



# THE CRAWFORD FUND

FOR A FOOD SECURE WORLD

## 2014 Annual Parliamentary Conference

### ETHICS, EFFICIENCY AND FOOD SECURITY:

Feeding The 9 Billion, Well

#### Tuesday 26 August

Sir John Crawford Memorial Address and Networking Dinner  
6.00pm-9.00pm, National Ballroom, Hotel Realm

#### Wednesday 27 August

The Parliamentary Conference  
8.30am-5.00pm, The Theatre and Mural Hall, Parliament House

#### Thursday 28 August

The Conference Breakfast  
7.30am-9.00am, The Mural Hall, Parliament House

### Canberra, ACT

*"We believe that ideas and scenarios of varying quality, relevance and precision have entered the global food security debate; a clutter and diversity of views appear in journals, conferences, and particularly the media. Quite often, these ideas are presented as scientific fact when, in fact, they are not. The array and noise may be crowding out the quintessence: the need to increase global food production in ways that are ethical, efficient, and profitable for farmers, consumers and the environment."*

*The Hon John Kerin AM, Chair, Crawford Fund*





THE CRAWFORD FUND

**ETHICS, EFFICIENCY AND FOOD SECURITY:  
Feeding The 9 Billion, Well**

**WELCOME FROM OUR CHAIRMAN  
The Hon John Kerin AM**

Welcome to the Crawford Fund's 2014 Parliamentary Conference. The Fund has again used its remarkable network to bring together a group of outstanding international and Australian practitioners of the art of policy making and the science of agricultural research and development. By doing so, we promote policies that are evidence-based and, we hope, help ensure that public and political support for investment in international agricultural research will be sustained.

In spite of ever tightening fiscal circumstances, that message has got through to successive governments in Australia and abroad. As a former Cabinet Minister, I know that policy making is indeed an art, especially when you are faced with a clutter and diversity of views, not all of them based on science. With the best advice available from a highly professional public service, a first rate scientific community and with quality independent counsel from others, it is possible to cut through to formulate sensible policy reforms that will eventually attract bipartisan and broad community support.

This year we have added two criteria to our selection of topics: ethics and efficiency. We have a better than usual gender balance in addition to having an international leading light to address the issue of women in agriculture, and we have successfully encouraged more, young people to join in through our own scholarships, through the newly formed Researchers in International Agricultural Development and through personal approaches to a range of universities. They will all be part of our Young Agricultural Scientists Forum after the conference.

The quintessential message that we hope will emerge from the Conference is the need to increase global food production in ways that are ethical and efficient; that are profitable for farmers and consumers, and that protect the environment. Research and training are essential to the delivery of these outcomes and we need more young people, and especially women, engaged in the effort in rewarding ways.

It is important to stress that in investing in agricultural research and training for development we are not necessarily even in a competitive world confronting a zero sum game. Australia can both do well and do good, a thesis which we have backed up with our report: "Doing Well by Doing Good: international agricultural research – how it benefits Australia as well as the developing countries" and a series of forums and media outreach on this topic around the country.

As well as encouraging support for international agricultural research, the Crawford Fund has another role: the conduct of Master Classes in key topics such as agribusiness, communication and biosecurity to name a few, and through the delivery by our State and Territory Programs of specialist individual and group training activities. Our training efforts have reached over 10,000 scientists in the developing world. These programs are delivered at very low cost by Australian institutions and coordinated by our largely voluntary work force and committees, and deliver very high returns.

Finally I wish to thank the record number of sponsors who have generously supported the Conference this year. A simple listing of their names elsewhere in this brochure seems an inadequate expression of our gratitude but their support reflects the passion that we all have for international agricultural research and training.

**For a Food Secure World**

An initiative of the Australian Academy of Technological Sciences and Engineering





## ETHICS, EFFICIENCY AND FOOD SECURITY: Feeding The 9 Billion, Well

### SIR JOHN CRAWFORD MEMORIAL ADDRESS AND NETWORKING DINNER

Tuesday 26 August 2014  
6:00pm – 9:00pm  
National Ballroom, Hotel Realm  
18 National Circuit, Barton ACT

#### Effective, Efficient, Ethical Solution to Feeding 9 Billion: Invest in Women

Sir John Crawford was a remarkable Australian who contributed at the highest levels to the development of Australia and other countries, and was a passionate supporter of international agricultural research for development.



The Sir John Crawford Memorial Address will be presented by Professor Catherine Bertini, Senior Fellow, Global Agricultural Development Initiative, The Chicago Council on Global Affairs; Professor, Public Administration

and International Affairs, Maxwell School of Citizenship and Public Affairs, Syracuse University; former Executive Director, United Nations World Food Programme.

A full biography and abstract from Professor Bertini can be found on page 4.

### THE PARLIAMENTARY BREAKFAST

Thursday 28 August 2014  
7:30am – 9:00am

The Mural Hall, Parliament House

#### Population and Food Security: Key Trends and Changing Dynamics



Dr Laurent Zessler, United Nations Population Fund (UNFPA) Director and Representative for UNFPA's Pacific Sub-Regional Office, Fiji.

An abstract from Dr Zessler for the Parliamentary Breakfast session, can be found on page 10.

### Background to The Crawford Fund Conference

The Crawford Fund Parliamentary Conference has for more than two decades managed to bring to focus an array of issues just as they are coming to world and Australian attention. By attracting the world's best speakers, providing extended question and answer session and opportunities for informal exchanges, the Fund's conferences enable participants both to contribute to and to place the issues into a context relevant and useful to their lives and work. This year will be no exception.

The 2014 conference will cover the critical pathways and the economics of food insecurity and the issues around advanced technologies, waste, nutrition security, population, livestock, and biofuels.

### THE PARLIAMENTARY CONFERENCE PROGRAMME

Wednesday 27 August 2014  
8:30am – 5:00pm

The Theatrette and Mural Hall, Parliament House

8:30	Registration
9:00	<b>OPENING - Welcome</b> The Hon John Kerin AM, Chair of the Crawford Fund
	<b>MINISTERIAL OPENING</b> <b>Australia's Leadership Role: Using aid to tackle intractable problems and catalyse long term solutions</b> The Hon Julie Bishop MP, Minister for Foreign Affairs
9:30	<b>KEYNOTE SESSION 1</b> <b>Achieving Global Food Security: Building a new food system where nutrition, climate change and sustainability collide</b> Ms Rachel Kyte, World Bank Group Vice President and Special Envoy for Climate Change, and CGIAR Fund Council Chair
	<b>Economics of food insecurity and undernutrition</b> Dr Shenggen Fan, Director General, International Food Policy Research Institute
	<b>Australian agriculture's role in meeting increased Asian demand</b> Mr Luke Chandler, General Manager, Food & Agribusiness Research and Advisory, Rabobank Australia & New Zealand
10:30	MORNING TEA IN THE MURAL HALL
11:15	<b>PANEL: ETHICS AND EFFICIENCY IN THE FACE OF COMPETITION FOR FOOD</b> Chair: The Hon Margaret Reid AO, Board of Directors, Crawford Fund & former President, Australian Senate
	<b>Food Security and Population Growth: Are they connected?</b> Dr Laurent Zessler, Director and Representative for UN Population Fund Pacific Sub-Regional Office, Fiji
	<b>Food vs Feed: The livestock equation in food security</b> Mr Yudi Guntara Noor, President, Asian-Australasian Association of Animal Production Societies
	<b>Food vs Energy: Crops for energy?</b> Dr Willie Dar, Director General, International Crop Research Institute for the Semi-Arid Tropics
12:00	<b>MODERATED Q&amp;A SESSION WITH THE MORNING SPEAKERS</b> Dr Jim Woodhill, Principal Sector Specialist, Food Security & Rural Development, DFAT
12:45	LUNCH IN THE MURAL HALL
2:00	<b>PANEL: ETHICS AND EFFICIENCY IN FOOD SECURITY CHALLENGES</b> Chair: Mr Richard Clark, Chairman, Grains Research and Development Corporation
	<b>Modern Technology: Saviour or threat?</b> Dr Elizabeth Finkel, Chief Editor, Cosmos Science Magazine
	<b>Food vs Nutrition Security: Feed the people, well</b> Dr Norah Omot, Director, Enabling Environment Programme, Papua New Guinea National Agricultural Research Institute
	<b>Watch your Waste: Lose less, consume sustainably, feed more</b> Dr Helen Szoke, Chief Executive, Oxfam Australia
2:45	AFTERNOON TEA IN THE THEATRETTE FOYER
3:25	<b>KEYNOTE SESSION 2</b> Chair: Assoc Prof Robyn Alders AO, 2014 Crawford Fund Medal Awardee
	<b>Long term food demand in Asia and implications for Australian agriculture</b> Dr Jammie Penm, Chief Commodity Analyst and Assistant Secretary, Agricultural Commodities and Trade Branch, Australian Bureau of Agricultural and Resource Economics and Sciences
	<b>Agriculture Restructuring: Towards higher competitiveness and food security</b> Dr Nguyen Van Bo, President, Vietnamese Academy of Agricultural Sciences and member of the ACIAR Policy Advisory Council
4:00	<b>MODERATED Q&amp;A SESSION WITH FIVE AFTERNOON SPEAKERS</b> Dr Jim Woodhill, Principal Sector Specialist, Food Security & Rural Development, DFAT
4:40	<b>ROUND UP AND CONCLUSIONS</b> Dr Denis Blight AO, Chief Executive, The Crawford Fund
5:00	Close



**ETHICS, EFFICIENCY AND FOOD SECURITY: Feeding The 9 Billion, Well**

*Speaker Biographies and Abstracts*



**Professor Catherine Bertini** is senior fellow at the Chicago Council of Global Affairs where she co-chairs the Global Agricultural Development Initiative. She serves as a board member of the Stuart Family Foundation, a juror of the Hilton Foundation Humanitarian Prize, and on the Board of Directors of the Tupperware Brands Corporation. For two years, she was the Senior Fellow of Agricultural Development at the Bill & Melinda Gates Foundation. She is on the Board of

International Food and Agricultural Development, which advises USAID, having been appointed by President George W. Bush and reappointed by President Barack Obama. Previously, she served as the Assistant Secretary of Food and Consumer services at the US Department of Agriculture where she drove nationwide implementation of electronic benefit transfer programs, created a food package for breastfeeding mothers, and oversaw the design of the Food Guide Pyramid. In 2012, she served as a member of the Accountability Review Board on Benghazi, appointed by Secretary Hillary Clinton.

Professor Bertini's leadership of the UN World Food Programme (WFP) transformed WFP into the world's largest humanitarian organization. As WFP's Executive Director, first proposed by President George H. W. Bush in 1992, and re-endorsed by President Bill Clinton in 1997, Professor Bertini led the efforts to end famine in North Korea, avert starvation in Afghanistan, ensure food was delivered effectively during crises in Bosnia and Kosovo, and prevent mass starvation in the Horn of Africa. Because of her reforms, WFP was held as the model for UN efficiency, effectiveness, and accountability. Professor Bertini was named the 2003 World Food Prize Laureate for her leadership at WFP in ending famine and decreasing hunger.

**SIR JOHN CRAWFORD MEMORIAL ADDRESS ABSTRACT**

**Effective, Efficient, Ethical Solution to Feeding 9 Billion: Invest in women**  
Most of the population increase will be in South Asia and Sub Saharan Africa. Growing more food in these regions is imperative, and small holder farmers are critical to this effort. Women are the core of the agriculture work force, and their improved productivity is key to this increase. Women are also responsible for feeding their families; feeding growing populations is impossible without significant emphasis on and support for the roles of women and girls.



**The Hon John Kerin AM** is Chair, Board of Directors, Crawford Fund. Born in Bowral, New South Wales, where he worked on the family farm, John Kerin is an Australian economist and former Labor politician. He worked at the Australian Bureau of Agricultural and Resource Economics (ABARE), before being elected to the Commonwealth Parliament as Australian Labor Party member for Macarthur in 1972. He lost his seat in the Labor defeat of 1975, and returned

to ABARE, before being re-elected as member for Werriwa in 1978, following the retirement of Gough Whitlam. He served as Minister for Primary Industries (1983-1987), Minister for Primary Industries and Energy (1987-1991), Minister for Transport and Communications (1991), Minister for Trade and Overseas Development (1991-1993) and Treasurer (1991) in the Labor government of Bob Hawke.

Since leaving politics, Mr Kerin has served with bodies including the Australian Meat and Livestock Corporation, CSIRO, the Poultry Cooperative Research Centre, the Australian Weed Research Centre; the CRC for Tropical Savannas Management; UNICEF Australia and the National Ovine Johne's Disease Programme Advisory Committee.

In 2001, Mr Kerin was appointed as a Member of the Order of Australia for service to the Australian Parliament. In the same year, he was awarded the Centenary Medal for services to Australian society in technological science and engineering.



**The Hon Julie Bishop MP** is the Minister for Foreign Affairs in Australia's Federal Coalition Government. She is also the Deputy Leader of the Liberal Party and has served as the Member for Curtin in the House of Representatives since 1998. Julie was sworn in as Australia's first female Foreign Minister on 18 September 2013 following four years in the role of Shadow Minister for Foreign Affairs and Trade. She previously served as a Cabinet Minister in the Howard Government

as Minister for Education, Science and Training and as the Minister Assisting the Prime Minister for Women's Issues. Prior to this, Julie was Minister for Ageing. Julie has also served on a number of parliamentary and policy committees including as Chair of the Joint Standing Committee on Treaties.

Born and educated in South Australia, Julie graduated with a Bachelor of Laws from Adelaide University in 1978, before practicing law at an Adelaide law firm and becoming a partner at the age of 26. In 1983, Julie moved to Perth and practiced as a commercial litigation lawyer at Clayton Utz, becoming a partner in 1985 and managing partner in 1994. She attended Harvard Business School in Boston in 1996, completing the Advanced Management Program for Senior Managers. In 1998, Julie was endorsed as the Liberal candidate for the seat of Curtin and won the seat in the General Election held in October 1998.

Prior to entering Parliament, Julie held a number of positions including as Chair of the Western Australia Town Planning Appeals Tribunal; a member of the Murdoch University Senate; the board of the Anglican Schools Commission, a director of SBS (TV and Radio) and a board member of the Committee for Economic Development Australia (CEDA WA).



**Ms Rachel Kyte** is World Bank Group Vice President and Special Envoy for Climate Change. She oversees work on climate change adaptation, mitigation, climate finance, and disaster risk and resilience across the institutions of the World Bank Group, including IBRD, IDA, IFC and MIGA. The climate group is focused on ensuring that all Bank Group operations integrate climate change and take into account the opportunities that inclusive green growth

presents. The group is also an advocate for global climate action.

Ms Kyte previously served as World Bank Vice President for Sustainable Development and was the International Finance Corporation Vice President for Business Advisory Services and a member of IFC's management team. She is professor of practice in sustainable development at The Fletcher School of Law and Diplomacy.

**ABSTRACT**

**Achieving Global Food Security: Building a new food system where nutrition, climate change and sustainability collide**

We stand at the confluence of three of the greatest challenges that humanity faces in the 21st century: achieving global food and nutrition security, climate change, and agriculture's environmental footprint.

A business-as-usual approach to agriculture will not effectively address these challenges and feed and nourish the world's growing population while protecting the planet. Only an integrated, holistic approach that preserves vital natural resources, such as water, land, forests and fisheries, will enable us to achieve our development goals. At the heart of this solution is "climate-smart agriculture," which seeks to address challenges head-on by pursuing a triple win: sustainably increasing productivity, enhancing resilience and farmers' capacity to adapt, and reducing greenhouse gas emissions and increasing carbon storage.

Climate-smart agriculture is at the heart of a paradigm shift in the food system and how we manage the fragile eco-systems that sustain rural livelihoods.



## ETHICS, EFFICIENCY AND FOOD SECURITY: Feeding The 9 Billion, Well

### Speaker Biographies and Abstracts

It combines sustainable intensification – producing good quality food with fewer inputs – with a landscapes approach, so that progress on farms does not come at the expense of forests, streams, and biodiversity – the loss of which will impact farmers' productivity and resilience down the line. Diverse farming systems also provide more diverse and nutritious diets.

This will have to be accompanied by a reduction in food waste and significant changes in the nitrogen cycle. Capitalizing on the potential of climate-smart agriculture requires broad, strategic partnerships and significant investment in research – particularly the global public goods that CGIAR and its partners may uniquely provide – to generate the scientific, political, financial and technological innovations needed to transform agriculture for the benefit of poor people and the planet.



**Dr Shenggen Fan** has been director general of the International Food Policy Research Institute (IFPRI) since 2009. Dr Fan joined IFPRI in 1995 as a research fellow, conducting extensive research on pro-poor development strategies in Africa, Asia, and the Middle East. He led IFPRI's program on public investment before becoming the director of the Institute's Development Strategy and Governance Division in 2005. He has served as the Chairman of the World Economic Forum's Global Agenda

Council on Food and Nutrition Security since 2012.

In 2014, Dr. Fan received the Hunger Hero Award from the World Food Programme in recognition of his commitment to and leadership in fighting hunger worldwide.

Dr Fan received a PhD in applied economics from the University of Minnesota and bachelor's and master's degrees from Nanjing Agricultural University in China.

#### ABSTRACT

##### Economics of food insecurity and malnutrition

Despite significant progress achieved in the last two decades, global food insecurity or hunger and malnutrition remain big challenges. Nearly 850 million people in the world continue to suffer from chronic hunger and more than 2 billion people suffer from micronutrient deficiencies. Moreover, overweight and obesity are on the rise in low- and middle-income countries.

Hunger and malnutrition impose huge economic and social costs which can be felt at individual, household, and societal levels. For example, hunger and undernutrition cost the global economy US\$1.4–2.1 trillion per year, or 2–3 percent of global GDP, according to the Food and Agricultural Organization of the United Nations (FAO). The economic returns to eliminating hunger and malnutrition can also be very high. Evidence from IFPRI-led research demonstrates that there are substantial, lifetime economic benefits from reducing child undernutrition.

In India, for example, every dollar spent on interventions to reduce stunting, is estimated to generate about US\$34 in economic returns. This presentation will make the economic case for investing in the elimination of global hunger and malnutrition. The presentation will also focus on the inefficiencies of policies and practices that add to the burden of hunger and malnutrition, such as underinvestment in food security and nutrition; lack of social safety nets to protect the poorest, unsustainable natural resource use in food production; gender inequality in agriculture, and trade restrictions. The critical role of Australia in promoting the elimination of hunger and malnutrition, particularly in the Asia-Pacific region, will also be discussed.



**Mr Luke Chandler** is General Manager, Food & Agribusiness Research and Advisory, Rabobank Australia & New Zealand. Luke is responsible for managing Rabobank's analysis and outlook for the world's major agri commodities markets, including price forecasts for the key grains and oilseeds, softs and livestock commodity markets. In addition, his team of analysts works closely with Rabobank's commodity division on servicing client price risk management needs and is part of the bank's Food & Agribusiness Research and Advisory (FAR) division. Rabobank's FAR division comprises a unit staffed by an international team of research specialists focused on producing comprehensive, world class research on global food and agribusiness markets, including the latest market trends, future industry developments, sector and environmental issues. Luke has extensive experience working in commodities having worked in some of Australia's major agribusiness companies.

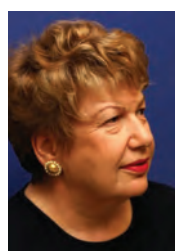
#### ABSTRACT

##### Australian agriculture's role in meeting increased Asian demand

Food and Agricultural producers across Australia and New Zealand are increasingly turning their attention to their close neighbours on the Asian continent. The proximity of almost a third of the world's population has always been impossible to ignore; however, the region has taken on a whole new level of significance in recent times as developing countries across Asia have embarked upon a journey of economic transformation.

Rising incomes across Asia and the changing dietary habits of households have already had a significant influence on many global agricultural markets and trade flows. This influence is expected to strengthen in coming years as the region grows its share of the global economy, while remaining somewhat limited in its ability to satisfy its own growing needs and wants for food and fibre products. Indeed, the dawning of the so-called 'Asian Century' holds great promise, but it also presents a great challenge to Australian and New Zealand food and agricultural producers. Understanding the business risks of supplying a diverse economic, cultural and political region is critical for Australian and New Zealand farmers and agribusinesses to maximise the value of their expansion into Asia. Improving their understanding of these factors will also allow ANZ agribusinesses to better respond to the opportunities emerging in Asia at the right scale.

Developing strong partnerships along the supply chain and across borders will be critical to the success of Australia and New Zealand in capturing value in the growing Asian markets. Increasingly consumers across Asia are demanding high levels of food safety and traceability with many willing and able to pay a premium for the clean and green food we produce. Australia and New Zealand makes up less than 10% of Asia's total food and agricultural imports, our focus needs to be on leveraging the many attributes of agricultural sectors at the high value end of the market.



**The Hon Margaret Reid AO** has extensive experience with Australian non-government organisations (NGOs) working in international aid as the former President of the Executive Committee of the Australian Council for International Development.

Ms Reid was the first female President of the Australian Senate, former World President of the Commonwealth Parliamentary Association and was a member of the panel of The 2011 Independent Review of Aid Effectiveness. She serves on the Board of Directors of the Crawford Fund and chairs its ACT Committee.

The Crawford Fund's 'Doing Well by Doing Good' Report is available at our display in the Mural Hall.



## ETHICS, EFFICIENCY AND FOOD SECURITY: Feeding The 9 Billion, Well

### Speaker Biographies and Abstracts



**Dr Laurent Zessler**, Director and Representative for UN Population Fund (UNFPA) Pacific Sub-Regional Office, is based in Fiji. Dr Zessler, a national of France, was appointed to UNFPA's sub-regional office in November 2013. Previously he was in Afghanistan for some three years as UNFPA's Country Representative. He joined UNFPA in 2011 from the Joint United Nations Programme on HIV/AIDS, where he had served as Senior Regional Advisor for West and Central Africa.

He also was country director for Brazil, Argentina, Chile, Paraguay, Uruguay, Vietnam, Pakistan and Ecuador, between 1996 and 2011.

In 1995, Dr Zessler served as the AIDS/STI (sexually transmitted infections) Inter-country Advisor for the World Health Organisation (WHO) in Pakistan; until then he had served as the AIDS/STI Inter-country Advisor for PAHO (Pan American Health Organization)/WHO from 1989 in Ecuador, Venezuela, Uruguay, Argentina, Chile, Paraguay and in Washington DC.

Dr Zessler has also worked as an Associate with the Pasteur Institute in France and as a medical officer for the Ministry of Foreign Affairs in Sudan. He holds a Doctorate in Medicine from the Paris School of Medicine, Université René Descartes, a Masters in Public Health from the Bloomberg School of Public Health at Johns Hopkins University and held a Fellowship in Infectious Diseases at the School of Medicine from Johns Hopkins University.

#### ABSTRACT

##### Food Security and Population Growth: Are they connected?

Official United Nations population estimates and projections highlight that the world will have almost one billion more people within the next twelve years, reaching 8.1 billion in 2025; this is expected to further increase to 9.6 billion in 2050 and 10.9 billion by 2100. This is on the assumption that fertility rates will decline. One in seven people in the world is chronically hungry. A response to food security has to be considerate of the significant youth population, an ageing population and the impact of climate change. Food insecurity is at its highest levels in countries with high fertility rate; in the Pacific context, while adolescent fertility rates have declined in most Pacific countries, some rates are still above 50. Against the backdrop of population growth, food security (like poverty reduction & employment creation) requires increased economic output to provide for the needed increased agricultural output by 70% to feed the 9 billion people expected by 2050. Nothing short of an effective holistic approach will ensure a balance between population dynamics and food security. Dignity in human rights and non-discrimination for all, universal access to sexual and reproductive health rights and services including international investment in family planning and strong global and national leadership are critical components to our regional and international response. While addressing gender equity, social development and ensuring private sector participation are all important, most critical will be the empowerment of women who will play a key role in lessening food insecurity.



**Mr Yudi Guntara Noor** is currently President of the Asian-Australasian Association of Animal Production Societies. Mr Noor was born in Bandung, West Java Indonesia. In 1993, he graduated from the Animal Husbandry Faculty at the Padjadjaran University.

For two years he worked in the feedlot industry as a cattle selector, then started his own business. After 19 years in the feedlot industry, now he runs

PT Agro Investama who own the PT Citra Agro Buana Semesta (CABS) feedlot in Garut West Java, which has a capacity of approximately 12,000 head.

Yudi Guntara Noor is a former Chairman of Indonesian Cattle Feedlot and Beef Producers (APFINDO) and Vice Chairman of Indonesian Cattle and Buffalo Farmers Association (PPSKI). He is also President of the Indonesian Society of Animal Science (ISAS), Head of the Permanent Committee for Dairy and Beef Cattle, Indonesian Chamber and Commerce (KADIN Indonesia), Chairman, West Java Sheep and Goat Farmers Association (HPDKI) and a Member, Trustees Committee in Padjadjaran University.

#### ABSTRACT

##### Food vs Feed: The livestock equation in food security

The world population of 7.2 billion is projected to increase and reach 9.6 billion by 2050 (UN 2013), FAO predicted demand for food, fuel, and fiber will thus increase 60% by the year 2050. Demand for beef and milk will increase significantly, and create global concern over the level of feeds required to meet the projected levels of demand.

Indonesia is the 4th largest populated country in the world with almost 240 million population in 2010 and predicted about 320 million population in 2050. High population, economic growth, and increased public demand for high quality protein sources such as beef and milk will result in a significant increase in demand for these food products. Increasing livestock and dairy production to secure food availability to feed the population is a high national priority. Food, feed, and fuel competition use along with climate change and massive land clearance for housing and industries have encouraged Indonesia to improve the competitiveness and efficiency of livestock and dairy production systems. Recent public awareness of ethical and environmental issues in animal production also require greater attention as failing to do so will result in public distrust in these industries.

As feed and feeding contribute to more than 70% of the cost of livestock or dairy production, utilizing alternative cheaper feeds which are not competing with foods is a commercial necessity. Fortunately, there are by-products of agro-industries in Indonesia that can be used as alternative feeds for example cassava meal, rice straw, copra meal, and palm oil by-products such as palm kernel cake and palm fronds. The nutritive value of these by-products can be improved by physical or biological treatment. Among others, palm oil by-products are the highest potential feed alternatives since Indonesia is one of the largest palm oil producing countries in the world. Consequently, integrating livestock, dairy, and palm oil plantation systems is seen as preferable way forward to deliver better efficiency, zero waste agricultural systems, and adding more value for the local communities. Also grazing management under palm oil plantations may improve the cost-efficiency of cattle breeding systems.



**Dr Willie Dar PhD** is Director General, International Crop Research Institute for the Semi-Arid Tropics (ICRISAT) near Hyderabad in Andhra Pradesh, India. ICRISAT is a non-profit, non-political and pro-poor institute and a member of the CGIAR Consortium. With his outstanding leadership as Chair of the Alliance Executive (2005), the Alliance of Centers was made the third pillar of the CGIAR system. He was Chair of the Committee on Science and Technology (CST) of the United Nations

Convention to Combat Desertification (UNCCD) from 2007 to 2009. Dr Dar was also Member of the UN Millennium Task Force on Hunger.

Prior to joining ICRISAT, he served as Presidential Adviser for Rural Development, and Secretary of Agriculture in the Philippines (equivalent to Minister of Agriculture). Before this, he was Executive Director of the Philippine Council for Agriculture, Forestry, and Natural Resources Research and Development (PCARRD) and Director of the Bureau of Agricultural Research (BAR) of the Philippine Department of Agriculture.



## ETHICS, EFFICIENCY AND FOOD SECURITY: Feeding The 9 Billion, Well

### Speaker Biographies and Abstracts

Dr Dar served on the governing boards of the Australian Center for International Agricultural Research (ACIAR) and the CGIAR's International Maize and Wheat Improvement Center (CIMMYT) as well as of ICRISAT.

He was Chair of the Asia-Pacific Association of Agricultural Research Institutions (APAARI) and the Coarse Grains, Pulses Research and Training (CGPRT) Center.

#### ABSTRACT

##### Food versus Energy: Crops for energy

The global production and use of biofuels have increased dramatically in the past few years due to volatile and increasing oil prices, and environmental concerns. The main feedstocks for ethanol are sugarcane, maize and to a lesser extent wheat, sugarbeet and cassava. Biodiesel oil-producing crops include rapeseed and oil palm. All divert land away from food production to energy production. This has in turn triggered the food versus energy debate with several studies attributing the rising food prices to the feedstock diversion to biofuels, hurting poor consumers and net food importing countries. To overcome the food-fuel trade-off, several countries are promoting feedstocks that can grow on marginal lands and hence do not compete with food production.

At ICRISAT, we launched a global pro-poor 'BioPower Initiative' focusing on biomass sources and approaches that do not compete with, but rather, enhance food and nutritional security. Sweet sorghum is one such "smart" multipurpose crop that does not compromise on food security while producing energy. The grain is used for food while the stalk use used for juice extraction for bioethanol.

It is encouraging to note that the Western Australian Government, in partnership with Kimberley Agricultural Investments, has plans to grow sweet sorghum on 13,400 ha of land for processing into bioethanol.

Further, the use of sweet sorghum in existing sugar mills as biofuel feedstock provides a win-win situation to both the farmers and industry. Data from India, Philippines, China and Brazil indicates that sweet sorghum is an economically viable, socially equitable, environmentally sustainable and resilient crop.



**Dr Jim Woodhill** is Principal Sector Specialist, Food Security & Rural Development, Department of Foreign Affairs and Trade (DFAT). Prior to joining DFAT in 2013, Jim was Director of the Centre for Development Innovation (CDI) at Wageningen University and Research Centre in the Netherlands. Jim has worked extensively on the challenges of global food security and has a keen interest in brokering cooperation between business, policy,

NGO and research stakeholders. He studied agricultural science at the University of Sydney and gained a PhD in Political Economics from the Australian National University.



**Mr Richard Clark** was appointed Chairman of the Grains Research and Development Corporation (GRDC) in October 2013. He is a farmer and company director from Tullooona, NSW, where he and his wife Barbara run an intensive 1340ha grain enterprise, focussing on summer and winter cereals, pulses and oilseeds.

Richard is a graduate of the Orange Agricultural College and a Fellow and graduate of the

Australian Institute of Company directors. He has extensive experience as a director and Chairman of organisations in the agricultural sector and more specifically, the grains industry. His experience includes the positions of founding Chair of the NSW Farmers Grains Research Committee and Chairman of the Wheat Research Foundation of NSW.

He has served as a Director of wheat breeding company Advantage Wheats Pty Ltd, ChemCert Ltd, GrainFoods CRC and Quality Farms Australia, and was a past Director of the GRDC from 1996 until 2002.

During his career, Richard has also held leadership positions within a number of national agricultural bodies. He was a councillor of the Grains Council of Australia and a councillor of the National Farmers Federation, where he was a member of the Trade committee, Economic committee, Climate Change taskforce and Industrial Relations committee.



**Dr Elizabeth Finkel** is Chief Editor, Cosmos Science Magazine. Dr Finkel received a PhD in Biochemistry from the University of Melbourne. She spent five years at the University of California, San Francisco, studying the genes that transform a mushy egg into a shapely embryo. For the last 20 years she has been a science writer for scientific and lay audiences including serving as a correspondent for the American magazine Science and an associate editor for Cosmos magazine, a

popular science magazine that she co-founded. In June 2013 she was appointed the next Cosmos Editor in Chief.

In 2005, Elizabeth's book: "Stem Cells: Controversy at the Frontiers of Science" was published by ABC books. The book won the Queensland Premier's literary award and was short-listed for the Victorian Premier's award and the Australian Government Eureka Award for promoting the public understanding of science. Her second book: "The Genome Generation" was published in January 2012 by Melbourne University Publishing.

#### ABSTRACT

##### Modern Technology: Saviour or threat?

Journalistic ethics requires objectivity and balance. Sound straightforward? The reporting on GM crops and biotechnology is anything but. The terrain is full of paradoxes.

Notional good guys like NGOs – would-be guardians of the environment and human well-being – have no qualms about distorting information about GMOs even when they lead to benefits for the environment and people. Witness the campaigns against vitamin A rice and Bt cotton.

Card-carrying scientists champion research that is poorly designed and whose conclusions bear no statistical significance. Witness the circus around the publication, retraction and republication of Giles Seralini's paper. One might think that people approach the issue on the basis of evidence. That seems not to be the case. Rather, pre-existing world views seem to dominate.

Politicians and NGOs appear to exploit these attitudes – fanning the flames for their own ends. As with climate science, it seems dismayingly easy to distort logic and evidence.

Staggeringly the attack on GM crops seems to know no bounds. Recently European NGOs including Greenpeace, called on the abolition of the position of the EC Chief Scientific Officer. Accusations of conflict of interest and undue corporate influence resonate and stick like mud. And there is a view that providing information barely helps: it is only filtered to fortify pre-existing positions. Disheartening, but that's the nature of public discourse. Journalists can only continue to explain the issues and the science as objectively and clearly as possible. The battle is not just about GM crops but for science itself.

Students attending the conference are welcome to the Young Agriculture Scientists Forum at the National Library, 28 August, 9.30-1.30pm



## ETHICS, EFFICIENCY AND FOOD SECURITY: Feeding The 9 Billion, Well

### Speaker Biographies and Abstracts



**Dr Norah Omot** is the Director of the Enabling Environment Programme with the Papua New Guinea (PNG) National Agricultural Research Institute (NARI). She is an agricultural economist with research interest in policies, market systems and value chains, social cultural studies and innovation systems.

Dr Omot has been involved in two ACIAR projects through the PNG NARI. One project, 'Improving the marketing systems for fresh produce in the highlands of PNG', focused on developing supply-chains for the exportation of produce through improved postharvest management and buyer-seller relationships.

The second project targeted constraints to women's participation in market-systems and aiming to improve their livelihoods by developing their business acumen.

Work on these projects led to Dr Omot being awarded a John Allwright Fellowship, sponsored by ACIAR. Subsequently she received a PhD from the University of Canberra. Her studies identified weaknesses in the process of bringing the vegetables from production to market in PNG. Dr Omot is now running the NARI program, 'Enabling environment', which is identifying the socio-economic barriers to sustainable agricultural development in PNG. Dr Omot also works closely with the National Office of the PNG Women in Agriculture.

#### ABSTRACT

##### Food Versus Nutrition Security: Feed the people, well

Nutritional security is often not adequately considered and addressed in many agricultural research and development (R&D) projects despite the wide occurrence of malnutrition. In many countries malnutrition constitutes a 'double burden' with under-nutrition and increasing obesity happening at the same time. Nutritional insecurity occurs either as a result of choice, of not knowing the nutritive value of food and their importance in diet, and/or of 'force' through deficiencies in food supply systems.

An assessment of the smallholder farming environment in PNG revealed environments that are vulnerable to food and nutrition insecurity. While attempts had been made to increase productivity of commodities in demand in these areas, less attention had been given to nutrition. This disconnect can be addressed by:

- considering nutrition in initial stages of R&D planning; and
- developing projects that focus on both productivity and nutrition.

The presentation will illustrate the possibilities of traditional vegetables through:

- Building nutrition indicators into projects' monitoring and evaluation systems; and by
- Working with women groups and community organisations to create awareness, and training in schools and health clinics (targeting women) in areas where research projects are implemented.



**Dr Helen Szoke** commenced as Chief Executive of Oxfam Australia in January 2013. Prior to this appointment, Helen served as Australia's Federal Race Discrimination Commissioner, following seven years as the Victorian Equal Opportunity and Human Rights Commissioner. She is currently Co-Chair of Make Poverty History, an ExCom member of ACFID, a member of the Deakin University Master of International and Community Development

Advisory Board, a member of the Advisory Committee for the Centre for International Mental Health and a member of the Mining for Development Advisory Committee.

In 2011, Helen was awarded the Law Institute of Victoria Paul Baker Award for contribution to Human Rights. Helen has extensive experience in management, community development, organisational development, consumer advocacy and regulation in the education and health sectors. She is a Graduate of the Australian Institute of Company Directors and a Fellow of the Institute of Public Administration.

#### ABSTRACT

##### Watch your Waste: Lose less, consumer sustainably, feed more

The world already produces enough food to feed the world, yet over 800 million people are hungry. Further to this paradox, increasingly we are aware of the potential negative impacts that expanding agriculture can have. Valuable ecosystems and carbon sinks may be lost or threatened, while vulnerable people – particularly women, children and Indigenous peoples – can be forced off their land as we see increasing levels of competition for arable land.

Curbing waste in the food system is critical to more sustainable natural resource use and reducing agriculture's contribution to climate change. Addressing food waste can also bring social benefits at the family level – supporting smallholder farmers to retain more of their crop and household consumers to spend less on food purchases.

The dynamics of food waste also differ between communities. In smallholder agriculture, up to 40% of food produced can spoil, rot or be diseased before it reaches the plate. Reasons for such losses can include a lack of post harvest storage facilities or locally appropriate options for pest management. This can have dire impacts for communities with limited access to water or land, and for those facing the stress of adapting to a rapidly changing climate. Yet in long-chain agriculture, food is similarly wasted – up to 20% of Australian household food purchases could be discarded – contributing heavily to Australia's already weighty carbon footprint.

This presentation explores some of the ways that Oxfam Australia approaches curbing waste in the food system – drawing on our analysis of trends in global agriculture, as well as work on the ground in smallholder agriculture and public education efforts at home.



**Assoc Prof Robyn Alders AO** is the most recent recipient of the prestigious Crawford Fund medal, for her considerable and continued contribution to international agricultural research through the Fund's programs and related activities.

For over 20 years, Robyn has worked closely with smallholder farmers in Africa and Asia as a veterinarian, researcher and colleague. For much of this time, she has been working with an emphasis on the development of sustainable infectious disease control in animals in rural areas in support of food security and poverty alleviation. Her current research and development interests include food and nutrition security (domestic and international), One Health, gender equity and science communication. In August 2012, she rejoined the Faculty of Veterinary Science at the University of Sydney as a Principal Research Fellow. She is a non-salaried Director of the International Rural Poultry Centre within the KYEEMA Foundation and a member of the Crawford Fund's NSW Committee.



**Dr Jammie Penm** is Chief Commodity Analyst and Assistant Secretary, Agricultural Commodities and Trade Branch at Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES). His professional expertise and achievements revolve around commodity analysis and economic research important to Australia's primary industries.





## ETHICS, EFFICIENCY AND FOOD SECURITY: Feeding The 9 Billion, Well

### Speaker Biographies and Abstracts

Jammie has a PhD in econometrics from the Australian National University and a Master's degree in economics from the State University of New York at Stony Brook.

Before joining ABARES, Jammie worked at the Australian National University, the former Industries Assistance Commission and the State University of New York at Stony Brook in the United States.

#### ABSTRACT

##### Long Term Food Demand in Asia and Implications for Australian Agriculture

Food consumption in Asia is projected to increase significantly toward 2050, with consumption patterns shifting from traditional diets orientated around starchy staples to more varied diets with greater quantities of higher value and higher protein foods. Although food production in Asia is also expected to increase, it will not be sufficient to meet the growth in Asian food consumption for many products.

For Japan and the Republic of Korea, growth in food consumption is projected to be limited through to 2050, due to projected declining populations and modest future income growth. The most significant rise in food demand is expected to occur in China toward 2050. The rise in food consumption in China will be characterised by significantly higher demand by urban consumers for high-value foods, such as dairy products, beef, sheep and goat meat, fruit and vegetables. For rural consumers in China, growth in consumption of high-value commodities is also projected but the increases, on average, are expected to be smaller than urban households.

India is one of the largest consumers and producers of grain in Asia and has a self-sufficiency policy. By 2050, India is projected to become a significant net importer of fruit, vegetables and dairy products. For the ASEAN member states as a whole, imports of wheat, beef and dairy products are projected to rise toward 2050. Vegetable and fruit consumption in the ASEAN region is projected to nearly double by 2050.

Australia needs to remain competitive to meet the opportunities provided by higher Asian food demand. Apart from the role governments will play in reducing market barriers, the contribution from the private sector will also be important. Strong working relationships with supermarkets and hypermarkets in Asia will facilitate food exports.



**Dr Nguyen Van Bo** is President of the Vietnam Academy of Agricultural Science, Vietnam (VAAS). He began his career in 1978 as a soil and plant nutrition scientist and subsequently worked in soil fertility, fertilizer efficiency, farming systems, land use policy and environmental monitoring. His current work focuses on food security, biofuels, and climate change mitigation and adaptation.

Dr. Bo worked as Director General of the National Institute for Soils and Fertilizers (1994-1999) and Director General of the Department of Science and Technology and Environment, Ministry of Agriculture and Rural Development (1999-2005) before becoming President of VAAS in 2006. Dr Bo holds a PhD in Biology from the Moscow State University, Russia and was awarded the Crawford Fund Medal in 2011 in recognition of his contributions to international agricultural research.

#### ABSTRACT

##### Agriculture Restructuring: Towards higher competitiveness and food security

Ensuring food security is not merely an economic or humanitarian activity. It also actively contributes to national as well as global socio-political stability.

During the last 25 years of implementing its Renovation Policy, Vietnam has achieved national food security, actively contributing to the goals of eliminating hunger, alleviating poverty, and ensuring regional and global food security. Vietnam is changing from a net food importer to an exporter of many agricultural commodities.

However, Vietnam is an agriculture based economy with more than 70 per cent of its population engaged in agriculture. A very high proportion of many of the commodities it produces are exported: 25 per cent of its rice production, 90 per cent of coffee, rubber, cashew nut and cassava, and 95 per cent of black pepper. So, any fluctuation on the international market has an adverse impact on its agricultural industry.

More difficulties and challenges will face the country in the years to come: rapid population growth; decreasing farm areas and water resources; more frequent natural disasters, floods, droughts; decreasing levels of investment in agricultural production; barriers to agricultural international trade; low incomes of the poor, reducing their access to food; and food demand increasing for other purposes, including the production of bio-energy. Climate change is an added challenge.

Vietnam agriculture restructuring policy aims at higher competitiveness and ensuring food security in the context of climate change. Efforts are focused on policies to stabilize the area of land devoted to rice cultivation; increasing investment in water management infrastructure; and promotion of mechanization in rice production and processing. It will apply scientific and technological advances to varietal improvement; natural resource management, pest and disease control, and post-harvest technologies. It will also re-organize the institutional set up for agricultural production, linking production with processing and marketing. This will raise the income of rice growers, modernize rural life and enhance farmer's livelihoods. At the same time, it will actively seek to mitigate the impacts of climate change, especially of rising sea levels. Together with sound policies to guarantee its national food security, Vietnam is ready to cooperate with its neighbours, share its experiences in agricultural development with the international community; and actively contribute to ensuring food security globally.

Halving the proportion of people suffering from hunger by 2015 is one of the eight Millennium Development Goals agreed to by many nations more than a decade ago. With many difficulties and challenges still facing food security, achieving this goal will require the effort of every nation, and especially active support from developed countries and international organizations. This demands coordinated action at regional levels as well as on a global scale.



**Dr Denis Blight AO**, the Chief Executive of the Crawford Fund has had a career including positions as an Australian diplomat, public servant and chief executive. His association with international agricultural research began in earnest some 25 years ago.

Prior to working for the Crawford Fund, he was Director-General of CAB International, an intergovernmental body in research, training and publishing in the life sciences, and had 15 years with IDP Education Australia, the international development program of Australian universities and colleges, including the position as Chief Executive

### Conference Presentations and Proceedings

Following the conference, speakers' powerpoints will be available on our website [www.crawfordfund.org](http://www.crawfordfund.org) and a formal proceedings will be available by the end of the year.



## ETHICS, EFFICIENCY AND FOOD SECURITY: Feeding The 9 Billion, Well

### THE PARLIAMENTARY BREAKFAST ABSTRACT

#### Population and Food Security: Key Trends and Changing Dynamics

One of the turning points in the development world occurred during the 1994 International Conference on Development and Population (ICPD) in Egypt which marked the fundamental shift away from the numerical aspect of considering population and development dynamics to a human-rights approach. A consensus in its Programme of Action provided that: "The relationship of population to development is so intertwined with issue of poverty, patterns of production and consumption, and inequality, that none can be fruitfully addressed in isolation." Twenty years on, a lot has been achieved, emphasizing however a lot more needs to be done. Developing countries population bases are projected to rise from 5.9 billion in 2013 to 8.2 billion in 2050 and 9.6 billion in 2100. Growth is expected to be particularly dramatic in the least developed countries of the world – from 898 million in 2013 to 1.8 billion by 2050 and 2.9 billion in 2100. Youth and children population now in least developed countries are at an all-time high: 1.7 billion children and 1.1 billion young people. Globally, population aged 60 or over is the fastest growing cohort: developed regions' increasing at 1.0 per cent annually (before 2050) While less developed regions' 60 or over-60 cohort are increasing at the fastest pace ever. Respecting fundamental human rights in framing policy interventions that understand the role of sexual and reproductive health and rights in policy and programming will be critical to responding to shifts in population dynamics. People must be in the centre of our collective response to the changing dynamics and key trends presently experienced globally, in particular countries with urgent food security issues.

#### MEDIA Enquiries

Media are encouraged to contact us if they are planning on attending part or all of the event. A media kit, with all presenter biographies, abstracts, backgrounders and press releases will be available at the conference. To pre-arrange interviews or for other media enquiries, contact Cathy Reade, Coordinator - Public Awareness, The Crawford Fund, telephone 0413 575 934 or email [cathy.reamde@crawfordfund.org](mailto:cathy.reamde@crawfordfund.org)

### The Crawford Fund

The Crawford Fund is a non-government organisation that promotes and supports agricultural research designed to benefit developing countries. Like Sir John Crawford, we believe it holds the key to alleviating rural poverty in developing countries, and can thus open the door to economic progress, stability, sustainability and is of mutual benefit to developing countries and to Australia - a win-win proposition.

Good news is worth sharing, and the Fund's Public Awareness Campaign increases understanding of the importance and potential of international agricultural research, its achievements and needs through public events, journalist visits, impact stories, meetings and policy development.

The Fund also commissions studies on research policy and practice issues related to its mission, and fills a niche by offering specialist, highly focused non-degree instruction to women and men from developing countries, in Australia and abroad.



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### Agricultural Student Scholarships to 2014 Conference

The Crawford Fund is keen to increase the interest of young Australian agricultural scientists in international agricultural development. To this end, we provide travel scholarships to our conference for young agriculture scientists from around Australia, and organise a special forum for them following the conference to learn more about the international agriculture for development scene, the impact it has and the opportunities it provides. This year, the forum will be held for our scholars as well as all students attending the conference, at the National Library on 28 August at 9.30am.

The young agricultural scientists being supported to attend the conference and the young scientists' forum are:

Abu Abdullah, Charles Darwin University  
Rowan Alden, Charles Sturt University  
Katherine Ashley, University of Sydney  
Jessica Bogard, University of Queensland  
Brendan Brown, University of Adelaide  
Temma Carruthers-Taylor, Australian National University  
Mardee Cassin, University of Sydney  
Jade Chan, University of Queensland  
Georgina Coggins, University of Sydney  
Julia de Bruyn, University of Sydney  
Heather Feetham, University of Adelaide  
Danielle Gale, Curtin University  
Alison Hall, Tasmanian Institute of Agriculture  
Jenny Hanks, University of Melbourne  
Tara MacKenzie, University of Sunshine Coast  
James Manson, La Trobe University  
Kirsty McCormack, University of New England  
Soumi Paul Mukhopadhyay, Charles Sturt University  
Aaron Preston, Charles Sturt University  
Zita Ritchie, Department of Environment & Primary Industries, Victoria  
Julia Smith, Department of Agriculture and Food, WA  
Lydia Turner, Tasmanian Institute of Agriculture  
Sarah van Bronswijk, Australian National University  
Amy Vos, James Cook University  
Annie Warren, University of New England  
Yi Zhou, University of Adelaide

### Training in Science and Research for Food Security

Are you involved in an agriculture for development project that would benefit from training for your developing country partner scientists?

The Crawford Fund's training program encourages the transfer of technology and knowledge to people employed in agricultural development in developing countries:

- Our master classes are aimed primarily at mid-career agricultural scientists, senior administrators, senior academic personnel, decision makers and public servants in developing countries, and focus on new areas of knowledge which are changing the way research is conducted.
- Our training awards and courses offer practical, short-term, hands-on training tailored to the needs of an individual or for a group to increase the practical skills of scientists and technical personnel in developing countries.
- The Crawford Fund offers two separate awards for outstanding researchers in developing countries. The Derek Tribe Award is made biennially in recognition of distinguished contribution to the application of agricultural research and the Crawford Fund Fellowship is awarded each year to provide further training of an agricultural scientist whose work has shown significant potential.





## The Crawford Fund

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University of New England, School of Environmental & Rural Science  
University of Queensland  
The University of Western Australia, Faculty of Science  
The University of Western Sydney  
The World Vegetable Centre (AVRDC)