

Foreword

It is a matter of pleasure to present the *DARE-ICAR Annual Report-2015-16*, the second, as President of the ICAR Society. The Report embodies brief account of the progress, major achievements and new initiatives in agricultural research, education, extension undertaken by the institutions of our National Agricultural Research and Education System (NARES) under the aegis of Indian Council of Agricultural Research.

The 87th Foundation Day, Award ceremony and the National Conference of the Krishi Vigyan Kendras (KVKs) were held at Patna and the events were graced by Hon'ble Prime Minister of India as Chief Guest, for the second consecutive year. Hon'ble Prime Minister called upon agricultural scientists and planners to design second green revolution with new vision, dimensions and objectives to address the agricultural challenges in this modern era. On this occasion, the Hon'ble Prime Minister also launched Farmers FIRST, Student READY, ARYA, and *Mera Gaon Mera Gaurav*, unique initiatives of ICAR towards entrepreneurship development of agricultural graduates and improving technology dissemination.

Sustainable enhancements in productivity and quality of farm produce are a major objective of the Council. In this endeavour, our agricultural research institutes developed and released about 80 high-yielding varieties of cereals, oilseeds, pulses, forage, commercial and horticultural crops for cultivation in different agro-ecologies and produced about 978, 17,562, and 3,418 tonnes of breeder seed, foundation seed and planting material, respectively. A further boost to improving nutritional security came in form of a biofortified rice variety CR Dhan 310 that was commercialized for the Indo-Gangetic Plains. An improved location-specific breed of chicken 'Narmadanidhi' was developed. A step towards Blue Revolution was success in induced breeding of captive stocks of a popular fish, *Rita chrysea*, endemic to Mahanadi river, and milkfish (*Chanos chanos*). For enhanced sustainability and profitability of different farming systems, need-based and region-specific mechanization and energy management technologies as tractor-operated check-basin former, Cottage-scale pilot plant for probiotic soy-cheese spread and soy milk powder were developed. Methods to prepare functional and nutraceutical food products like composite flour eggless cake, Multi-grain tortilla chips, Antioxidant- rich pasta from vegetables and buckwheat and Extruded snacks from broken walnut kernels were developed.

The processes for total utilization of commercially unmarketable pomegranate fruits into juice, wine,

pomegranate seed oil, organic mouth wash and bio-colour from rind were standardized. The Agricultural Technology Information Centres in the country served as single window delivery systems by providing technology information, technology services and technology inputs to nearly five lakh farmers.

In order to nurture scientific talent, creativity, team work and innovations, the Council conferred 82 awards under 18 different categories; this includes not only the scientists and institutions but also farmers and agriculture journalists.

The Council undertook a major exercise to formulate Vision-2050 documents of all research institutes that is based on well articulated assessment of present and emerging agricultural scenario, new opportunities in the offing, research issues and strategy framework, relevant for the next three decades. Being sensitized about the contemporary and future needs of the agricultural research and development, the Council revisited the mandates of the research institutes.

Two major proposals of the ICAR relating to Krishi Vigyan Kendras (KVKs) and Strengthening and Development of Higher Agricultural Education received approval of the Cabinet. Consequently, the number of scientific positions and cadre strength of KVK will be enhanced from 16 to 22. Three new agricultural Technology Application Research Institutes (ATARIs) will be established besides reorganization of ATARIs in terms of inclusion of States for better monitoring of KVKs. Foundation stone of a new IARI, Hazaribagh, Jharkhand was laid by Hon'ble Prime Minister. A National Research Centre for Integrated Agriculture at Pipra Kothi, East Champaran district (Bihar) is established to conduct research on the development of location specific integrated farming system models for diverse agro-ecological conditions, especially flood and wetland situation. Central Agricultural University, Imphal is being strengthened with six additional colleges for strengthening agricultural education in north eastern states.

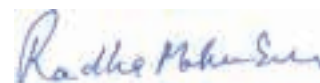
The ICAR has carved a niche for itself in the international agricultural research community. In the year 2015, the Council hosted 23rd International Grassland Congress under the theme of 'Sustainable Use of Grassland and Range for Environmental Balance, Biodiversity and Fodder Production' wherein more than 500 scientists, farmers, NGOs and development officers from 47 countries participated. The UN General Assembly declared 2015 as the International Year of Soils (IYS) for raising awareness among the people on the importance of soil in sustaining life support

system on earth. Keeping this in view, the Council celebrated World Soil Day on 5 December 2015 in as many as 607 Krishi Vigyan Kendras and 80 ICAR institutions/Agricultural Universities across the country and nearly 2.5 lakh Soil Health Cards were distributed to farmers on this occasion.

It is our constant endeavour to ensure that our farmers must get the maximum benefit of technological developments and to this effect Indian Council of Agricultural Research took an active part in the national 'Jai Kisan Jai Vigyan' Week during 23-29 December 2015, observed for the first time, to commemorate the birth anniversary of former Prime Ministers Shri Atal Bihari Vajpayee and Late Shri Chaudhary Charan Singh, who made immense contribution for promoting use of science for the welfare of farmers.

Being aware that enhanced application of science, technology, information, knowledge, competent human

resources and investments are going to be the key determinants of future growth and development, the Council and the National Agricultural Research and Education System at large, are determined to harness the advances of science for the welfare of society. I compliment the team DARE/ICAR for their untiring efforts and worthy contributions in agricultural R&D and hope that the information presented in the *DARE/ICAR Annual Report 2015-16* will prove to be useful information resource for all those working for development of Indian agriculture.



(RADHA MOHAN SINGH)
President
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