

Closing comments

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It is great to see many young people in-person at the conference today. In pre-COVID years the conference audience would include 40 or 50 young aspiring scientists from our Scholar Program. That program was set up because there are continually new issues and problems in agriculture and food security, and we need an enthusiastic cadre of younger people who can follow in the footsteps of people like our speakers, tackling some of these problems that are not going to go away. The Crawford Fund supports this through the activities of the RAID Network and also the ACIAR program called Nextgen which is looking at curricular materials for schools to encourage young people to go into careers in agriculture and international agriculture. Engaging with youth is critical to the future of agriculture.

From today's presentations I have come away with two messages about the future. One message that we heard is that Malthus is wrong. John Anderson pointed out that for 10 years we have managed to feed ourselves quite well across the whole of the globe. I would qualify that by saying there are problems of access and affordability in some countries, and the equally big problems of malnutrition and overnutrition which are integral to agriculture and health. But if that is the case, and we still have the science to keep up with population growth until it (we hope) levels out, then two big issues are confronting us.

- One issue is around One Health and the links between agriculture, environment and health. Walter Okelo pointed out the importance of a One Health approach against antimicrobial resistance, and I think, in terms of tackling future zoonoses and other pests and diseases, that One Health is going to be very critical, and something we all need to think about.
- The other issue is the overall impact that agriculture is having on all of us, and on our environment. Several speakers mentioned this, including Prabhu Pingali: particularly the impact agriculture has on greenhouse gas production – producing I think 18 or 20% of our emissions. Biosecurity is vitally impacted in both a good and a bad sense by agriculture. Land clearing is causing tremendous damage to biodiversity, not only in Australia but also elsewhere. And agriculture interacts with water scarcity. These are some of the challenges we shall have to grapple with in the future: the impact of agriculture on our whole environment, and on our health.

The other message I have received from this conference is that we all need to be involved in this. We cannot just be scientists sitting in our offices or laboratories

This record has been prepared from a transcript.

thinking about the nexus and saying it is all doom and gloom. I liked the analogy of us all being goalkeepers: the farmers, and the scientists, the community and policymakers and regulators, all working together to prevent biosecurity issues.

We have to make sure that the challenges we have heard about today are not just issues we talk about in our small groups, our 'silos', but that we talk about them right across the community.

Some interesting thoughts, which we will certainly take forward to our next conference.

Finally, a very big thank you to Cathy Reade and her team who have organised this conference through its various false starts, culminating at last in this actual meeting which has run so smoothly, both last evening and today.

Dr Colin Chartres is the Chief Executive Officer of the Crawford Fund and has had a long and successful career in the private sector, academia and government roles. Before joining the Crawford Fund in 2014 he was Director General of the International Water Management Institute (IWMI) – a CGIAR Research Centre headquartered in Colombo, Sri Lanka, from 2007 to 2012. Previously, he was Chief Science Adviser to the National Water Commission, and held senior management roles in the Bureau of Rural Sciences and Geoscience Australia. He worked with CSIRO Division of Soils from 1984 to 1997 where he focused *inter alia* on soil acidity, soil structure and salinity issues and their impacts on agriculture. From 2002 to 2004 he was part of CSIRO Land and Water, where he was involved in business development and international science linkages. Colin has strong interest in the key nexus between science and policy and, through his work with IWMI, specialist interest in water scarcity and its impact on global food security and on science leadership and management best practice. Colin currently Chairs the Expert Review Panel for the Australian Water Partnership and he is an Honorary Professor in the Crawford School of Public Policy at Australian National University.