

Annual Report

2007–2008



Department of Agricultural Research and Education
Ministry of Agriculture
Government of India

Indian Council of Agricultural Research
New Delhi



Foreword

Agricultural research and development, vital for the 21st century, has to respond to emerging global and socio-economic challenges. Hence, reorientation of agricultural R&D is imperative as commodity research alone may not be able to handle complex situations. We should now enlist technology as an ally for change by harnessing the best in frontier technologies and integrating them with traditional wisdom. Our target should be to fulfill the technology needs of farmers and rural entrepreneurs for higher productivity and profitability by concentrating on research and outreach, communication and capacity building. The effective utilization of IT for continuous information flow from researchers to farmers and showcasing innovation will definitely contribute to inclusive growth. The ICAR is expected to perform this task by playing the role of a guide.

Important achievements and developments that led the Council towards fulfillment of its goals are—release/identification of many varieties/hybrids of different crops; production of breeders seeds of oilseeds, cereals, pulses, forage and fibre crops; shoot regeneration in safed musli; meadow orchard system for guava; a synthetic strain of Frieswal cattle with more than 4,000 litres lactation yield; increase of about 4.1 lakh tonnes in total marine fish catch; shrimp production using organic inputs; predicted changes in soil organic carbon (SOC) stock due to climate change; field kit method to assess decomposability of farm-waste during composting; integrated farming system as a part of reclamation of waterlogged area with integration of bio-drainage; district-wise database on feed and animal resources for six agro-ecosystems of the country; *Trichoderma viride*-based formulation, trivir, to control wilt and root-rot diseases; inactivated vaccine against bluetongue; solar concentrators to reduce high initial cost of solar photovoltaic panels; mobile agro-processing unit for foodgrains and spices; jute-synthetic geotextiles for rural road construction; simple and rapid test for detection of adulteration of ghee with vegetable oils and fats; National Information System on Agricultural Education Network in India; and demonstration of developed technologies/products with the network of 558 KVKs.

Information and publicity services were strengthened for faster dissemination of agricultural technology in electronic mode, and scrolling news on the ICAR webpage was also launched. In appreciation of the contributions made, 54 awards were given to 6 institutions, 41 scientists and their associates, 6 farmers and 1 journalist. *Rajbhasha* Awards were also awarded for 2007.

The ICAR's programmes have pursued national priorities in the agricultural sector. I hope that our initiatives will change the course of agricultural research and consequently the rural economic scenario in India.



(Sharad Pawar)
President
ICAR Society

Indian Council of Agricultural Research

President, ICAR Society and Minister of Agriculture	: Shri Sharad Pawar
Minister of State for Agriculture	: Shri Kanti Lal Bhuria
Director-General (ICAR) and Secretary (DARE)	: Dr Mangala Rai
Secretary (ICAR) and Additional Secretary (DARE)	: Shri A K Upadhyay
Financial Adviser (ICAR) and Additional Secretary (DARE)	: Dr (Smt) Rita Sharma

Contents

Foreword

1. Overview	1
2. Soil and Water Productivity	7
3. Farming Systems	11
4. Genetic Resources	13
5. Crop Improvement	22
6. Livestock Improvement	37
7. Crop Management	44
8. Livestock Management	62
9. Post-harvest Management and Value-addition	79
10. Agricultural Mechanization and Energy Management	87
11. Agricultural Human Resource Development	96
12. Agricultural Economics, Marketing and Statistics	103
13. Information, Communication and Publicity Services	108
14. Technology Assessment, Refinement and Transfer	111
15. Gender Issues for Technological Empowerment of Women in Agriculture	116
16. Research for Tribal and Hill Regions	119
17. Organization and Management	125
18. Partnership and Linkages	132
19. National Agricultural Innovation Project	143
20. Recruitment of Scientific Resources	145
<i>Appendix</i>	147

A. DARE

I. The Government of India (Allocation of Business) Rules	147
II. Total Number of Posts and Names of Important Functionaries	148
III. Activity Programme Classification (Budget estimates and revised estimates of DARE and ICAR)	149

B. ICAR

1. Indian Council of Agricultural Research Society	152
2. Governing Body	157
3. Senior Officers at the Headquarters of the ICAR	158
4. ICAR Institutes and their Directors	159
5. National Bureaux and their Directors	160
6. Project Directorates and their Directors	161
7. National Research Centres and their Directors	161
8. All-India Co-ordinated Research Projects	162
9. Agricultural Universities and their Vice-Chancellors	165
10. Total Number of Employees in the ICAR and its Research Institutes and Number of SC, ST and Other Backward Classes	167
11. Awards	168
12. Transaction Audit Observations	171

<i>Acronyms</i>	172
-----------------	-----

<i>Index</i>	174
--------------	-----



The Mandate of the Indian Council of Agricultural Research

- (i) To plan, undertake, aid, promote and coordinate education, research and its application in agriculture, agroforestry, animal husbandry, fisheries, home science and allied sciences.
- (ii) To act as a clearing house of research and general information relating to agriculture, animal husbandry, home science and allied sciences, and fisheries through its publications and information system; and instituting and promoting transfer of technology programmes.
- (iii) To provide, undertake and promote consultancy services in the fields of education, research, training and dissemination of information in agriculture, agroforestry, animal husbandry, fisheries, home science and allied sciences.
- (iv) To look into the problems relating to broader areas of rural development concerning agriculture, including post-harvest technology by developing co-operative programmes with other organizations such as the Indian Council of Social Science Research, Council of Scientific and Industrial Research, Bhabha Atomic Research Centre and the universities.
- (v) To do other things considered necessary to attain the objectives of the Society.