into the PISAgro vision of the 20:20:20 (which is 20 per cent increasing in yield, 20 per cent increase in income, 20 per cent reduction in emission gas) then the board will support this working group to go ahead and implement your ideas.

So I think we have a lot of these smaller crops in place, including tea. Tea is not a major crop in Indonesia but surprisingly tea is one of the crops that is being piloted in Indonesia now. So I think again with good ideas and it meets into the vision, it meets into the food security objectives of the government, everything is aligned, the projects will be supported, at least in Indonesia and the PISAgro.

**A.** Richard Dickmann (panel): If I can comment at another level, I mean you bring a very important point I mean in the maize/soybean system in the U.S, obviously there's a lot of development in soybeans and you have a wonderful rotation there to bring nitrogen into the system. But there is a lack of fundamental research in these crops elsewhere, I mean that's a major lack in our Australian systems. So it is a bit of a gap in terms of really high levels of investment so it is an issue.

**Facilitator:** OK, we've got three questions left. I apologise if we're not going to get to everyone. So we've got the gentleman at the front, the gentleman up the back and the gentleman that I'm looking at.

**Q.** (from the floor): John Angus from CSIRO Agriculture. One of the challenges of using plant and animal protection products is possible development of resistance by insects. I understand that the companies want to retain the activity of their products and delay the development of resistance, the problem is what happens with the retailer services

with the farmer, what can you do to preserve the activity of these products at the level of the agro-chemical retailer?

**A.** Lim Jung Lee (panel): I think important question. And when we look at the way farmers are influenced, about 30 per cent are actually being influenced by their fellow farmers. So the key farmers become very important. The other 30 per cent actually comes from the retailers, like you rightly pointed out. Now the rest is coming from various extension services and sales promotion and what not.

A good retailer education program is very important. From a business point of view, to reach the farmers you have this point, touch point. One of them is the farmer leader, the other one is the retailers. Educating retailers on judicious use of chemicals, IPM, becomes a key, and I think this is one of the key activities that we have under the umbrella of crop life in Indonesia. So working together, having a program on IPM, educating farmer leaders and retailers. So education is the key.

**A.** Gerda Verburg (panel): But sometimes you need soft pressure as well. Let me give you the example of the Netherlands, I have been the Minister of Agriculture there and at that time we acknowledged that farmers were using too much antibiotics already, sometimes in the feed to prevent diseases etcetera. We brought farmers organisations together but also the food chain players as well as retailers, and I told them I'd like to have a decrease of the use of antibiotics, I will halve the percentage of antibiotics that is used by three years.

And they were protesting and they said no, no, impossible because this will create less profit etcetera and my animals will be ill etcetera. I said no you can find opportunities and possibilities, Wageningen University was advising me, Utrecht University as well, they came together, it was extremely difficult but they managed without any loss of production. On the contrary the quality of the production improved and the profit improved as well. So since that very moment they saw it as a win/win and at the same time the Netherlands was seen as a good example for Europe as well to empower. So sometimes you have to educate, sometimes you have also to use soft power in order to convince, really to change habits.

**Facilitator:** So we've got two more minutes and two questions. The gentleman up the back who does not have a speaker, in the meantime we'll go to the gentleman down the front.

**Q.** (from the floor): Isaac Jones from the University of Western Sydney. My question is for Jessica. There's a lot of pressure on the dairy industry from an animal welfare point of view and also from water usage and things like that and so one of the ideas is to move towards things like almond milk and rice milk and things like that. From a food security and a national perspective is it viable to move towards these sorts of things, given that they can be grown as crops rather than as livestock and things like that, is that a good option to move towards those things or should we focus more on the dairy side of things?

**A.** Jessica Ramsden (panel): Thanks for that question, it's an important one that often gets asked about whether animal protein is really necessary. And it certainly is possible to meet all the nutritional needs in a completely plant-based diet but typically that would require a very large variety of plant foods in order to meet all those micronutrient needs, and that variety isn't always available to people even in developed countries but particularly in developing countries.

So in terms of livestock production there's already been huge advances in productivity in reducing the environmental impact but there absolutely has to be a lot more of it. And in many cases in livestock production the food that the animals consume, the forage that they consume is not edible by humans or they graze on land that can't be grown for crops.

So I go back to the point earlier that it's not either/or, certainly dairy systems and other livestock systems that do use foods that have been grown as crops need to be more efficient on how to do that but also opportunities, if people prefer to drink almond and nut milks and other things then there absolutely should be that choice and diversity available to consumers, as much as there should be that choice and diversity available to farmers in terms of the types of production systems that suit the environments that they operate in and the market systems that they are supplying.

**Facilitator:** Wonderful, thanks Jess. Unfortunately, we are now out of time. What a fantastic panel! Please join with me in thanking Her



Excellency Gerda Verburg, Dr Lee, Jessica Ramsden and Richard Dickmann.