

19. Partnership and Linkages

The International Cooperation in ICAR/DARE has been operating through the MoUs/Work Plans signed with various countries/International organizations with ICAR/DARE as the Nodal Department and through participation of ICAR/DARE in the MoUs/Work Plans signed by the Department of Agriculture & Cooperation as the Nodal Department. In addition, Ministry of Science and Technology has developed Programme of cooperation with various countries and international organizations in which ICAR/DARE is the participating agency in the field of 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 Cooperation. The Department organizes visits of foreign nationals on request. The Department also receives proposals for customized training courses for foreign nationals.

Work Plan

The Work Plans between ICAR-IWMI and ICAR-IRRI were signed during 2012-13.

Collaborative Projects

Followings are the Collaborative Projects:

- Collaborative research projects or Workshops in the field of Biotechnology under Indo-Australian Biotechnology Fund (IABF)- Round 6 which is a joint initiative between the Government of India through the DBT and the Department of Innovation, Industry, Science & Research (DIISR), Government of Australia, submitted by the Central Marine Fisheries Research Institute, Kochi



Dr S. Ayyappan, Secretary (DARE) and DG (ICAR) inaugurated a Review Meeting on ICAR-ICARDA collaborative programme on 29 November 2012

- Participation of CSSRI in the University of Melbourne sponsored AusAid–Public Sector Linkage Programme (PSLP) funded capacity building programme ‘Safer and more sustainable disposal of domestic sewage effluent in India using agroforestry systems’ submitted by Dr R.K. Yadav (Principal Scientist, CSSRI, Karnal).
- Collaborative project on ‘Global Yield Gap and Water Productivity’ received from Dr Kenneth G. Cassman (Prof. of Agronomy and Chair, Independent Science and Partnership Council of the CGIAR, University of Nebraska, Lincoln) with ICAR.
- Participation of Directorate of Water Management, Bhubaneswar in the New Indigo project on ‘Reuse options for marginal quality water in urban and peri-urban agriculture and allied services in the gambit of WHO guidelines’.
- Project proposal on ‘Genotypic interaction of chickpea (*Cicer arietinum* L.) with *Mesorhizobium* sp. for enhanced nitrogen-fixation and other symbiotic benefits’—submitted by Dr K Swarnalakshmi (Senior Scientist, Division of Microbiology, IARI, New Delhi) for funding by International Foundation for Science under first IFS Research Grant.
- Project on ‘Using Rainwater Harvesting for Resilient Local Groundwater Management in the Presence of Saline Aquifers’, received from In-charge PME, IARI, New Delhi. The project is being submitted to DST under Australia-India Strategic Research Fund (AISRF). The project implementing agencies are: Water Technology Centre, IARI, New Delhi; University of Western Sydney, Australia; and MPUAT, Udaipur.
- Permission for involvement of Vivekanand Parvatiya Krishi Anusandhan Sansthan, Almora for promotion of the technologies in International Fund for Agricultural Development Project on ‘Integrated Livelihood Support Project (ILSP)’ to be run by Uttarakhand *Parvatiya Aajeevika Sanvardhan* Company, Dehra Dun (Uttarakhand)/ Uttarakhand Livelihood Project for Hill People.
- Project proposal on ‘Building partnership for conservation, restoration and sustainable management of Aravalli Eco-region, Western India’ received from the Director, CAZRI, Jodhpur. The project proposal is submitted by UNESCO Delhi Office to the German agency (German Federal Ministry for the Environment) for funding. The project implementing partners are National Institute of Ecology (NGO), New Delhi, University of Delhi and CAZRI and the

- partner institution for embedding in the target region are Man and Biosphere National Committee, Ministry of Environment & Forest, Government of India, State Forest Department, Government of Rajasthan and School of Environmental Science, Jawahar Lal Nehru University.
- Collaborative project on 'New knowledge and innovation food design leading to sustainable development of the agro-food sector and decreased poverty' received from the Director of Research & Dean, Faculty of PG Studies, Anand Agricultural University(AAU), Anand. The project partners are AAU, Anand, SASNET fermented Foods (a Swedish-Indian network) and Hildur Functional Foods Pvt. Ltd (Swedish Indian joint venture SME). The project is to be funded by Food Technology, Engineering and nutritious/ Faculty of Engineering, Lund, Sweden under Swedish International Development Cooperation Agency (SIDA).
 - Collaborative research project on 'Genetic analyses of Asia seabass populations in Indian peninsular waters using polymorphic DNA markers' in collaboration with the National Bureau of Fish Genetic Resources, Lucknow, and Temasek Life Sciences Laboratory, Singapore which is a non-profit organization undertaking cutting edge research in molecular biology and genetics utilizing a broad range of model organisms and is affiliated to the National University of Singapore and Nanyang Technological University.
 - Collaborative research project on 'Precision Farming for Enhancing the Livelihood Security of Farmers' received from the Director Research, Tamil Nadu Agriculture University (TNAU), Coimbatore. The project is to be collaborated between TNAU and Nova Scotia Agricultural College, Canada. It has been indicated that as a member of the Shastri Indo-Canadian Institute, Nova Scotia Agricultural College (NSAC) was awarded ₹3 lakhs by Shastri-Indo-Canadian Institute, New Delhi to carry out a joint/ collaborative research project with Tamil Nadu Agriculture University.
 - Proposal relates to issue a letter of intent for partnership in the INNO-ASIA project Phase-II by Central Soil and Water Conservation Research and Training Institute, Dehra Dun. The Project proposal is being submitted to BMBF (German Federal Ministry of Education and Research) by professor flugel of Friedrich Schiller University, Jena.
 - Approval of the project on 'Crop plants which remove their own major biotic constraints' submitted by Dr G.T. Gujar (Head, Division of Entomology) and Dr Pritam Kalia (Head, Division of Vegetable Science, IARI, New Delhi) for funding by DST.

- Collaborative project on 'A Global Census of Rumen Microbial Diversity' funded by New Zealand Ministry for Agriculture and Forestry under RMG (Rumen Microbial Genomics) network between AgResearch, New Zealand and NDRI, Karnal submitted by Dr Rameshwar Singh (the then Head, Dairy Microbiology Division, NDRI Karnal).
- Collaborative project on 'Genetic Engineering of stay green trait for development of drought tolerant wheat' submitted by Dr Ajay Arora (Principal Scientist, IARI, New Delhi) for funding by Department of Science & Technology (DST), Government of India under Indo-Czech Programme of Cooperation in Science & Technology. The project partners are IARI, New Delhi and Institute of Experimental Botany, Academy of Science of the Czech Republic, Laboratory of Stress Physiology, Czech Republic.

Fund released to CG Institutes

- India is donor member to CGIAR. In 2012-13 we have contributed ₹ 105,753,000 under Plan Head of ICAR Funding and we have also contributed to ₹ 37,500,000 under Non-Plan Head of DARE Funding through Contribution Arrangement.

Major Events

- A Workshop on 'Climate Change, Adaptation and Mitigation in Agriculture in the ASEAN Region and India' was organized in New Delhi from 23 to 24 August 2012.



Second Meeting of Agricultural Experts Working group on 'Agro-Products and Food Security of BRICS Countries' held on 27 August 2012

- A Meeting of Experts on 'Agro-Products and Food Security of BRICS Countries (Brazil, Russia, India, China and South Africa)'/Second Meeting of Agriculture Experts Working Group was organized at NASC Complex Pusa, New Delhi from 27 to 28 August 2012.
- The Second ASEAN-India Ministerial Meeting on 'Agriculture and Forestry and the ASEAN - India Agriculture Expo' was held from 17 to 19 October 2012 at NASC Complex, Pusa, New Delhi.



Agri-Innovate India

Agri-Innovate India Limited, a Government of India Company, established by the Department of Agricultural Research and Education (DARE) aims to work on the strengths of DARE and Indian Council of Agricultural Research and promote the development and spread of Research and Development outcomes through IPR protection, commercialization and forging partnerships both in the country and outside for the public benefit. During 2012–13, the statutory requirements in respect to registrations, enrollments, etc. have been completed. The process for scouting and screening of the available technologies eligible for commercialization has been initiated. Organizational structure of the company is framed and the recruitment process has been started. As the recruitment of the desired professionals is completed, the company shall start its commercial activities.

Central Agricultural University

North-Eastern Hills Region: The Central Agricultural University, Imphal had been trying to impart agricultural education to students from North-Eastern Hills Region through seven constituent colleges. During 2012–13, total 240 students were admitted to eight undergraduate degree programmes. One hundred seventy students took admission to Master's Degree Programmes and 12 students were admitted to Ph.D. programme. University has 902 students on its roll. 196 students completed Bachelor's degree and 73 students were awarded Masters Degree during 2012–13. The performance of students at All India Post-Graduate Entrance Examination of ICAR made CAU proud of its students. 125 students got admission to different post-graduate programme in various SAUs and National Institutes all over the country. Forty-two students were admitted to National Institutes like IARI, IVRI, CIFE, NDRI, FRI and IIT.

Twentyfive students from CAU were selected for the award of JRF on the basis of which CAU is adjudged at 4th position amongst SAUs in India. Directorate of Research is operating 22 AICRP centres, 5 NAIP projects, 1 Centre of Excellence, 1 Mega Seed Project and 66 *ad-hoc* projects. The efforts were made to spread the CAU– R-1 variety by undertaking seed production programme on farmers' field. More than 100 tonnes of truthful label seed has been produced. A new project on biotechnological research on fishes with an outlay of ₹ 10.5 crores has been approved by DBT for College of Fisheries for five years. New varieties of rice, viz. CAU-R3 and CAU-R4 for different agro-ecological situations have been recommended. Technology for processing of pineapple juice to pineapple powder has been developed and is being fine tuned. Dissemination of scientific information to the stakeholders is being carried out through extension wings of Colleges and three KVKs by the Directorate of Extension Education. Major thrust area of activity being increase in the area of second crop in *rabi* after

the harvest of rice. Based on the technology developed by CAU with participation of farmers, a large-scale demonstration of mustard over an area of 1,000 ha with 'zero tillage' has been taken up to show the feasibility to farmers in valley districts under tribal sub-plan in collaboration with NRC for Rapeseed Mustard, Bharatpur.

Bundelkhand: The Department of Agricultural Research and Education has proposed to the establishment of Central Agricultural University for Bundelkhand Region, which covers 13 districts, i.e. 7 districts (Jhansi, Jalaun, Lalitpur, Banda, Chitrakoot, Hamirpur and Mahoba) of Uttar Pradesh; and 6 districts (Sagar, Damoh, Tikamgarh, Panna, Chatarpur and Datia) of Madhya Pradesh.

A Bill on 'The Rani Lakshmi Bai Agricultural University Bill, 2012' has already been introduced on 22 May 2012 in the Rajya Sabha for the purpose.

Consultancies

- Dr V. Venkatasubramanian [ADG (AE), ICAR, New Delhi] had Consultancy proposal for preparation of Country Paper/Study Report of India on 'National Agricultural Extension Systems in SAARC Countries-An Analysis of the System Diversity' for SAARC Agriculture Centre, Bangladesh.
- Delegation of Pan African University of Life and Earth Sciences, Ibadab, Nigeria visited Indian Agricultural Research Institute, University of Delhi, Delhi; National Dairy Research Institute and Directorate of Wheat Research, both in Karnal; and Punjab Agricultural University, Ludhiana from 7 to 11 May 2012.
- Dr S.S. Raju (Principal Scientist, National Centre for Agricultural Economics and Policy Research, Pusa, New Delhi) is assigned report writing pertaining to for Consultancy on 'Assessment of Diversity of Veterinary Services (Public and Private Sector) in India' for SAARC Agriculture Centre, BARC Complex, Bangladesh as a Focal point Expert at home station.
- Professor Ramesh Chand (Director, National Centre for Agricultural Economics and Policy Research, Pusa, New Delhi) is assigned report writing pertaining to International Trade, Regional Integration and Food Security in South Asia for Commonwealth Secretariat, London as a Focal Point Expert at home station.
- Dr Ramesh Chand [Director (NCAP)] visited Bangladesh from 3 to 4 September 2012 to attend sixth meeting of the Governing Board of SAARC Agriculture Centre, Dhaka, Bangladesh.
- Dr U.C. Sud (Head, Division of Sample Survey, Indian Agricultural Statistics Research Institute, New Delhi) visited Bangladesh from 14 to 23 October 2012 for providing Consultancy Services to Bangladesh Bureau of Statistics, Bangladesh in identifying and implementing a harmonized



- Crop-Cutting Experiments/Methodology under the FAO-TCP (the Bangladesh Project) Project as a TCDC Consultant to Bangladesh for 80 days.
- Dr (Mrs) R. Manimekalai (Senior Scientist, Central Plantation Crop Research Institute, Kasaragod) visited Sri Lanka from 23 to 29 July 2012 as a FAO-TCDC Consultant.
 - Dr P.M. Jacob (Head, Central Plantation Crop Research Institute Regional Station, Kayamkulam) visited Sri Lanka from 23 to 29 July 2012 as a FAO-TCDC Consultant.
 - Dr P. Routray (Senior Scientist, CIFA, Bhubaneswar) visited Bangladesh from 7 to 26 August 2012 under FAO-TCPF Project as a FAO-TCSC Expert/Consultant.
 - Dr (Mrs) Kavita Gupta (Senior Scientist, Plant Quarantine Division, National Bureau of Plant Genetic Resources, New Delhi) is assigned report writing pertaining to re-writing of the APAARI publication, '*Biosafety Regulations of Asia-Pacific Countries*' at home station.
 - Dr R.K. Jain [Project Coordinator (Nematodes) AICRP on 'Plant Parasitic Nematodes with Integrated Approach for their Control', Division of Nematology, IARI, New Delhi] visited Republic of Afghanistan from 2 to 5 September, 2012.
 - Dr P.S. Birthal (Principal Scientist, National Centre for Agricultural Economics and Policy Research, Pusa, New Delhi) is assigned report writing on 'Patterns and sources of growth in Indian agriculture for IFFPRI, Washington, USA at home station.
 - Dr T. Srinivas (Senior Scientist, Central Tuber Crops Research Institute, Thiruvananthapuram) is assigned report writing for short-term consultancy for seed marketing course for participants from Egypt., Etopia, Palestine, Pall, Sudan and Yamen at Cario at home station.
 - Professor Ramesh Chand(Director), Dr P. Ramasundram (Principal Scientist), Dr (Smt) Usha Rani Ahuja (Principal Scientist), Shri Sajesh V.K. (Scientist) and Shri Khyali Ram Choudhary (Technical Officer, NCAP, Pusa, New Delhi) is assigned consultancy project for CGIAR Independent Science-Partnership Council, FAO, Rome, Italy at home station.
 - Dr Kaushik Banerjee (ICAR National Fellow , Senior Scientist, NRC on Grapes, Pune) visited San Jose, Costa Rica from 12 to 23 November 2012.
 - Dr D.K. Ghosh (Senior Scientist, Virology, National Research Centre for Citrus, Nagpur) visited Kathmandu, Nepal from 23 November 2012 to 24 December 2012.
- Hyderabad under the Aegis of ICAR through Indian Society of Oilseeds Research, Directorate of Oilseeds Research, Hyderabad from 19 to 23 January 2012.
- International Conference on 'Recent Perspective in Macro-Molecular Structures and Functions ' was held from 27 to 28 January 2012 at Central Agricultural Research Institute, Port Blair.
 - Indo-US bilateral Workshop entitled 'Application of nutraceutical for livestock health and production' was held from 9 to 10 February 2012 at NIAN&P, Bengaluru.
 - FAO-ICAR International Conference on 'Scientific Development and Technical Challenges in the progressive control of Foot-and-Mouth Disease in South Asia' was held from 13 to 15 February 2012 at NASC Complex, New Delhi.
 - Global Conference on 'Women in Agriculture: Envisioning Research, Extension and Policy' was held from 13 to 15 March 2012 at NASC Complex, New Delhi.
 - International Workshop on 'Strategies in value addition and safety aspects pertaining to Dairy and Food Industry' was held from 15 and 16 March, 2012 Madras Veterinary College, Chennai.
 - Hosting 'X International Congress' and 'XXII International Grassland Congress in 2015' at New Delhi— jointly organized by Range Management Society of India and Indian Grassland & Fodder Research Institute, Jhansi.
 - International Conference: Dialogue on Designer Rice for the future-2012 was held from 9 to 10 July 2012 at Hyderabad.
 - International Conference on 'Plant-Protection for Global Food and Biosecurity' at Acharya NG Ranga Agricultural University Auditorium, Rajendranagar, Hyderabad was held from 26 to 29 August 2012.
 - International Expert Consultation on 'Policy and Research needs to Manage Trans-Boundary Disease and Pests of Agricultural Importance', jointly organized by the ICAR and Asia-Pacific Association of Agricultural Research Institutions, was held from 10 to 12 October 2012 with General Assembly Meeting was held from 10 October 2012 at NASC Complex, New Delhi.
 - International Symposium on 'New Paradigms in Sugarcane Research' was held from 15 to 18 October 2012 at Sugarcane Breeding Institute, Coimbatore.
 - Fifth International Symposium on 'Human Health Effects of Fruits and Vegetables Health 2012' was held from 6 to 10 November 2012 at University of Agricultural Sciences, Dharwad.
 - International Conference on 'Mushroom Biology and Mushroom Products' was held from 19 to 22 November 2012 at NASC Complex, New Delhi.
 - International Conference on 'Plant-Protection for Global Food and Biosecurity' was held at Acharya

International Conferences/Workshops

- Eighth International Safflower Conference on 'Safflower Research and Development in the World: Status and Strategies' was held at



N G Ranga Agricultural University Auditorium, Rajendranagar, Hyderabad from 28 to 30 November 2012.

VIP Delegations

- Hon'ble Tjekers Tweya, Deputy Minister of Trade and Industry, and accompanied delegation from the Republic of Namibia visited Central Institute of Agricultural Engineering, Regional Station, Coimbatore from 20 to 21 March 2012.
- His Excellency Mr Bui Ba Bong, Deputy Minister of Agriculture and Rural Development, Vietnam and accompanied delegation visited Indian Agricultural Research Institute and Indian Council of Agricultural Research, New Delhi on 29 March 2012 and Indian Institute of Horticultural Research, Bengaluru on 26 March 2012.
- His Excellency Mr Luis Mayol Bourchon (Minister of Agriculture, Chile) accompanied 9-member delegation to Indian Council of Agricultural Research/NBPGR and National Agriculture Science Museum, New Delhi on 4 May 2012.
- His Excellency Mr Jose Pacheco, Minister of Agriculture, Government of Republic of Mozambique visited IARI and National Agriculture Science Museum, New Delhi on 14 June 2012 and Directorate of Wheat Research and National Dairy Research Institute, Karnal on 15 June 2012.
- His Excellency Mr Nganon Djoumessi Emmanel (Minister of Economy Planning and Regional Development, Republic of Cameroon) met with DDG (Horticulture) from 12 to 16 September 2012.
- A 4-member Bangladeshi delegation led by their Agriculture Minister Her Excellency Begum Matia Chowdhury visited National Agriculture Science Museum/Indian Agricultural Research Institute, New Delhi; Central Soil Salinity Research Institute, Karnal and Central Rice Research Institute, Cuttack from 6 to 10 November 2012.

Scientists on deputation

- Dr Vikas V.K (Scientist, IARI, Regional Station, Willington) visited Mexico from 1 March to 31 May 2012 to attend the training programme on Basic Wheat Improvement Programme, 2012.
- Dr Jitendra Kumar Sundaray (Principal Scientist, KRC of CIBA, Kakdwip, West Bengal) visited Bangladesh from 25 March to 2 April 2012 for participation in the field visit and Workshop on 'Increasing the Resilience of Agriculture and Aquaculture Systems in coastal areas of Ganges Delta'.
- Dr Sarangi and Dr S. Mandal (Senior Scientists, CSSRI, Karnal) visited Bangladesh from 25 March to 2 April 2012 for participation in the 'CPWF G2 field visit and Review Planning Meeting and Ganges BDC Reflection Workshop'.
- Dr M.M. Pandey (DDG, Agric. Engg., ICAR) visited Addis Ababa, Ethiopia from 10 to 13 April 2012 for participation in the Regional Development Workshop.
- Dr R.P.S Verma (Principal Scientist of DWR, Karnal) visited China from 10 to 20 April 2012 to attend the XIth International Barley Symposium.
- Dr V. Ravindra Babu (Principal Scientist, DRR, Hyderabad) visited Dhaka, Bangladesh from 15 to 18 April 2012 to attend the Harvest Plus Rice Team Meeting.
- Dr K. K. Bandyopadhyay (Principal Scientist), Dr V. K. Sehgal (Senior Scientist) and Dr S. Naresh Kumar. (Senior Scientist, IARI, New Delhi) visited Colombo, Sri Lanka from 16 to 18 April 2012 for attending a Workshop on 'Seasonal Weather Forecast and Crop Yield Forecasting'.
- Dr (Mrs) S. Uma (Principal Scientist, NRC on Banana, Tiruchirappalli) visited Rome, Italy from 17 to 19 April 2012 for attending the Symposium on 'Review of Global Crop Diversity Trust Funded Project on Strategy for the Conservation and use of Plant Genetic Resources'.
- Dr Dibakar Mahanta (Scientist, VPKAS, Almora) and Dr J.V.N.S. Prasad (Senior Scientist, Agronomy, CRIDA, Hyderabad) visited Nairobi, Kenya from 23 to 27 April 2012 for attending the Carbon Footprint Assessment Training Workshop and Climate Change Research Planning Workshop.
- Dr Anurava Pattanayak (Principal Scientist, Plant Biotechnology, ICAR Research Complex for NEH Region, Meghalaya) visited Thailand from 24 to 27 April 2012 for participation in the XI Review and Steering Committee Meeting of the Consortium for Unfavorable Rice Environments.
- Dr (Mrs) G. Padmaja (Principal Scientist and Head) and Dr M.S. Sanjeev (Senior Scientist, CTCRI, Thiruvananthapuram) visited Bangladesh from 29 April to 7 May 2012 to participate in the training programme on 'Post-harvest utilization and management of sweetpotato'.
- Dr T.M. Gajanana (Principal Scientist, Agricultural Economics, IIHR, Bengaluru) visited Bangkok and Chanthaburi, Thailand from 1 to 4 May 2012 for participation in the Regional Workshop.
- Dr S.K. Chaturvedi [Head (CI), IIPR, Kanpur] visited Addis Ababa, Ethiopia from 7 to 11 May 2012 to attend 2012 Annual 'Tropical Legumes-1 (LT-1)' project Meeting (TLM)'.
- Dr Shankar Lal Jat (Scientist, Agronomy, DMR, New Delhi) visited CIMMYT, Mexico from 21 May to 22 June 2012 for participation in advance course on 'Conservation Agriculture'.
- Shri Rajiv Mehrishi (Special Secretary, DARE & Secretary, ICAR) visited Mexico from 10 to



- 14 June 2012 to see the research facilities and laboratories being upgraded at CIMMYT, to bring such facilities for the BISA centres in India.
- Dr R. Sai Kumar (Director), Dr V.K. Yadav (Senior Scientist), Dr Ramesh Kumar (Senior Scientist) and Dr Avinash Singode (Scientist, all from DMR, New Delhi) visited Germany from 11 to 16 June 2012 for participation in Abiotic Stress Tolerant Maize for Asia project annual progress review and planning meeting and training course on Double Haploid breeding.
 - Dr V.K. Sehgal (Senior Scientist, IARI, New Delhi) visited Ispra, Italy from 13 to 14 June 2012 for attending the Workshop on 'Crop yield estimation in tropical region: 'Concept, Applications and Challenges for Heterogeneous Smallholder Environments'.
 - Dr G. Byju (Senior Scientist) and Dr T. Makesh Kumar (Senior Scientist, CTCRI, Thiruvananthapuram) visited Kampala, Uganda from 18 to 24 June 2012 to participate in the Global Cassava Partnership Second Scientific Conference GCP2-II: Cassava-overcoming challenges of Global Climate Change and Generation Challenge Programme sponsored satellite meeting.
 - Dr (Mrs) M.N. Sheela (Principal Scientist, CTCRI, Thiruvananthapuram) visited Kampala, Uganda from 18 to 24 June 2012 to participate in the Global Cassava Partnership Second Scientific Conference GCP2-II: Cassava-overcoming challenges of Global Climate Change and Generation Challenge Programme.
 - Dr A.K. Singh (DDG, NRM), Dr D.K. Sharma (Director, CSSRI, Karnal), Dr Bhagwati Prasad Bhatt, (Director, ICAR-RCER-Patna) and Dr B.Venkateswarlu (Director, CRIDA, Hyderabad) visited Colombo, Sri Lanka from 21 to 23 June 2012 for participation in the ICAR-IWMI Steering Committee Meeting.
 - Dr A.K. Srivastava (Director, NDRI, Karnal); Dr R.K. Bhatt (Principal Scientist & Head, CAZRI, Jodhpur); Dr T.K. Bhati (Principal Scientist, Agronomy, CAZRI, Jodhpur); Dr B.K. Mathur (Principal Scientist, Animal Nutrition, CAZRI, Jodhpur); Dr Mohammed Osman (Principal Scientist (Agro.), CRIDA, Hyderabad); Dr G.R. Maruthi Shankar (Principal Scientist, CRIDA, Hyderabad); and Dr Sreenath Dixit (Principal Scientist, Agriculture Extension, CRIDA, Hyderabad) visited Dubai UAE from 25 to 28 June 2012 for attending the Workshop for CGIAR Research Programme on 'Dryland System (CRP 1.1) Integrated Agricultural Production Systems for the Poor and Vulnerable in Dry Area'.
 - Dr (Mrs) S. Uma (Principal Scientist, NRC for Banana, Tiruchirapalli, Tamil Nadu) visited Indonesia from 9 to 13 July 2012 for attending the meeting of the 'MusaNet Diversity Working Group' (9 to 10 July 2012) and follow up a Consultation meeting on the 'Musa Wild relative for pre-breeding' (11 to 13 July 2012).
 - Dr K.C. Bansal (Director, NBPGR, Pusa, New Delhi) visited Rothamsted, United Kingdom from 30 to 31 July, 2012 for attending the Heat and Drought Consortium Planning meeting.
 - Dr C. Mohan (Senior Scientist, CTCRI, Thiruvananthapuram) visited Belgium from 20 to 31 August 2012 to attend the advance course on Modern Breeding Techniques for Improvement of Sweetpotato.
 - Dr Pratibha Sharma (Principal Scientist, Division of Plant Pathology, IARI, New Delhi) visited New Zealand from 27 to 30 August 2012 to attend *Trichoderma* and *Gliocladium* 2012 Workshop on 'TG2012 Innovations and Applications'.
 - Dr K.K. Vinod (Senior Scientist, IARI Research Station, Aduthurai, Tamil Nadu) visited Philippines from 27 to 31 August 2012 for attending the training Workshop on 'Molecular Marker Breeding of Rice with tolerance to phosphorus (P) deficiency'.
 - Dr Raj Shekhar Misra (Principal Scientist, Regional Centre, CTCRI, Bhubaneswar); Dr M. Anantharaman, (Principal Scientist, CTCRI, Thiruvananthapuram); and Dr Soibam Basanta Singh (Joint Director, ICAR Research Complex for NEH Region, Mizoram Centre) visited to China from 28 to 31 August 2012 for participation in the 'Regional Workshop of the Food Security through Asian Roots and Tubers (FoodSTART) Project'.
 - Dr Shaik N. Meera (Senior Scientist, DRR, Hyderabad) visited Phillipines from 1 September 2012 to 28 February 2013 to support the further development of the Rice Knowledge Bank at IRRI, Manila, Philippines.
 - Dr Sankar Prasad Das (Senior Scientist, ICAR Research Complex for NEH Region, Tripura Centre) visited Philippines from 2 to 9 September 2012 for attending the Workshop-cum-Training on 'Marker Assisted Breeding for Drought Tolerance'.
 - Dr Suresh Pal (Head, IARI, New Delhi) visited Washington DC, USA on 11 September 2012 for attending the Advisory Committee Meeting of Agricultural Science and Technology Indicators programme of CGIAR.
 - Dr (Mrs) B. Meenakumari (DDG, Fisheries) visited Bangladesh from 16 to 17 September, 2012 for participation in the Regional Workshop on 'Hilsa Fish and its Potential for Aquaculture'.
 - Dr A.P. Sharma (Director), Dr Utpal Bhaumik, (Head), Dr B.K. Behera (Senior Scientist) and Dr A.K. Sahoo, (Scientist, CIFRI, Barrackpore) visited Bangladesh from 16 to 18 September 2012 for participation in the Regional Workshop on 'Hilsa Fish and its Potential for Aquaculture'.

- Dr S.L. Goswami (Director), Dr N. Sivaramane (Senior Scientist), Dr Ranjit Kumar (Senior Scientist) and Dr K. Srinivas (NAARM, Hyderabad) visited Katmandu, Nepal from 24 to 26 September 2012 for attending the launch Workshop of the NAARM-CIMMYT Collaborative Research Programme on 'Production and investment outlook of Maize for regional food security in South Asia'.
- Dr J.V.N.S. Prasad (Senior Scientist, Agronomy, CRIDA, Hyderabad) visited Germany from 8 to 10 October 2012 for attending the Workshop on 'Evaluation of mitigation options for smallholder at whole farm and land landscape scales'.
- Dr (Mrs) Indu Sharma (Project Director, DWR, Karnal) visited Addis Ababa, Ethiopia from 8 to 14 October 2012 to attend the conferences on 'Wheat for food security in Africa at the United Nations Conference Centre (UNECA-UNCC) and the IVth Wheat Management Committee (W-MC)'.
- Dr Trilochan Mohapatra (Director, CRRI, Cuttack) and Dr B.C. Viraktamath (Project Director, DRR, Hyderabad) visited Philippines from 11 to 12 October 2012 for attending the IIInd Global Science Forum on 'Structural transformations in the rice sector: Implications for research and development'.
- Dr T. Ram (Principal Scientist), Dr P. Revathi (Scientist, DRR, Hyderabad), Dr P. Ramya, (Scientist, IARI, New Delhi) and Mr B.L. Meena (Scientist, Plant Biotechnology), ICAR-RC for NEHR Tripura Centre, Lembucherra) visited Netherlands from 15 to 26 October 2012 for participation in the Integrated Breeding Multi Year Course.
- Dr Yashpal Singh Sahrawat (Senior Scientist, IARI, New Delhi) visited *Punta del Este*, Uruguay from 26 October to 1 November 2012 for attending the Global Conference on Agricultural Research for Development meeting.
- Dr K.D. Kokate (DDG, Agriculture Extension) visited *Punta del Este*, Uruguay from 29 October to 1 November 2012 for participation in the Global Conference on Agricultural Research for Development.
- Dr H.S. Gupta (Director, IARI, New Delhi) and Dr (Mrs) Krishna Srinath (Director, DRWA, Bhubaneswar) visited *Punta del Este*, Uruguay from 29 October to 1 November 2012 for participation in the Global Conference on 'Agricultural Research for Development'.
- Dr M. Anandaraj (Director, Indian Institute of Spices Research, Calicut) visited Colombo, Sri Lanka from 30 October to 2 November 2012.
- Dr Sridhar Gautam (Senior Scientist, Central Institute for Subtropical Horticulture, Lucknow) visited Uruguay from 26 October to 3 November 2012.
- Dr Gaurav Kumar Sharma (Project Director, FMD, IVRI Campus, Mukteshwar) visited *Jerej de la Frontera*, Spain from 29 October to 2 November 2012 to attend OIE/FAO Reference Laboratory Network Annual Meeting.
- Dr C.R. Mehta (Head AMD, CIAE, Bhopal) visited Peradeniya, Sri Lanka from 23 to 25 October 2012 for attending the 8th session of the Technical Committee of United Nations Asian Pacific Centre for Agricultural Engineering and Machinery.
- Dr Ramesh Chand (Director, NCAP, Pusa, New Delhi) visited Bangkok, Thailand from 1 to 2 October 2012 for participation in the 'High-level Regional Consultation on Policies to Respond to High Food Prices in Asia and the Pacific'.
- Dr (Mrs) Kavita Gupta (Senior Scientist, NBPGR, New Delhi) visited Washington DC, USA from 26 to 27 April 2012 for participation in the Invasive Species Consortium (ISC) Meeting; Universitas Gadjah Mada, Yogyakarta, Indonesia from 8 to 10 October 2012 for presenting a paper in the Asia Pacific Forest Invasive Species Network Workshop; and Bangkok, Thailand from 12 to 13 November 2012.
- Dr N.V.P.R. Ganga Rao [Senior Scientist (Plant Breeding), Directorate of Oilseeds Research, Hyderabad] visited Nairobi, Kenya for another two years, i.e. upto 22 January 2013.
- Dr Himanshu Pathak (Senior Scientist, IARI, New Delhi) visited Bonn, Germany from 14 to 25 May 2012 to the United Nations Frameworks Convention on Climate Change negotiations; and visited Bangkok, Thailand from 28 August to 5 September 2012.
- Dr M. Anandraj (Director, IISR, Calicut) visited Vietnam from 7 to 8 August 2012 for participation in the International Workshop on 'Pests and Diseases Control in HCMC', organized by International Pepper Community, Indonesia.
- Dr S.V. Alavandi (Senior Scientist, CIBA, Chennai) visited Bangkok, Thailand from 9 July to 1 August 2012 for participation in 'Asia Pacific Emergency Regional Consultations on Shrimp Early Mortality Syndrome/Acute Depatopancreatic Necrosis Syndrome'.
- Dr K.M.L. Pathak (DDG, Animal Science) visited Bangkok from 16 to 17 August 2012 for participation in the Regional Policy forum/ Dialogue on Asian Livestock Challenges, Opportunities and the Response.
- Dr K.P. Jitendran (Principal Scientist, CIBA, Chennai), Dr Toms C. Joseph (Senior Scientist, CIFT, Kochi), Dr G. Rathore (Senior Scientist, NBFGR, Lucknow). Dr P.K. Sahoo (National Fellow, CIFA, Bhubaneswar) and Dr N.K. Sanil (Scientist (SG), CMFRI, Cochin) visited Bangkok, Thailand from 25 to 26 July 2012 for participation in the Workshop on 'Regional Proficiency Testing Programme for Aquatic Animal Disease Laboratories Asia-Pacific'.



- Dr A.G. Ponniah (Director, CIBA) and Dr M. Muralidha (Senior Scientist, CIBA, Chennai) visited Bangkok, Thailand from 14 to 15 May 2012 for attending the 'Aqua-Climate Project Partners Meeting and Regional Workshop on Climate Change' and Regional Impacts of Climate change on Fisheries and Aquaculture on 16 May, 2012.
- Dr A.G. Ponniah (Director, CIBA, Chennai) visited Bangkok, Thailand from 3 to 5 July 2012 for participation in the FAO/NACA/APFIC Regional Workshop on 'Application of Aquaculture Assessment Tools in Asia Pacific'.
- Dr T. Mahapatra (Director, CRRI, Cuttack) visited France from 3 to 4 July 2012 for participation in the Global Rice Roundtable on Future Options for the International Rice Commission: New Vision, New Strategies at Montpellier.
- Dr S.S. Raju (Principal Scientist, Agricultural Economics, NCAP, Pusa, New Delhi) visited Islamabad, Pakistan from 17 to 18 July 2012 for participation in the Consultation meeting on 'Assessment of Diversity of Veterinary Services (Public and Private Sector) in the SAARC Countries'.
- Dr V.K. Bhatia (Director, IASRI, New Delhi) visited Bangkok, Thailand from 18 to 20 July 2012 as a Member of Steering Group for Agricultural Statistics (SGAS) for attending the Second Meeting of the SGAS of United Nations Economics and Social Commission for Asia and the Pacific.
- Dr Shiv Kumar (Head, Division of Crop Improvement, Indian Institute of Pulses Research, Kanpur) visited Aleppo, Syria for another two years, i.e. upto 30 April 2014.
- Dr J.C. Dagar (ADG,A&AF) visited Bangkok from 11 to 12 April 2012 for participation in the APAARI/CCAF's organized Workshop on 'Climate Smart Agriculture in Asia; Research and Development Priorities'.
- Dr K. Sunilkumar Mohamed (Principal Scientist and Head, Molluscan Fisheries Division, CMFRI, Cochin) visited Penang, Malaysia from 3 to 4 April 2012 for participation in the 'Second Bay of Bengal Large Marine Ecosystem Health Indicators Working Group Meeting'.
- Dr (Mrs) B. Meenakumari (DDG, Fisheries) visited Cambodia from 27 to 29 March 2012 for participation in the 24th Governing Council Meeting of the NACA.
- Dr (Mrs) Malvika Dadlani (Joint Director, Research, IARI, New Delhi) visited Dhaka, Bangladesh from 4 to 5 April 2012 for participation in the 3rd meeting of the *ad hoc* Committee of the SAARC Seed Forum.
- Dr H.S. Gupta (Director, IARI, New Delhi), Dr K.C. Bansal (Director, NBPGR, New Delhi), Dr (Mrs) Indu Sharma (Project Director), Dr Rajkumar Gupta, (Principal Scientist), Dr Gyanendra Singh (Principal Scientist, Directorate of Wheat Research, Karnal) and Dr Jagdish Rane (Head, Division of Drought Stress Management, NIASM, Baramati) and Dr S. Naresh Kumar (Sr. Scientist, Division of Environmental Sciences, IARI, New Delhi) visited Bangkok, Thailand from 26 to 27 April 2012 for participation in the Regional Consultation on Improving Wheat Productivity in Asia.
- Dr H.S. Gupta (Director, IARI, New Delhi) visited Rome, Italy from 25 to 27 June 2012 for participation in FAO's Consultancy Workshop on 'Plant Sciences for Sustainable Crop Production: Strengthening Partnership between Europe and Developing Countries'.
- Dr B.H.M. Patel (Senior Scientist, IVRI, Izatnagar) visited Bangkok, Thailand from 8 to 10 May 2012 for participation in the 4th Workshop for Advanced Concepts in Animal Welfare.
- Shri V.K. Singh (Under-Secretary, DARE New Delhi) visited Bonn, Germany from 14 to 25 May 2012.
- Dr U.C. Sood (Head, Division of Sample Survey, IASRI, New Delhi) visited Bangkok, Thailand from 13 to 18 May 2012 for attending FAO-AFMA Workshop on 'Regional Workshop on Sampling for Agricultural Censuses and Survey'.
- Dr A.K. Singh (DDG, NRM) visited Kandy, Sri Lanka on 1 June 2012 for participation in Mid-term Review Meeting of SAARC-Australia project on 'Developing Capacity in cropping systems modeling to promote food security and the sustainable use of water resources in South Asia'.
- Dr M.M. Pandey [DDG (Agriculture Engineering)] visited Bangkok, Thailand from 15 to 16 May 2012 for participation in the Asia Pacific Network for testing Agricultural Machinery 'ANTAM' Technical Working Group and Steering Committee Meeting at Bangkok and FAO/APACAEM meeting on sustainable Agricultural Mechanization in Asia on 17 May 2012.
- Dr N. Subash (Senior Scientist, Agromet) and Dr Mohammad Shamim, (Scientist, Agromet), PDFSR, Modipuram, Meerut) visited Kandy, Sri Lanka from 26 May to 1 June 2012.
- Dr P. Vijaya Kumar (Senior Scientist, Agricultural Meteorology, CRIDA, Hyderabad) visited Kandy, Sri Lanka from 26 May to 1 June 2012 .
- Dr. P.K. Mahapatra (Senior Scientist, Agro-Forestry, NRM); Dr Anup Das (Senior Scientist, Agronomy; and Dr B.U. Choudhury (Senior Scientist, Soil Science, NRM, ICAR Research Complex for NEH Region, Umroi Road, Umiam, Meghalaya) visited Kandy, Sri Lanka from 26 May to 1 June 2012 for attending the SAARC Agriculture Centre organized Pre-Workshop, Second Training Workshop and Midterm Review Meeting of SAARC-Australia project on

- 'Developing capacity in cropping systems modeling to promote food security and the sustainable use of water resources in South Asia'.
- Dr Dipaka Ranjan Sena (Senior Scientist, SWCE, CSWCR&TI, Dehra Dun) visited Kandy, Sri Lanka from 26 May to 1 June 2012.
 - Dr R. Jeyabaskaran (Senior Scientist, CMFRI, Cochin) visited Phuket, Thailand from 30 to 31 May 2012 for participation in Regional Workshop on 'Strategic Action Programme Fisheries Indicator'.
 - Dr R.K. Yadav (Principal Scientist, CSSRI, Karnal) visited Kandy, Sri Lanka from 26 May to 1 June 2012.
 - Dr P.K. Mahapatra (Senior Scientist, Agro-Forestry, NRM); Anup Das, (Senior Scientist, Agronomy) and Dr B.U. Choudhury (Senior Scientist, Soil Science, NRM, ICAR Research Complex for NEH Region, Umroi Road, Umiam, Meghalaya) visited Kandy, Sri Lanka from 26 May to 1 June 2012.
 - Dr Malavika Dadlani (Joint Director, IARI, New Delhi) visited *Punta del Este*, Uruguay from 29 October to 1 November 2012 for participation in the Global Conference on 'Agricultural Research for Development'.
 - Dr Ramesh Chand (Director, NCAP, Pusa, New Delhi) visited *Punta del Este*, Uruguay from 29 October to 1 November 2012 for participation in the Global Conference on Agricultural Research for Development.
 - Dr S. Ayyappan (Secretary, DARE and Director General, ICAR) visited Uruguay from 29 October to 2 November 2012 to participate in IInd Global Conference on 'Agricultural Research for Development' (GCARD-II) followed by Fund Council VIIIth Meeting.
 - Dr Jitendra Kumar Sundaray (Principal Scientist, CIBA, Chennai) visited Dhaka, Bangladesh from 7 to 12 November 2012 for attending the Challenge Program on 'Water and Food Meeting on Aquaculture and Homestead'.
 - Dr Bir Pal Singh (Director, CPRI, Shimla) visited CIP Hqrs. Lima, Peru from 19 to 23 November 2012 to attend meeting of Board of Trustees of CIP.
 - Dr Dhiman Burman (Senior Scientist), Dr S. Subhasis Mandal (Senior Scientist) and Dr S.K. Sarangi (Senior Scientist, CSSRS Regional Research Station, West Bengal) visited Bangladesh from 7 to 12 November 2012 for participation in the review and planning workshop of CPWF-G2 Project.
 - Professor S.K. Datta (DDG, Crop Science) visited Mexico from 12 to 15 November 2012 to attend the Wheat Yield Consortium Funders Conference.
 - Dr Yashpal Singh Sahrawat (Senior Scientist, IARI, New Delhi) visited Sri Lanka from 12 to 16 November 2012 for participation in the Agricultural Model Inter-comparison and Improvement Project, South Asia Kick-off Workshop.
 - Dr B. Gangwar (Project Director), Dr Harbir Singh (Principal Scientist) and Dr N. Subhash (Senior Scientist of PDFSR, Modipuram) visited Colombo, Sri Lanka from 12 to 16 November 2012 to attend the Agricultural Model Inter-comparison and Improvement Project, South Asia Kickoff Workshop.
 - Dr R.K. Sharma (Principal Scientist, DWR, Karnal) visited Mexico from 14 to 17 November 2012 for participation in the International Wheat Initiative's Ist meeting of the Institutions' Coordination Committee (ICC) and a follow up discussion on Wheat CRP activities (16 to 17 November 2012).
 - Dr M.M. Mustaffa (Director) visited Taiwan from 19 to 24 November 2012 and Dr Thengavelu (Senior Scientist) and Dr M.S. Saraswathi (Senior Scientist) visited Taiwan from 19 to 22 November 2012 to participate in the International Banana Symposium.
 - Mrs Sumita Dasgupta [Under-Secretary (CG), DARE] visited Philippines from 19 to 24 November 2012 for participation in the training Leadership Course for Asian and African Women for Research and Extension.
 - Dr V.K. Gupta (ICAR National Professor, IASRI, New Delhi) visited United Kingdom from 26 to 28 November 2012 to attend the CRP 1.1 Dryland systems-Integrated agricultural production systems for the poor and vulnerable in dry areas of the CGIAR meeting.
 - Dr B.P. Singh (Director), Dr Sanjeev Sharma (Senior Scientist) and Dr S. Sundaresha (Scientist, CPRI, Shimla) visited Dhaka, Bangladesh from 28 to 29 November 2012 for participation in the Workshop on 'Biotechnology for Food Security and Farmer Prosperity and ABSP-II Potato Partners Meeting'.
 - Dr P.P. Thirumalaisamy (Scientist, Plant Pathology, Directorate of Groundnut Research, Junagarh) visited Bangkok, Thailand for attending the working group meeting of Asia on 'Groundnut Bacterial Wilt and *Sclerotium* Stem for disease' from 11 to 12 December 2012.
 - Dr T.K. Srinivasa Gopal (Director, Central Institute of Fisheries Technology) visited Colombo, Sri Lanka from 3 to 5 December 2012.
 - Dr Himanshu Pathak (Senior Scientist, IARI, New Delhi) visited Doha, Qatar from 26 November to 8 December 2012.
- The International visits of DARE/ICAR personnel visited on International deputation and trainings are given in Annexure XII.

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