Deepening collaborations with the Government of India

Use of digital technology to improve agriculture; opportunities in the state of Bihar; scaling up improved varieties across the country; access to ICRISAT’s facilities and household panel data; and promotion of chickpea in rice fallows were some of the topics of discussion between the Agriculture Minister and other top officials of the Government of India (GoI) and Dr David Bergvinson, Director General, ICRISAT.

On a recent visit to New Delhi, Dr Bergvinson met the Union Minister of Agriculture, secretaries of various government departments, and officials from the World Bank, International Fund for Agricultural Development (IFAD) and International Rice Research Institute (IRRI).

In his meeting with Mr Radha Mohan Singh, Union Minister of Agriculture and Dr AK Singh, MD, National Horticulture Board, Dr Bergvinson gave a brief overview of ICRISAT’s mandate crops and work on watershed and soil management within dryland cropping systems. The Minister suggested ICRISAT to carry out more work in Bihar and suggested two locations in southern Bihar that were suitable for ICRISAT’s mandate crops.

Dr Bergvinson reaffirmed ICRISAT’s commitment towards stronger collaboration with the Indian Council of Agricultural Research (ICAR) in his meeting with Dr S Ayyappan, Director General, ICAR. The aim is to empower farmers with the very best technology and knowledge to become profitable while improving the natural resource base for agriculture in India. Dr Ayyappan talked of the need to identify collaborative projects and develop them. He also wanted to promote more exchange of scientists between ICAR and ICRISAT. The modalities of
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germplasm exchange were also discussed. ICAR would be responsible for approval of non-Annex 1 crops (minor millets and groundnut) and the Ministry of Agriculture would be responsible for Annex 1 crops (sorghum, pearl millet, chickpea and pigeonpea).

Mr Siraj Hussain, Secretary, Department of Agriculture & Cooperation, GoI, expressed interest in scaling up recently-released groundnut varieties that had been tested with farmers and processors. With planning for the *kharif* season slated for 7 April, it is a big opportunity for quickly scaling up improved groundnut varieties like ICGV91114 across India.

Unlocking the potential of spatial data, genomics and mobile technology to support smallholder farmers and help them manage risks associated with climate change and market volatility figured high on discussions with Prof Ashutosh Sharma, Secretary, Department of Science & Technology, GoI.

GoI is investing US$ 500 m over five years in a National Geo-Information System. This program will put in place a spatial data infrastructure to support rural and urban planning, development and government policies across sectors. GoI is also investing in a super-computer network – 50 small (1PB) units, 20 medium units and three high-performance super computers. ICRISAT requested access and collaboration, to support bioinformatics associated with modern crop improvement.

Prof Sharma was interested in strengthening ICRISAT’s engagement with the department, especially around the above topics and knowledge exchange platforms for farmers, and more targeted and accurate weather recommendations.

Prof K Vijaya Raghavan, Secretary, Department of Biotechnology, GoI, expressed his interest in strengthening ties with ICRISAT and enhancing the utilization of ICRISAT’s Platform for Translational Research on Transgenic Crops (PTTC) facility to support biotechnology research and development.

Opportunities including the promotion of chickpea in rice fallows, South-South collaboration with ICRISAT playing a facilitation role, working with state governments to develop partnership models to support large-scale technology adoption were discussed with Mr Ashish Bahuguna, former Agriculture Secretary, GoI.

ICRISAT’s Village Dynamics in South Asia (VDSA) database was of special interest to Animesh Shrivastava, Program Leader, Rural Urban Transformation India, The World Bank, India, so as to identify transformational drivers in rural development to inform policies.

Ms Meera Mishra, Country Coordinator, IFAD, talked of the many opportunities for ties with ICRISAT. Immediate opportunities include working in Rajasthan for pigeonpea and other pulses in collaboration with the Rajasthan Agricultural University. Other opportunities such as promoting pearl millet through seed banks in Madhya Pradesh and providing technical support to tribal groups in Jharkhand to improve nutrition through diet diversification were also discussed.

Dr Umesh Singh, IRRI Scientist and coordinator of Stress-tolerant Rice for Africa and South Asia (STRASA), expressed his interest in helping ICRISAT to find good partners for germplasm testing as well as identifying appropriate companion rice varieties for rice-fallows systems to be used towards increasing pulse production in India.

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**ICRISAT participates in Odisha state agriculture fair**

L to R: Mr Sarat Kumar Tripathy, State coordinator, ICRISAT, Mr Gangadhar Das Joint Secretary I/C and Mr Basant Kumar Dey, Agronomist, Rashtriya Krishi Vikas Yojana Cell, Government of Odisha, at the ICRISAT stall that was put up at the Agri Fair organized by Department of Agriculture, Government of Odisha. The stall showcased new and improved varieties and technologies of chickpea and pigeonpea. About 535 farmers from 30 districts of Odisha visited the stall.
Reviving agriculture in Indian state of Andhra Pradesh

For speedy revival of the primary sector, which is a growth engine for rural development as well as a contributor for the secondary and tertiary sectors of the economy, major interventions that were low on cost and high on benefit were advocated by Mr SP Tucker, Special Chief Secretary, Government of Andhra Pradesh.

He was speaking at a team building and planning workshop held at ICRISAT-India for the Andhra Pradesh (AP) Primary Sector Mission that was launched in October 2014.

Mr Tucker suggested major interventions such as –

- Application of micronutrients
- Intensifying maize cultivation in rice fallows
- Development of value chains for dairy products and other commodities
- Enhancing paddy productivity through suitable varietal changes, agronomic practices and mechanization.

He suggested creation of different expert working groups (covering all sub-sectors of the primary sector) for identifying critical areas for interventions. This would harness the full potential of low cost high benefit avenues for setting up of agribusiness chains to provide market solutions at the farmers’ doorstep. He emphasized that institutional structure is the key for operationalizing the mission and suggested that the Kerala Agricultural Mission model be adopted for the whole state.

Dr Peter Carberry, Deputy Director General-Research, ICRISAT, said, “The AP Primary Sector Mission is a great challenge as well as opportunity for the CGIAR institutes to take forward the agenda of ‘research for impact’ concept with a large number of public and private partners.”

Establishing pilot sites

As part of the AP Primary Sector Mission ICRISAT will help establish pilot sites of 10,000 ha in each district to demonstrate system-level outcomes by introducing innovative technologies. Dr KV Raju, Assistant Director, ICRISAT Development Center (IDC), highlighted the need for harmonizing the datasets of all line departments. He sought the cooperation of line departments and other partners to address the issues while planning activities/interventions.

Action plan of line departments

The line departments presented their action plans for the state and districts for the financial year 2015-16. Appropriate institutional mechanisms, value addition, storage facilities, product branding and market linkages were discussed. The focus was on floriculture, poly-houses, micro irrigation, agri-businesses including setting up of agri-food parks in the state.

Plan for commodity-specific FPOs

Mr Tucker said that Farmers’ Producers Organizations (FPOs) need to be developed in all pilot sites to sustain the system. FPOs can provide a profit margin to farmers not only from crop cultivation but also from input procurement and post-harvest value addition. Moreover, FPOs can provide a framework of agribusiness through aggregation of forward and backward linkages around core agricultural activities.

The important strategies for FPOs are:

- Integrated service model for addressing gaps in the value chain
- Processing and value addition such that FPOs are profitable
- Integrating FPO in pilot sites to focus on growth
- Exploring local markets and
- Fair share in value addition.

The team prepared a plan for 76 commodity specific FPOs across 13 districts. A business model for dairy development was presented as an example for the physical and financial targets and achievements.

Strategy for improving economy of poor districts

As a strategy for improving the economy of low-ranking districts in Rayalaseema and north coastal region consisting of seven districts, an expert group
At the Global Forum for Innovations in Agriculture (GFIA) 2015 Dr David Bergvinson, Director General, ICRISAT, spoke on ICT for Sustainable Agriculture. He highlighted the importance of leveraging digital technology to accelerate the development and delivery of farmer-preferred products and services, to increase agricultural productivity of the smallholder farmers, in a sustainable and equitable manner in the developing world.

A roundtable discussion titled ‘Towards a Global Agribusiness and Innovation Platform for promoting value chains and entrepreneurship development on Nutri-Cereals and Legumes’ was chaired by Dr Kiran Sharma, CEO, ICRISAT Agribusiness and Innovation Platform (AIP). Public and private sector organizations participated in the roundtable. The need for an ecosystem to make agriculture profitable and attractive to youth, through developing sustainable agribusiness enterprises was highlighted. Use of genomic tools, appropriate postharvest technologies, promoting mixed cropping systems, smart choices around nutrition, value chain analysis towards understanding the gaps including understanding of the critical ecological footprint indices, ICT etc., were some of the important components identified as being essential towards enabling such an ecosystem.

Training Program on Decision Support System for Agrotechnology Transfer

Thirty participants from various disciplines across partner institutions in India and Africa attended the five-day Decision Support System for Agrotechnology Transfer (DSSAT) training program from 23 to 27 March, at ICRISAT-India. Resource persons included Dr Gerrit Hoogenboom, Washington State University; Dr Cheryl H Porter, University of Florida; and Dr Piara Singh and Dr K Dakshina Murthy, ICRISAT.

At the inaugural session, Dr Peter Carberry, Deputy Director General – Research, ICRISAT, challenged participants to find ways in which models can be of practical use to farmers and policymakers. Dr David Bergvinson, Director General, ICRISAT, in his closing remarks, highlighted the important aspects of demand-driven innovation and the opportunity created by new technologies like DSSAT in changing the lives of smallholder farmers.

The workshop was jointly organized by the Government of Andhra Pradesh and IDC. Around 75 participants representing the line departments of the Government of Andhra Pradesh, private sector, NGOs, Indian Council of Agricultural Research institutes, State Agricultural Universities, CGIAR institutes such as International Rice Research Institute, International Livestock Research Institute, International Water Management Institute, International Maize and Wheat Improvement Center and The World Vegetable Center participated.

Dr Suhas P Wani, Director, IDC, highlighted that the message from mission meetings must reach personnel working on ground. “We need to build a good team to convert our action plan to output. While preparing plans we need to take an anticipatory management approach,” he said.

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prepared a proposal for financial assistance from Government of India. The broad areas for special assistance are input, infrastructure, procurement and processing, marketing and ICT-based knowledge delivery system in different sub-sectors.

Dr Suhas P Wani, Director, IDC, highlighted that the message from mission meetings must reach personnel working on ground. “We need to build a good team to convert our action plan to output. While preparing plans we need to take an anticipatory management approach,” he said.