India-UK joint research meeting at ICRISAT

Interdisciplinary research to make Indian agriculture sustainable in a changing world

Over a hundred scientists from varied disciplines gathered at the International Crops Research Institute for Semi-Arid Tropics (ICRISAT) to discuss an India-UK joint research programme for more interdisciplinary research to make Indian agriculture sustainable in a changing world and to ensure food security.

The first General Assembly of TIGR2ESS (Transforming India’s Green Revolution by Research and Empowerment for Sustainable Food Supplies), an UK-India research programme, which began in 2018 and brought over 20 research institutions together, concluded at ICRISAT on Friday. The programme was from January 20-24, where crop scientists, sociologists, biologists, nutrition experts and archaeologists, among others, discussed the way ahead.

“The General Assembly is an important milestone for TIGR2ESS, affording us an opportunity to strengthen the interdisciplinary nature of our research and put in place plans with tangible outcomes for positive agricultural and socio-economic change in India,” said professor Howard Griffiths, principal investigator for the programme and University of Cambridge’s advocate in Cambridge-India relations.

The programme seeks to address four key research questions: What should an Evergreen Revolution deliver? Can crop productivity increase, whilst maintaining yield stability? Can water supplies be shared to match community demand? How can we best engage and educate for local community well-being?

These questions were being answered by six distinct but fully integrated, flagship projects which are heavily reliant on research collaborations, exchanges and women empowerment. Rajeev Gupta, a co-lead in Flagship Project 2, noted that multidisciplinary approach of TIGR2ESS is crucial for India’s Green Revolution to reach the next level.

“Screening of several hundred lines of sorghum and pearl millet for water use efficiency is among the many areas where the project has made progress since its inception,” Dr. Gupta, a principal scientist at ICRISAT who oversees genomics and crop trait discovery, said.

“India is among the top producers in dairy, rice, wheat and pulses. It has seen around two percent productivity gains in crops like pearl millet owing to hybridization and the private sector. In Africa, the productivity is either stable or declining. Why are we lagging so far in Africa?” asked Peter Carberry, Director General, ICRISAT, while emphasizing the need for transferring the learnings and successes from the programme to sub-Saharan Africa.

To strengthen collaboration between India and the UK’s scientific institutions and to build research capacity, over 50 early career researchers, from both within and beyond TIGR2ESS, are receiving training in key research skills, from writing research grant applications to deep learning with artificial intelligence during the Assembly. Read More