



## Trust for Advancement of Agricultural Sciences (TAAS)

### Climate-Smart Farming for Future Food Security- Lessons on International linkages from Australia and India

# Climate-smart farming for future food security

AGRICULTURE & FOOD FORUM

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On the initiatives of Prof. Shaun Coffey, Chair, Agriculture and Food Policy Forum, ATSE & Adjunct Professor, School of Management, Victoria University of Wellington; and Prof. John Dixon, the Australian Academy of Technological Sciences and Engineering (ATSE) and Agriculture & Food Forum organised an event on “Climate-Smart Farming for Future Food Security’ on 13<sup>th</sup> June 2023: 07.30am (IST). **Su McCluskey**, the first Special Representative for Australian Agriculture, moderated the event. There were two speakers Dr Raj

**The Climate Crisis**

**COP27**  
Sharm El-Sheikh  
EGYPT 2022

- Time is running out
- The last seven years have been the hottest ever
- We are approaching fast the dangerous tipping points for human health, safety and ecosystems

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ICLIST

Paroda, FTSE, Chair, Trust for Advancement of Agricultural Sciences (Delhi, India) and Dr Nicholas Austin FTSE, Chief Executive Officer, Watertrust Australia Ltd. The event was attended by a large number of participants from the world over.



The participants found both presentations and the discussion useful. It has generated required interest on both sides to strengthen partnership for AR4D. It was a superb and insightful

and very balanced webinar – very professional all round. It has opened up an important theme for the Agriculture & Food Forum in relation to strengthening linkages between Australia and

**Australia - India Partnership : Happy Seeder**

- 2002: First Happy Seeder prototype
- 2003: Prototype in field
- 2004: Improved Happy Seeder
- 2005: Further development
- 2008: Happy Seeder enables direct drilling of wheat into rice stubble
- 2009-13: Continued development and testing
- 2015: Field trials showing benefits
- 2016: Happy Seeder 2.0
- 2017: Happy Seeder 3.0
- 2019: Happy Seeder 4.0

Key achievements:

- >20000 happy seeders
- >200 manufacturers
- ~0.8 mha
- CSA- addressing a grand challenges

**India-Australia collaboration**  
Advancing agricultural science linkages

- Relationship that is under-leveraged
- Long history of collaboration in science and research, particularly in agriculture
  - ACIAR
  - AISRF
  - ARCH-India
- Tech enabled climate-smart ag
  - Initiating actions

AGRIBUSINESS COOPERATION BETWEEN AUSTRALIA AND INDIA

India, and in the fullness of time with many other countries. Both talks have addressed primarily the production and waste of food. The countries have the responsibility to manage the demand



for food, and the growth of their population. The biggest source of GHGs attributed to agriculture is land clearing and that is largely in developing countries, for example Sub-Saharan Africa where there are huge yield gaps. Parts of South Asia also have huge yield gaps. How do we target gap closing amongst the millions of smallholders involved, is very important.

The Webinar has drawn lessons for enhancing science linkages between Australia, India and more widely with particular attention to water management and sustainable farming methods – and explore mechanisms to strengthen collaboration on climate smart and productive agriculture. Hopefully, the webinar would start some constructive conversations which may lead onto collaborative action.

[Program Video](#)

Some of the questions asked during the webinar are as follows:

**Shivaji Pandey** - [Spandeymx@gmail.com](mailto:Spandeymx@gmail.com)

We have been talking about the contribution of the food and ag sectors to climate change for several years now. Is there any evidence that our talks and discussions are making any difference to the climate crisis?

**Daniel Rodriguez** - [d.rodriguez@uq.edu.au](mailto:d.rodriguez@uq.edu.au)

Both talks have addressed primarily the production and waste of food, however, what responsibility do you think countries have to manage the demand for food, and the growth of their population?

**Kadambot Siddique** - [kadambot.siddique@uwa.edu.au](mailto:kadambot.siddique@uwa.edu.au)

What lessons India has learned from more than a decade of investment in R, D and E- in National Innovations in Climate Resilient Agriculture (NICRA) project?

**Rajeev Varshney** - [rajeev.varshney@murdoch.edu.au](mailto:rajeev.varshney@murdoch.edu.au)

Great to listen these excellent presentations from Dr Paroda and Dr Austin. Dryland agriculture is a success story in Australia, so my question is - how the collaboration between Australia and India can benefit rainfed agriculture in India?

**Wei Zhang** - [wei.zhang@flinders.edu.au](mailto:wei.zhang@flinders.edu.au)

Great talk. I was wondering what we can do to proactively manage the challenges in the agri-food sectors in response to climate changes, food and nutrition security etc, rather than reactive solutions (adaptation and mitigation)? Can we redesign the agriculture practice and supply chain for our future agri-food sectors? What are the current progresses?

**Tony Fischer** - [tony.fischer@anu.edu](mailto:tony.fischer@anu.edu)

Great overviews, thank you. The biggest source of GHGs I attributed to ag is land clearing and that is largely in developing countries, I suspect in Sub Saharan Africa. There we have huge gaps between farm yield and what is possible with known technology. Parts of South Asia also have huge yield gaps. How do we target gap closing amongst the millions of smallholders involved?

**Umesh Srivastava** - [svivastavaumesh@gmail.com](mailto:svivastavaumesh@gmail.com)

How Australia help India with climate change effects on its food system

**Rod Polkinghorne** - [rod.polkinghorne@gmail.com](mailto:rod.polkinghorne@gmail.com)

The majority of global agricultural land is not suitable for cropping but has supported large omnivore populations over millennia. The best management of ruminants creates far greater carbon sequestration than emissions (12.5 times as much on audited large-scale Australian systems. As such we need to consider net emissions rather than gross in livestock systems as an optimum livestock population can be climate positive while dramatically increasing the supply of high quality nutrient dense human food.

**Wendy Craik** - [wcraik100@gmail.com](mailto:wcraik100@gmail.com)

Is the current increased focus on ESG by corporates and their customers and regulators an opportunity for trying to involve them more in CSA