Foreword

The Indian Council of Agricultural Research (ICAR) has completed over eight decades of service to the nation and as a vibrant organization, continues to generate technologies for sustained agricultural development in the country. Hon'ble President of India, Shri Pranab Mukherjee, who graced the 85th ICAR Foundation Day function on 16 July 2013, appreciated the achievements of the Council and called upon the scientific fraternity "to reach out to the last farmland and equip them with the best cultivation methods" and "to work towards a technology-led path for development of agriculture and prosperity for the farming community". These thoughtful words are being integrated in the research, education and extension programmes of the Council.

I am pleased to note that the DARE/ICAR became one of the first Departments in the Government of India to have the recognition of the ISO 9001:2008 certification by implementing the Quality Management System.

Towards enhancing productivity, production and quality of field and horticultural crops, one hundred and four new improved varieties/hybrids of different crops with potential for higher yields and enhanced tolerance/resistance to various forms of stress were released for diverse agro-ecological regions of the country. Today, India is amongst the leading exporters of Basmati rice and landmark varieties such as Pusa Punjab Basmati 1509 with moderate resistance to leaf blast and brown spot diseases, and HD 3059, a wheat variety resistant to all three rusts, including stem rust race Ug99 and its variants are helping the farmers for enhanced production. This year, the Council produced over 11,835 tonnes of breeder seeds and 5,237 tonnes of quality planting materials of major food crops.

Changing consumption pattern has enhanced the demand for food items of animal origin. Crossbred pig ($H_{50}G_{50}$: Hampshire and Ghungroo) and a dual purpose rural poultry variety, Srinidhi, were developed to meet the growing demands. World's first mithun calf produced by embryo transfer; test tube yak calf 'Norgyal'; birth of calf from cloned buffalo mother; and a male cloned buffalo calf produced through advanced 'hand-guided cloning technique' are the breakthroughs towards conservation and multiplication of elite animals. Sea cage farming with seabass and cobia added a new dimension in fisheries towards enhanced utilization of coastal production potentials.

To popularize and promote agricultural education, a centralized portal, http://ecourses.iasri.res.in was launched for e-learning in Horticulture, Fisheries Science, Dairy Technology, Home Science, Veterinary and Animal Husbandry; UG level e-courses are available for free downloads. The first supercomputing hub for Indian

Agriculture has been established at IASRI, New Delhi to provide seamless access to biological computing resources to the agricultural researchers in the country. The Open Access Policy of the Council is appreciable, be it the Institutional Metadata Repository to share all the agricultural knowledge generated or the ICAR journals and publications, the information dissemination has been reaching out to people both in India and abroad. To promote agricultural education in deprived areas, DARE/ICAR has moved a bill for establishing a Central Agricultural University in Bundelkhand region.

Krishi Vigyan Kendra (KVK) in India has been a model that is globally appreciated and adopted. Within the country, the KVKs have been involved in technology demonstration that benefits farmers for enhanced production and productivity. Recent involvement of KVKs in demonstration of climate resilient agricultural technologies in 100 climatically most vulnerable districts has evoked good response from farming communities. On a need basis, four new KVKs, two in Jammu and Kashmir and one each in Karnataka and West Bengal, have been approved this year.

The ICAR has been involved in international partnerships for collaboration in advanced research that has global relevance as well as meeting local needs. India hosted the 3rd meeting of the ASEAN-India Working Group on Agriculture and Forestry (AIWGAF); Conference of Heads of Agricultural Universities and Research Institution of ASEAN Countries; Pact-50, commemorating the 50th Anniversary of the visit of Late Dr Norman E. Borlaug to India; and the 5th Borlaug Global Rust Initiative (BGRI) 2013 Technical Workshop, to further strengthen and foster international research cooperation in agriculture.

The Scientific Advisory Committee to the Prime Minister has observed "science-led growth in agriculture is a necessary condition for inclusive growth". Taking leads from this, the ICAR is contemplating a number of initiatives in the XII Plan such as Farmer FIRST, Student READY, Attracting Retaining Youth in Agriculture, Agriculture Technology Foresight Centre, Consortia Research Platforms and extra-mural funding to enrich agricultural research and education through innovation and integration. I hope the DARE/ICAR Annual Report 2013-14 will provide useful information to the diverse stakeholders and prove to be helpful in planning future programmes in agricultural research for development.

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