



## 6. Partnership and Linkages

The 'Partnership and Linkages' is an important wing of the DARE/ICAR in which DARE and ICAR have International collaborations through Memoranda of Understandings/Work Plans, Projects, Training Courses, exchange visit etc.

The Department of Agricultural Research and Education (DARE)/Indian Council of Agricultural Research (ICAR) organized a meeting of the Counsellors-in-Charge of Agriculture and Science and Technology of the Embassies/High Commissions/Honorary Consulates General/Honorary Consulates to exhibit the training facilities available within the National Agricultural Research System (NARS). A field visit of the participants was also organized at IARI/NBPGR, New Delhi and NDRI/DWR/CSSRI/NBAGR/IARI Regional Station, Karnal on 15 March 2004 in two groups.

### MoUs/Work Plans

A Work Plan for 2004 was signed between Department of Agricultural Research and Education (DARE), Ministry of Agriculture, Government of India and Ministry of

- Memorandum of Understandings signed between ICAR, India and IVRA and CIRAD, France for co-operation in the field of Agricultural Research and Education.
- ICAR, India signed a Work Plan with Sri Lankan Council of Agricultural Research Policy, Sri Lanka for Scientific and Technical Co-operation in Agriculture.
- ICAR, India also signed a number of projects with UNEP, DFID, CIDA etc. for co-operation in the field of Agricultural Research and Education.
- The 35 cases of deputation/training abroad approved during 2003-04.
- Protocol activities include a number of delegations led by Presidents of Mozambique, Guyana and Prime Minister of Lao People's Democratic Republic etc.
- To strengthen our research programme and intermediate/appropriate technologies several research workers visited foreign countries from different research organizations and ICAR headquarters.
- Foreign scientists of France, Russia, Sri Lanka etc. also came to India to attend research programmes at different research bodies of the ICAR.
- An Indo-French Seminar 'To Identify Priority Areas for Collaborative Research, Germplasm Exchange, Study Visits, Training Programmes' held in New Delhi from 16 to 17 April 2003.



Agriculture and Water Resources, Government of Uzbekistan on 17 December 2003 for co-operation in the field of agricultural research and education. The International Co-operation in ICAR/DARE has been operating through the MoUs/Work Plans signed with various countries/international organizations by ICAR/DARE as the Nodal Department and through participation of ICAR/DARE in the MoUs/Work Plans signed by the Department of Agriculture and Co-operation as Nodal Department. Besides, Ministry of Science and Technology has developed Programme of Co-operation with various countries and international organizations in which ICAR/DARE is the participating agency in agricultural research. The Joint Commissions/Working Groups constituted by the Ministry of External Affairs and the Ministry of Commerce have the component of agriculture/agricultural research in which, DARE participates directly or through the Department of Agriculture and Co-operation.

- An MoU was signed on 17 April 2003 between Indian Council of Agricultural Research, India and Centre de Co-operation International en Recherche Agronomique pour Le Développement (CIRAD) and Institut National La Recherche Agronomique (INRA), France for Co-operation in Agricultural Research and Education.
- A Work Plan for 2003-04 was signed between Indian Council of Agricultural Research and Sri Lankan Council of Agricultural Research Policy, Sri Lanka on 5 May, 2003 for scientific and technical co-operation in Agriculture.
- A Work Plan 2004-05 between India and Cuba was signed on 25 November 2003 for co-operation in the field of Agricultural Research and Education.



- A Work Plan for biennium 2004-05 between India and Iran was signed on 15 December 2003 for co-operation in the field of Agricultural Research and Education.

### International Linkages

- ICAR-UNEP project 'Developing Decision Making Tools for Assessment for Vulnerability to Climate Change in India' was for one year from 20 February 2003 to 19 February 2004 and the total cost of the project is US\$ 1,77,000 out of which funds allocated to India are to the tune of US\$ 1,37,500. The project is to be implemented at National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi. The project is being funded by UNEP. The main objective of the project is to demonstrate and integrated assessment of vulnerability to food insecurity climate change risk and adaptation strategies to manage disaster risk while promoting sustainable development.
- Collaborative project 'Soil Organic Carbon Stocks and Change at National Scale' between University of Reading, UK and NBSS&LUP, Nagpur, India. This project is funded by Global Environmental Fund from 6 June 2003 to 24 September 2005. It is multinational project. The University of Reading is having a contract for research service funded by Global Environment Fund, and NBSS&LUP is participating in the project on sub-contract basis. The cost of the project is US\$ 20,02,000 out of which GEF share is US\$ 9,78,000 and there is co-financing of US\$ 10,24,000 from USA, UK, The Netherlands and Australia. The budget meant for the institute is US\$ 76,000 out of which Institute's contribution is US\$ 20,000. The project aims to develop and administrate generic tools which quantify the impact of land management and climate scenario on carbon sequestration in soil.
- Joint collaborative research project "Nitrate in tubewell waters of Gurgaon (Haryana), India" is between CCSHAU, Hisar, and University of Rostock, Germany. The project is for 3 years. The cost of the project is Euro 56,500 and is being funded by Volkswagen Foundation, Germany. The share of the CCSHAU, Hisar is Euro 47,800. The aim of the project are to ascertain the source of nitrates in underground waters whether it is due to leaching of nitrates as a result of nitrogenous fertilization or dissolution of some rock material below the surface; to investigate the origin and the spreading of such underground water, and to forecast about the possible chemical development for the future; and how best such water could be utilized without compromising on the yields and soil or environmental health.
- Joint research grant under Asian-Swedish research partnership programme 'Integrated Bio Fuel Cell Technology' is a joint project between CIAE, Bhopal, and Royal Institute of Technology, Stockholm (KTH), Sweden for 3 years w e f August 2003. The funds are being provided by Swedish International Development Co-operation Agency (SIDA) and Swedish Research Council to the Royal Institute of Technology, who will support funding the publication, training/visit of CIAE, which will be to the tune of Rs 1 million. The aim of the project is to increase the scientific and the technological potentials regarding the development of a new range of technologies which permit the use of the biomass, wood and agricultural residues for application in fuel cells.
- Collaborative project 'Consolidation of Food Security in South India' has been launched among UPCD-CIDA, Canada; Tamil Nadu Agricultural University, Coimbatore, University of Agricultural Sciences, Bangalore; and University of Agricultural Sciences, Dharwad, Karnataka, for 5 years. This project is funded by UPCD-CIDA, Canada. The total cost of the project is Canadian \$ 7.73 million out of which contribution of Indian partner Institutions is Canadian \$ 0.59 million which is in kind. The cost of training, research, supplies etc. for the staff to Indian Institutions will be met out of CIDA's contribution. The project envisages to address India's development priorities in agricultural and food security.
- Indo-Norwegian collaborative project 'Selective Breeding of Rohu (*Labeo rohita*) for Innate Resistance to Aeromoniasis' is launched. A model for an alternative approach to disease control in Freshwater Aquaculture' is between Central Institute for Freshwater Aquaculture (CIFA), Bhubaneswar, and AKVAFORSK for 3 years and is being funded under Indo-Norwegian Programme Institutional Co-operation (INPIC). The cost of the project is Rs 3.518 million as internal cost of CIFA; 0.122 million NOKs as external cost of CIFA; and Rs 1.131 million NOKs for AKVAFORSK. The project aims at identifying suitable immunological markers of disease resistance against aeromoniasis.
- The project on 'Gender Development under Higher Education Link Programme' is between CCS HAU, Hisar and University of HULL, UK for 3 years from 1 April 2001 to 31 March 2004. The total cost of the project is Rs 1.7 million and is fully funded by British Council. The objective of the project is to design, develop and deliver Post-graduate Diploma courses in Gender Development through collaboration between the 2 universities.
- The 'Environmental Impact Assessment of Community-based Water Resources Management Project in Uttaranchal Pradesh' is between Central Soil and Water Conservation Research and Training Institute, Dehra Dun, Uttaranchal; and McGill University, Canada for 2 years and 5 months w e f 30 July 2003 and is funded by CIDA. The total cost of the project is Canadian \$ 104000, out of which Canadian \$ 44100 is for Indian partner and Canadian \$59,900 for Canadian partner. The sponsoring agency for the project is Shastri Indo-Canadian Institute (SICI) through Shastri Applied



Research Project and is funded by CIDA.

- The DFID funded project 'Integrated Pest Management of Eggplant Fruit and shoot Borer' is being implemented at Indian Institute of Vegetable Research, Varanasi; and Gujarat Agricultural University. The project was approved up to 31 March 2003. This project has been given extension for 2 years from 1 October 2003 to September 2004. The cost of the project for the extended period is £ 0.3 million out of which funds meant for Indian Institute of Vegetable Research and Gujarat Agricultural University are to the tune of £ 90,200 and 28,215, respectively.

### TRAINING/DEPUTATION OF INDIAN SCIENTISTS IN FOREIGN COUNTRIES

The 35 cases of deputation/training abroad were approved during 2003-04. Out of these, following visits were of the officers of the rank of Assistant Director-General and above.

- Dr Arvind Kumar (Director, NRCRM, Bharatpur), and Dr N B Singh, [ADG (OP), ICAR, New Delhi] were deputed for attending the 11th International Rapeseed-Mustard Congress held at Copenhagen (Denmark) as also to UK to review the progress of research on rapeseed and mustard under Indo-UK Collaborative project on 'Oilseed Crops' from 6 to 17 July 2003.
- Dr K S Gajbhiye (Director) and Dr D K Pal (Principal Scientist and Head) and Dr T Bhattacharya (Senior Scientist) of NBSSL&UP, Nagpur were deputed to Nairobi, Kenya for attending the Third Workshop of the Global Funds Project on 'Assessment of Soil Organic Carbon Stocks and Changes at National Scale' from 6 October 2003.
- Dr Nawab Ali (Director, CIAE, Bhopal) was deputed for participating in the APCAEM Regional Seminar on 'Post-Harvest Harvesting Technology' held at China from 3 to 5 November 2003.
- Dr P Chandra, ADG (PE) was deputed for attending 2nd Session of Technical Advisory Committee (TAC) and 2nd Governing Board (GB) Meeting of APCAEM held at Beijing, China from 24 to 27 November 2003.
- Dr Inder Dev (Scientist, IGFRI Regional Station, Palampur) attended ICRA advanced training in Inter-Disciplinary Team Research in Agriculture at Wageningen, The Netherlands from 13 January 2003 to 24 July 2003. The expenditure was incurred by ICRA, Netherlands.
- Dr Khem Chand (Scientist, CAZRI Regional Station, Pali, Rajasthan) attended ICRA advanced training in Inter-Disciplinary Team Research in Agriculture at Wageningen, The Netherlands from 13 January to 24 July 2003. The expenditure was incurred by ICRA, Netherlands.
- Dr S P Dutta, Scientist (Senior Scale, IARI, New Delhi) visited for availing commonwealth scholarship for 2002-03 in UK w e f 1 March 2003 to 1 September 2003. The expenditure was incurred by Commonwealth Scholarship Commission, UK.
- Dr J C Rana (Senior Scientist, NBPGR, Regional Station, Shimla) visited for higher studies in the field of Plant Breeding and Genetics at South Chinese Agriculture University, China under Chinese Government Scholarship w e f 5 February 2003 to 15 July 2003. The expenditure was incurred by Local cost by Government of China and travel cost by M/HRD.
- Dr (Ms) Prameela Krishnan [Scientist (SS), CRRI, Cuttack] visited for availing BOYSCAST Fellowship 2002-03 award at University of Oxford, UK for 10 months w e f 27 March 2003. The expenditure was incurred by Department of Science and Technology, New Delhi.
- Dr Ravi Bhushan Tiwari (Senior Scientist, IIHR, Bangalore) visited for availing United Nations University (KUNU) P.D. Fellowship at the NFRI, Japan for 1 year and 14 days w e f 1 April 2003. The expenditure was incurred by UNU, Japan.
- Dr H S Gupta (Director, VPKAS, Almora) visited for availing Biotechnology Career Fellowship at the Rockefeller Foundation, New York, USA from 1 May 2003 to 15 June 2003. The expenditure was incurred by Rockefeller Foundation, USA.
- Dr S Naresh Kumar (Scientist, CPCRI, Kasaragod) visited for attending a training course on crop weather modeling in Israel from 10 March 2003 to 3 April 2003. The expenditure was incurred by local living cost by Government of Israel and travel cost by applicant.
- Dr (Ms) Anju Manuja (Veterinary Officer, CIRB, Hisar) visited for availing BOYSCAST Fellowship at the Veterinary Diseases Organization, Saskatoon, Canada for 10 months w e f March, 2003. The expenditure was incurred by Department of Science and Technology, New Delhi.
- Dr Sujay Rakshit (Scientist, DMR, IARI, New Delhi) visited for availing the JSPS P.D. Fellowship for Foreigner Research Programme in Japan for 2 years w e f 1 April 2003. The expenditure was incurred by JSPS, Japan.
- Dr (Ms) Shamash Barthakur (Scientist, IARI, New Delhi) visited for availing BOYSCAST Fellowship at the University of Texas, USA for 12 months w e f 22 March 2003. The expenditure was incurred by Department of Science and Technology, New Delhi.
- Shri Ashwani Kumar Sharma (Scientist, CPRS, Kufri, Shimla) visited to attend a training course on 'Potato Production: Storage and Seed' in the Netherlands w e f 28 April 2003 to 4 July 2003. The expenditure was incurred by Government of Netherlands.
- Dr H S Yogeesh (Scientist, IIHR, Bangalore) visited to attend a course on 'Seed Sector Development' in the Netherlands w e f 28 April 2003 to 4 July 2003. The expenditure was incurred by Government of



- Netherlands.
- Smt K Subadra Bai (Technical Officer, SBI, Coimbatore) visited to attend the training course on 'Integrated Pest Management' in the Netherlands w e f 28 April 2003 to 4 July 2003. The expenditure was incurred by Government of Netherlands.
  - Shri V G Arude (Scientist, CIRCOT, Nagpur) visited to attend an advance training on 'Scientific Equipment, Rotary Knife Gin' at M/s LMMAS Corporation, Georgia, USA, from 12 to 17 May 2003. The expenditure was incurred by concerned firm.
  - Dr (Ms) K Usha (Senior Scientist, IARI, New Delhi) visited to attend a training in her area of specialization in Germany under INSA's Bilateral Exchange of Scientist Programme w e f 1 June to 28 August 2003. The expenditure was incurred by local living cost host Academy in Germany and travel cost shared by INSA/applicant on 50:50 basis.
  - Dr (Mrs) Kavita Gupta (Scientist (SS), NBPGR, New Delhi) visited to attend a training course on 'Plant Quarantine (Thermal Treatment for the Disinfestations of Fruit Flies)' in Japan w e f 27 May 2003 to 11 September 2003. The expenditure was incurred by Government of Japan.
  - Dr Goutam Sahana [Scientist (SS), NBAGR, Karnal] visited for availing BOYSCAST Fellowship at Danish Institute of Agricultural Sciences, Denmark for 12 months w e f 15 June 2003. The expenditure was incurred by Department of Science and Technology, New Delhi.
  - Dr Vinita Gotmare (Scientist, CICR, Nagpur) visited to attend a training course on 'Development Oriented Biotechnology' in Germany from 25 May 2003 to 28 June 2003. The expenditure was incurred by Government of Germany.
  - Dr Y G Prasad (Scientist, CRIDA, Hyderabad) visited to attend short course, viz. (i) Plant Biotechnology and Biosafety, (ii) Role of Pesticides in Integrated Pest Management in the Netherlands from 9 June 2003 to 4 July 2003. The expenditure was incurred by Local living cost by Government of Netherlands and travel cost by Institute of Public Enterprises, Hyderabad.
  - Dr (Ms) Sangeeta Srivastava (Sr. Scientist, IISR, Lucknow) visited to attend a training course on 'Development Oriented Biotechnology' – Refreshment Module for former participant in Germany from 16 to 27 June 2003. The expenditure was incurred by Training Organizer.
  - Dr Kaushik Banerjee [Scientist (SS), NRCC, Pune] visited for availing BOYSCAST Fellowship at the University of Dortmund, Germany for 10 months w e f 20 June 2003. The expenditure was incurred by Department of Science and Technology, New Delhi.
  - Dr S Nagarajan (Director, IARI, New Delhi) visited to study his area of specialization to Germany under DAAD Fellowship for 2 months w e f 13 June 2003. The expenditure was incurred by DAAD, Germany.
  - Dr M S Rao (Senior Scientist, IIHR, Bangalore) visited four weeks training at IACR, Rothamsted, UK under INSA's Bilateral Exchange of Scientists Programme with foreign academy w e f 8 September 2003.
  - Dr Sanjeev Kumar (Senior Scientist, CARI, Izatnagar) visited 2 weeks study visit to Germany to Supervise the work of his Ph.D. student – Dr K Ganesh Kumar, Student, IVRI, Izatnagar (Deemed University) w e f 10 to 23 July 2003 under DAAD 'Sandwich Model Scheme'. The expenditure was incurred by DAAD Germany.
  - Dr Y S Shivay (Senior Scientist, IARI, New Delhi) visited for availing Norwegian Government Fellowship 2003-04, Norwegian for 10 months w e f 15 August 2003. The expenditure was incurred by local cost by Norway Government and travel cost by applicant.
  - Dr G B Shivkumar (Senior Scientist, IARI, New Delhi) visited for availing Norwegian Government Fellowship 2003-04, Norwegian for 10 months w e f 15 August 2003. The expenditure was incurred by local cost by Norway Government and travel cost by applicant.
  - Dr S C Das (Senior Scientist, IVRI Eastern Regional Station, Kolkata) visited to attend a training course on 'Infectious Disease Research' at ICDDR, Dhaka, Bangladesh from 8 to 23 September 2003. The expenditure was incurred by Organiser of the Programme.
  - Dr (Ms) B Jhansi Rani (Senior Scientist, IIHR, Bangalore) visited to attend SIDA's Advanced Training Programme on 'Sustainable Agriculture in an Environmental Perspective' at Svalov, Sweden from 1 September 2003 to 7 October 2003. The expenditure was incurred by Government of Sweden/SIDA.
  - Dr Indra Mani (Senior Scientist, IARI, New Delhi) visited to attend a summer school course on 'Agricultural Engineering' at the Institute of Agricultural Engineering, George August University of Goettingen, Germany from 23 August 2003 to 7 September 2003. The entire expenditure including international travel cost borne by DAAD, Germany.
  - Dr R K Bhatt [Senior Scientist, IGFRI, Jhansi (UP) ] visited to attend SIDA's advanced training course on 'Sustainable Agriculture in an Environmental Perspective' to be held at Svalov, Sweden from 1 September to 17 October 2003. The expenditure was incurred by Government of Sweden/SIDA jointly.
  - Dr D R Biswas [Scientist (SS), IARI, New Delhi] visited to attend an international course on 'Biological Fertilizer Technology' held in China from 1 September 2003 to 15 October 2003. The boarding and lodging etc. borne by Government of China – International air fare cost borne by Dr Biswas himself.
  - Ms Edna Antony (Scientist, WTCER, Bhubaneswar) visited for pursuing higher studies leading to the award of Ph.D. at the University of Newcastle Upon Tyne, UK under Commonwealth Scholarship Scheme, 2003 for 3



years w e f 16 September 2003. The expenditure was incurred by Commonwealth Commission, UK.

- Dr Jai Gopal (Principal Scientist, CPRI, Shimla) visited to conduct research at the Graduate School of Agriculture, Hokkaido University, Japan. The expenditure was incurred by JSPS, Japan.
- Dr B N Tripathi (Senior Scientist, IVRI, Izatnagar) visited to undertake studies in the field of Molecular Characterization of Microbaterium Avum subspo' at Mordum Research Institute, Edinburg, UK for 4 months w e f 15 September 2003. The expenditure was incurred by WELCOME Trust, UK.
- Dr T Ravisankar [Scientist (SS), CIBA, Chennai] visited to attend a Third Country Training on 'Responsible Aquaculture Development (TCTP-RAD) at SEAFDEC, Tigbauan, Iloilo, Philippines from 14 September 2003 to 13 November 2003. The full deputation cost including international air fare borne by Government of Japan/SEAFDEC.
- Dr K K Krishnani [Scientist (SS), CIBA, Chennai] visited to attend a Third Country Training on 'Responsible Aquaculture Development (TCTP-RAD) at SEAFDEC, Tigbauan, Iloilo, Philippines from 14 September 2003 to 13 November 2003. The full deputation cost including international air fare borne by Government of Japan/SEAFDEC.
- Dr K K Singh (Scientist, IARI, New Delhi) visiting the Yangzhai University, China for higher studies leading to the award of Ph.D. in the field of Plant Breeding and Genetics from 3 October 2003 to 15 July 2007. The boarding, lodging, internal travel, tuition fees etc. will be borne by the Government of China; International air-fare will be borne by M/HRD, Government of India.
- Dr C Ramachandran Nair (Scientist, CMFRI, Cochin) visited to attend a training on 'Alternative Approaches to Fisheries Management' at IAC, Wageningen, The Netherlands from 6 October to 21 November 2003. The deputation cost including both ways international air-fare borne by the Government of The Netherlands under Netherlands Government Fellowship Programme.
- Dr (Ms) P Laxmiletha (Senior Scientist, CMFRI, Cochin) visited to attend a training course on 'Alternative Approaches to Fisheries Management' at IAC Wageningen, The Netherlands from 6 October to 21 November 2003. The full deputation cost including both ways international air-fare borne by the Government of The Netherlands under Netherlands Government Fellowship Programme.
- Dr (Ms) Josileen Jose, (Senior Scientist, CMFRI, Cochin) visited to attend a training course on 'Alternative Approaches to Fisheries Management' at IAC Wageningen, The Netherlands from 6 October to 21 November 2003. The full deputation cost including both ways international air-fare borne by the Government of the Netherlands under Netherlands Government Fellowship Programme.
- Dr (Ms) M K Tripathi [Scientist (SS), SSWRI, Avikanagar, Rajasthan] visited for availing BOYSCAST Fellowship award, 2002-03 at INRA, France for undergoing training in the areas 'Plant Microbe Interaction' under Department of Science and Technology programme for 12 months w e f 20 November 2002 to 19 November 2003. The expenditure was incurred by Department of Science and Technology, Government of India.
- Dr P S Yadav (Senior Scientist, CIRB, Hisar, Haryana) visited for availing Biotechnology Overseas Associateship (long-term) award, 2002-03 at the Institute for Tiezucht and Tierverhaltey, Neustedt, Germany under Department of Biotechnology programme for 12 months w e f 15 November 2003. The expenditure was incurred by Department of Biotechnology, Government of India.
- Dr R P Pant [Technical Officer (T-6), IARI, New Delhi] visited for attending training on operation of 'Electron Microscope' scientific equipment at M/s. JEOL Ltd., Tokyo, Japan from 20 October to 24 October 2003. The entire deputation cost including international travel cost borne by the concerned firm in Japan.
- Dr Jasvir Singh [Technical Officer, IARI, New Delhi] visited for attending training on operation of 'Electron Microscope' scientific equipment at M/s. JEOL Ltd., Tokyo, Japan from 20 October to 24 October 2003. The entire deputation cost including international travel cost borne by the firm concerned in Japan.
- Dr A B Mandal (Senior Scientist, CARI, Port Blair) visited for availing biotechnology Overseas Associateship (short-term) award at the College of Agriculture, University of Kentucky, USA for 3 months from the last week of September, 2003 under Department of Biotechnology programme. The expenditure was incurred by Department of Biotechnology, Government of India.
- Dr (Ms) Renu [Technical Assistant (T-3), IARI, New Delhi] visited for the award of Post-doctoral Degree at NRCGEB, Tehran, Islamic Republic of Iran for taking up research work for 1 year from 15 October 2003. The expenditure was incurred by NRCGEB, Tehran (Iran).
- Dr Neeraj Rana [Scientist (SS), CIRB, Hisar, Haryana] visited for availing JSPS Post-doctoral Fellowship, 2003-2004 at the Obihiro University of Agriculture and Veterinary Medicine, Tokyo, Japan for 24 consequent months from 10 October 2003. The expenditure was incurred by JSPS Fellowship Organizers in Japan.
- Dr Anil Rai (Senior Scientist, IASRI, New Delhi) was deputed to Iowa State University, USA for training in Information Technology-Data.
- A technical team consisting of 4-expert from ICAR, viz. Dr Amerika Singh (Director, NCIPM, New Delhi), Dr Rajinder Kumar (Head, Department of Seed Technology, IARI, New Delhi), Dr S P Singh (Principal Scientist and Head, NBSS&LUP Regional Station, New Delhi)



and Dr Nagendra Sharma (Director, NDRI, Karnal) visited Mozambique to conduct feasibility study of a comprehensive Agricultural Project under ITEC Programme of MEA for 10 days w e f 5 to 14 April 2003.

- Dr K C Bansal, Principal Scientist, visited Tunisia for attending Indo-Tunisian joint Workshop on 'Application of Biotechnology in Agriculture' held on 24 and 25 April 2003 under Indo-Tunisian Programme of Scientific and Technical Co-operation of the Department of Science and Technology.
- A 4-member team consisting of Dr J C Katyal [DDG, (Education)], Shri K N Kumar [Director (DARE) ], Dr Gurbachan Singh [ADG (Agronomy) ] and Shri B S Dhillon [Director, NBPGR, New Delhi] visited Iran for attending the first meeting of Indo-Iran Joint Working Group on Agriculture from 19 to 21 May 2003.
- A 3-member delegation consisting Dr G Kalloo [DDG, (Crop Science and Horticulture), Dr P D Sharma (ADG, Soils), and Dr A D Diwan (ADG (Marine Fishery)] ICAR Hqrs visited Egypt from 18 to 21 May 2003 for attending the meeting of the Joint Committee on Agriculture.
- Dr K R Solanki [ADG (AF), ICAR Hqrs. New Delhi], Dr K S Gajbhiye, (Director, NBSS&LUP, Nagpur) and Dr R B Rai (Acting Director, CARI, Port Blair) visited Maldives from 23 to 27 June 2003 for development of reclaimed land on Hulhumale including greening of Island.
- Dr S M Paul Khurana (Director, Central Potato Research Institute, Shimla) visited Netherlands to attend a meeting of Indo-Dutch Working Group on Agriculture held at Hague from 30 June to 3 July 2003.
- Dr P S Naik (Principal Scientist), and Dr Sarjeet Singh (Principal Scientist and Head, Division of Seed Technology, Central Potato Research Institute, Shimla) visited Belarus from 7 to 10 July 2003 to study growing of potatoes on non-virus base.
- Dr S K Jalali [Senior Scientist (SG), PDBC, Bangalore] and Dr H R Sardana [Senior Scientist (Entomology, NCIPM, New Delhi) visited All-Russia Research Institute of Plant Protection, St. Petersburg during July 28–6 August 2003 for study in the field of 'Biological and Microbiological control of Pests and Diseases' under ICAR-RAAS Work Plan for 2002-03.
- Dr Vijendra Singh Vihan (Principal Scientist, Central Institute for Research on Goats, Makhdoom Mathura) visited All-Russia Research Institute of Veterinary Virology and Microbiology, Pokrov, Russia during 20–26 September 2003 for study in the field of 'Vaccines against sheep pox, goat pox and IBD and other emerging viral diseases like PPR' under ICAR-RAAS Work Plan for 2002-03.
- Dr Surender Lal Goswami (Principal Scientist and Officer-in-Charge, Animal Biotechnology Centre, National Dairy Research Institute, Karnal) visited All-Russia Research Institute of Veterinary Virology and Microbiology, Pokrov Russia during 20–26 September 2003 for the study of 'Production of Transgenic Animals' under ICAR-RAAS Work Plan for 2002-03.
- A 2-member delegation, viz. Dr V A Parthasarathy (Director, Indian Institute of Spices Research, Calicut), and Dr M Gopalkrishna Bhat (Acting Director, National Research Centre for Cashew, Puttur) visited Vietnam from 3 to 8 November 2003 under Indo-Vietnam Work Plan.
- Dr Prasanta Kumar Dash (Scientist, National Research Centre on Plant Biotechnology, Indian Agricultural Research Institute, New Delhi) visited Keck Graduate Institute of Applied Sciences, California, USA for training in the 'Development of Transgenic Crop Plant Resistant to Insect Pests' from 8 October to 19 January 2004.
- Dr (Ms) Aparna Chaudheri (Senior Scientist, Central Institute of Fisheries Education, Mumbai) visited University of Minnesota, USA for training in 'Development of Transgenic Fish Models to Scale Environmental Toxicity' from 11 October 2003 to 8 January 2004.
- Dr M N Venugopal (Associate Professor, Department of Fishery Microbiology, University of Agricultural Sciences, Bangalore) visited Miyazaki University, Miyazaki, Japan for training in 'Fish Biotechnology' from 12 October 2003 to 8 January 2004.
- Dr (Ms) Archana Sachdev (Senior Scientist, Indian Agricultural Research Institute, New Delhi) visited University of Western Australia, Australia for training in 'Recombinant DNA Technology in Soybean for Oil Quality' from 12 October 2003 to 11 January 2004.
- Dr T K Datta [Senior Scientist, (Biotechnology), National Dairy Research Institute, Karnal] visited Laval University, Quebec, Canada for training in 'Embryonic Stem Culture and Nuclear Transfer' from 16 October 2003 to 13 January 2004.
- Dr Sachinandan De [Scientist (SS) (Biotechnology)], National Dairy Research Institute, Karnal] visited Washington State University, Pullman, USA for training in 'Characterization of New Gene and Promoters' from 22 October 2003 to 19 January 2004.
- Dr Dinesh Kumar [Scientist (SS), National Bureau of Animal Genetic Resources, Karnal] visited Iowa State University, Iowa, USA for training in 'Isolation and Characterization of New Genes' from 16 October 2003 to 15 January 2004.
- Dr Bharat Bhushan (Senior Scientist, Indian Veterinary Research Institute, Izatnagar) visited Washington State University, Pullman, USA for training in 'Genetic Resistance to Diseases' from 29 October 2003 to 27 January 2004.
- Dr P N Jagdev (Assistant Professor, Department of Agricultural Biotechnology, Orissa University of Agriculture and Technology, Bhubaneswar) and Dr M



N Sheela (Senior Scientist, Central Tuber Crop Research Institute, Thiruvananthapuram) visited Donald Danforth Plant Science Centre, St. Louis, USA for training in 'Molecular Biology of Biotic and Abiotic Stress and 'Development of Transgenic Cassava' respectively from 17 November 2003 to 14 February 2004.

- Dr Sanjeet Kumar, Scientist, Indian Institute of Vegetable Research, Varanasi and Dr S P Das, Scientist, NRC for orchids, Sikkim, visited All-Russia Research Institute of Vegetable Crops, Moscow during December 19-20, 2003 for study in the field of 'Molecular Marker Assisted Breeding in Cabbage and Orchid Hybridization' under ICAR-RAAS Work Plan for 2002-03.

### PROTOCOL ACTIVITIES

- H E Mr Carlos Agostinho do Rosario, High Commissioner of Mozambique visited IARI, New Delhi on 28 April 2003.
- H E Mr Joaquim Alberto, President of the Republic of Mozambique, visited IARI, New Delhi on 13 May 2003.
- H E Mr Arefaine Berhe, Agriculture Minister of Eritrea visited IARI, New Delhi on 8 May 2003.
- Dr William D Dar, Director-General, ICRISAT, Hyderabad visited ICAR (Hq) New Delhi on 9 May 2003.
- H E Mr Bounhang Vorachit, Prime Minister of Lao People's Democratic Republic visited IARI, New Delhi on 17 June 2003.
- A 4-member Jordanian delegation led by Prof. Taineh, Secretary General, Minister of Agriculture, Jordan visited IARI, New Delhi on 7 June 2003.
- A 7-member Parliamentary delegation led by His Excellency Mr Samane Vignaketh, President of the National Assembly of Lao People's Democratic Republic visited IARI, New Delhi on 23 July 2003.
- Right Honourable Pakalitha Bethuel Mosisili, Prime Minister of Lesotho and accompanying delegation visited IARI, New Delhi on 7 August 2003.
- His Excellency Mr Bharrat Jagdev, President of the Republic of Guyana visited IARI, New Delhi on 26 August 2003.
- His Excellency Dr G R Zarifian, Deputy Minister for Science Research and Technology, Government of the Islamic Republic of Iran, Dr S Rahmati, Director-General (Overseas Scholarship students) and Dr Mohammad Kafi, Director (Science and Education), Embassy of the Islamic Republic of Iran, New Delhi visited IARI, New Delhi on 1 September 2003.
- Chinese delegation led by H E. Mr Zhang Baowen, Vice Minister of Agriculture, China visited National Research Centre on Plant Biotechnology, New Delhi on 29 August 2003.
- His Excellency Mr Yisrael Katz, Agriculture Minister of Israel and accompanying guests visited IARI, New Delhi on 10 September 2003.
- A 7-member high level delegation led by His Excellency

Alh. Ahmed Sani (Yeriwah Bakura), Executive Governor of Zamfara State, Nigeria visited National Dairy Research Institute, Karnal on 4 September 2003.

- H E Mr Abdoulaye WADE, President of the Republic of Senegal and accompanied delegation visited IARI, New Delhi on 14 October 2003.
- A 6-member delegation of the Science, Technology and Environment Commission of the National Assembly (Parliament) of Vietnam led by H E Mr Nguyen Van Tri, Vice-Chairman of Committee on Science, Technology and Environment of the National Assembly visited National Dairy Research Institute/National Bureau of Animal Genetic Resources/Central soil Salinity Research Institute, Karnal and Indian Agricultural Research Institute/National Bureau of Plant Genetic Research/National Centre for Planning and Policy Research, New Delhi on the 7 and 9 October 2003 and ICAR Headquarters, New Delhi on 10 October 2003.
- H.E. Mr David Lokian, Agriculture Minister of Armenia visited IARI, New Delhi on 29 October 2003.
- H.E. Mr Lyle Vanclief, Minister of Agriculture and Agri-Food, Canada and accompanied delegation visited IARI, New Delhi on 9 December 2003.

### Foreign scientists to India

- A 12-member joint delegation from Institut National de la Recherche Agronomique (INRA) and Centre de Co-operation Internationale en Recherche Agronomique pour le Development (CIRAD), France led by Dr Bertrand Hervieu, President, INRA visited India for participation in the Indo-French Seminar on Agriculture held on 16 and 17 April 2003 at New Delhi.
- A 3-member delegation, viz. Mr Dhanasena Hettiarachchi (Secretary), Mr P Periyasamy (Director-General) and Prof. Gunasena (Executive Director, CARP, Sri Lanka) visited India for signing of the Work Plan for 2003-04 between ICAR-CARP, Sri Lanka during 4-11 May 2003.
- Dr Domblides Artour (Head, Department of Diagnostics, All-Russia Research Institute of Selection and Seed Growing of Vegetable Crops, Moscow, Russia visited Indian Agricultural Research Institute, New Delhi; and Indian Institute of Vegetable Research, Varanasi for study in 'Usage of Molecular Markers for Vegetable Crops Breeding' during 16-22 June 2003 under ICAR-RAAS Work Plan 2002-03.
- A 4-member delegation from All-Russia Research Institute of Agricultural Microbiology, St. Petersburg; Central Scientific Research Institute of Agrochemical Service of Agriculture, Russia and Russian Academy of Agricultural Sciences, Moscow, Russia visited Indian Agricultural Research Institute, New Delhi; and Indian Institute of Vegetable Research for study in the field of 'Development on the Production and Usage Technologies for Microbial Fertilizers Based on the Wastes of the Animal and Poultry Production, and



- Processing of Organic Fertilizers with Use of Microbiological Preparations during 23 June–2 July 2003 under ICAR-RAAS Work Plan for 2002-03.
- A 4-member delegation from Russian Academy of Agricultural Sciences, Moscow; V S Pustovoi, All-Russia Research Institute for oil Crops, Krasnodar and P P Lukijanenko Agricultural Scientific Research Institute, Krasnodar visited Indian Agricultural Research Institute, New Delhi; Directorate of Oilseed Research, Hyderabad; and Indian Institute of Pulses Research, Kanpur for study in 'Development of New Methods of Genetic Testing Procedures for Wheat, Legumes and Oil Crops Yield Increases' from 22 to 28 July 2003 under ICAR-RAAS Work Plan for 2002-03.
  - Two scientists from Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited National Dairy Research Institute, Karnal during 13–19 October 2003 for short-term training in the field of Dairy Farming under ICAR-CARP Work Plan for 2003-04.
  - Two officials from Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited National Academy of Agricultural Research and Management, Hyderabad during 27 October to 7 November for short-term training in Administration and Finance under ICAR-CARP Work Plan for 2003-04.
  - Three scientists from Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited Central Institute of Freshwater Aquaculture, Bhubaneswar, for short-term training in Inland Fisheries/Aquaculture from 13 to 18 October 2003 under ICAR-CARP Work Plan for 2003-04.
  - Eight Scientists of Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited National Research Centre on Biotechnology, Indian Agricultural Research Institute, New Delhi for short-term training in Biotechnology during 15–21 October 2003 under ICAR-CARP Work Plan 2003-04.
  - A 3-member delegation of All-Russia Research Institute of Biological Plant Protection, Krasnodar, Russia visited Project Directorate of Biological Control, Bangalore for study in 'Collaboration in Biological Protection of Plants' during 14–22 October 2003 under ICAR-RAAS Work Plan 2002-03.
  - Two officials from Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited National Centre for Agricultural Economics and Policy Research for short-term training in Agricultural Economics from 27 October 2003 to 3 November 2003 under ICAR-CARP Work Plan for 2003-04.
  - Two officials of Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited National Dairy Research Institute, Karnal and Indian Veterinary Research Institute, Izatnagar for a short-term training in Animal Science during 1-15 November 2003 (1-7 November, at NDRI, Karnal and 8-15, November, 2003 at IVRI, Izatnagar) under ICAR-CARP Work Plan 2003-04.
  - One Scientist from Nepal Agricultural Research Council, Nepal visited Sugarcane Breeding Institute, Coimbatore from 10 to 22 November 2003 for the training in the field of Sugarcane Breeding under the ICAR-NARC Work Plan for 2003-04.
  - One official from Nepal Agricultural Research Council, Nepal visited Indian Agricultural Research Institute, New Delhi from 24 November to 6 December 2003 for the training in the field of 'Climate Prediction and Agriculture-Methane NO<sub>2</sub> Emission' under the ICAR-NARC Work Plan for 2003-04.
  - Two officials from Nepal Agricultural Research Council, Nepal visited Indian Agricultural Research Institute, New Delhi from 2 to 16 December 2003 for the training in the field of Post Harvest Technology under the ICAR-NARC Work Plan for 2003-04.
  - Four officials of Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited Indian Agricultural Research Institute, New Delhi for a short-term training in MIS and Visual Basic during 15-27 December 2003 under ICAR-CARP Work Plan 2003-04.
  - Two officials of Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited Central Institute of Agricultural Engineering, Bhopal, New Delhi for a short-term training in Agricultural Engineering during 16-22nd December 2003 under ICAR-CARP Work Plan 2003-04.
  - Eleven officials of Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited National Academy of Agricultural Research and Management, Hyderabad for a short-term training in Agricultural Research and Management during 10-22 November 2003 under ICAR-CARP Work Plan 2003-04.
  - Six officials of Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited Central Institute of Post Harvest Engineering Technology, Ludhiana for a short-term training in 'Post Harvest Technology' during 17-22 November 2003 under ICAR-CARP Work Plan 2003-04.
  - Four officials of Sri Lankan Council of Agricultural Research Policy, Sri Lanka visited Indian Agricultural Research Institute, New Delhi for a short-term training in Agricultural Extension during 4-17 December 2003 under ICAR-CARP Work Plan 2003-04.
  - A two-member delegation comprising Dr Ramesh Kanwal, Professor and Department Chair, Department of Agricultural & Biosystems Engg. and Dr David Acker, Assistant Dean, National and Global Programmes and Professor, Department of Agricultural Education and Studies, Iowa State University, USA visited India from 13 to 17 December 2003 to review and discuss the existing Work Plan and future collaboration between ICAR and ISU.
  - An eleven member Iranian delegation led by H.E. Mr. Mahmood Hojjati Najagabadi, Minister of Jihad-e-Agriculture, Islamic Republic of Iran visited India from



15 to 19 December 2003. The delegation during their stay in India, visited local institutes, NRC on Rapeseed Mustard, Bharatpur and the ICAR Institutes at Kochi.

### Indian scientists to foreign countries

- Dr S K Bandyopadhyay (Project Director, Project Directorate on Food-and-Mouth Disease, IVRI, Mukteswar Campus) visited Rome, Italy for participation in the 35th Session of the 'European Mouth Diseases' from 9 to 11 April 2003.
- Dr (Ms) Malavika Dadlani (Principal Scientist, IARI, New Delhi) visited Rome for participation in the FAO meeting to finalize technical documents on 'Quality Declared Seed' from 5 to 7 May 2003.

### Indo-French Seminar

An Indo-French Seminar 'To Identify Priority Areas for Collaborative Research, Germplasm Exchange, Study Visits, Training Programme' was held in New Delhi on 16 and 17 April 2003. Dr Bertrand Hervieu, President, INRA led a 12-member delegation from Institut National de la Recherche Agronomique (INRA) and Centre de Co-operation Internationale en Recherche Agronomique pour le Développement (CIRAD), France for participating in this Seminar.

- Dr A Laxminarayana (Principal Scientist, CMFRI, Kochi) visited Iran for 3 months and 15 days to render technical guidance in Shrimp Breeding and hatchery development programme from 2 to 7 June 2003.
- Dr Y S Ramakrishna [Project Co-ordinator (Agricultural Meteorology), CRIDA, Hyderabad] visited Bonn, Germany to act as an expert on the Committee of Science and Technology of UNCCD Secretariat, Germany and for participation in the Second meeting of the Group of Experts on Science and Technology from 2 to 7 June 2003.
- Dr D C Uprety (Principal Scientist, IARI, New Delhi) visited New York, USA for participation in the expert meeting on the Detection and Attribution of the Effects of Climate Change from 17 to 19 June 2003.
- Dr B S Parmar (Principal Scientist, IARI, New Delhi) visited Vicosa, Brazil to work in the Project Evaluation of activity of neem against soybean cyst nematode heteroderaglycines for 1 year.
- Dr G R Korwar [Principal Scientist (Agronomy), CRIDA, Hyderabad] visited Cotonon, Benin for participation in the Fourth Asia-Africa Forum on 'Combating Desertification' from 24 to 27 June 2003.
- Dr N K Tyagi (Director, CSSRI, Karnal) visited Uzbekistan (Tashkent) for participation in the FAO Regional workshop 'Management and Rehabilitation of Salt Affected and Fertility Declined Soils for Sustainable Agriculture and Food Security' from 7 to 11 July 2003.
- Dr Bhupinder Singh (Scientist, IVRI, Regional Station,

Palampur) visited Yezin-Myanmar as on follow-up Expert Mission in the field *in-vitro* food evaluation methodologies, data analysis and interpretation' from 29 September 2003 to 4 October 2003.

- Dr M S Sachedev (Principal Scientist, IARI, New Delhi) visited China for participation in the RC Meeting of IAEA programme on 'Integrated Soil Water and Nutrient Management for Sustainable Rice-Wheat Cropping Systems of Asia' from 8 to 12 September 2003.
- Dr V K Taneja [DDG (Animal Sciences), ICAR] visited Lahore to participate in the APHCA meeting as a resource person from 25 to 29 August 2003.
- Dr G V S Saiprasad (Scientist, IIHR, Bangalore) visited INIBAP, France to work on INISA Programme Structural and functional genomics of BSV sequence integration into Musa genome for 14 months from 7 September 2003 to 6 November 2004.
- Dr (Ms) Pramila Sachdev (Principal Scientist, IARI, New Delhi) visited Greece to attend IAEA programme on 'Classification of Soil System on the Basis of Transfer Factors of Radionuclides from Soil to Reference Plants' and also for participation in a related workshop on 'Practical Integrated Approach to Agricultural Countermeasures for Enhancing Food Safety and Security' following a nuclear or radiological emergency' from 22 to 29 September 2003.
- Dr R T Patil (Principal Scientist, CIAE, Bhopal) visited Washington State University, USA to work with Dr Juming Tang, Professor and IMPACT Research Fellow on extrusion cooking to produce very special purpose foods from the advanced versions of extrusion.
- Dr S C Gupta (Principal Scientist, NBAGR, Karnal) visited Vienna for attending the International Conference organized by FAO/IAEA on 'Gene-based Technologies for Improving Animal Production and Health in Developing Countries'.
- Dr P Das [DDG (Agricultural Extension), ICAR] and Dr S Senthilkumaran (Associate Director, MS Swaminathan Research Foundation, Chennai) visited SAIC, Dhaka, Bangladesh on deputation for presenting country paper in their respective topic in the areas of ICT in the Regional Workshop from 22 to 23 October 2003.
- Dr Mruthyunjaya (Director, NCAP, New Delhi) visited Dhaka, Bangladesh for participation in the 17th Meeting of the Governing Board of SAIC and Regional Workshop on ICT from 19 to 23 October 2003.
- Dr K V Prabhu (Senior Scientist, IARI, New Delhi) visited Kuala Lumpur, Malaysia to act as an FAO/TCDC Expert on Post-release Monitoring for 6 weeks which includes 3 weeks assignment at home under the project TCP/MAL/290 w e f 27 September 2003 for 6 weeks.
- Dr V K Taneja [DDG (Animal Sciences), ICAR] and Dr B R Yadav (Principal Scientist and National Fellow, NDRI, Karnal) visited Vienna, Austria for participation in the International Atomic Energy Agency/FAO International Conference on Gene-based Technologies



for Improving Animal Production and Health in Developing Countries from 6 to 10 October 2003.

- Dr M S Sachdev (Nuclear Research Laboratory, IARI, New Delhi) visited Mongolia as an expert assignment of International Atomic Energy Agency to review Agriculture Sector programme for preparation of proposals under the project HRD and NTSOB from 27 to 31 October 2003.
- Dr (Ms) Mathala J Gupta [Scientist, Agriculture Structure and Profess Engineering), IARI, New Delhi] visited Penn State University, USA as visiting scholar position in the area of Seansors for Food Safety and Quality for 12 months.
- Dr S P Tewari [ADG (Seed), ICAR] visited Rome, Italy for participation in the Technical Workshop on Integrating Information Gathering on 'Plant Genetic Resources for Food and Agriculture and also in the Second Session of the Inter-governmental Technical Workshop Group on Plant Genetic Resources from 4 to 7 November 2003.
- Dr Rajendra Kumar (Principal Scientist, IARI, New Delhi) visited Thailand for participation in the Training Workshop on 'Electrophoretic and PCR-based Methods for Varietal Verification and GMO' from 25 to 29 November 2003.
- Dr A K Jain [ADG (ARIS), ICAR] visited Bangkok, Thailand for participation in the Expert Consultation on 'Strengthening Regional Agricultural Information System' Role of ICT in ARD at Asian Institute of Technology from 1 to 3 December 2003.
- Dr R K Pathak (Director, CISH, Lucknow) visited Thailand for participation in the FAO Conference from 3 to 8 November 2003.
- Dr J S Samra [DDG (NRM), ICAR] visited Bangkok, Thailand for participation in the Regional Workshop on 'Agro-Ecological Zoning/Land Resources Information Systems (LRIS) as decision support tool in Agricultural Development and Disaster Management in Asia and Land Degradation Assessment Drylands (LADA) ' from 10 to 14 November 2003.
- Dr A Laxminarayana (Chief Training Organiser, CMFRI, Kochi) visited Mauritius for 1 year as an Adviser in Fisheries.

