



6. Partnership and Linkages

The International Cooperation in ICAR/DARE has been operating through the Memoranda of Understandings/Work Plans signed with several countries/international organizations with ICAR/DARE as the Nodal Department, and through participation of ICAR/DARE in the Memoranda of Understandings (MoUs)/Work Plans signed by the Department of Agriculture and Cooperation as Nodal Department. Besides, 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 activities of the International Co-operation are mainly carried out under Memoranda of Understandings (MoUs)/Agreements/Work Plans were signed by the several international organizations/countries etc. This Division organizes visits of foreign national under “*Ad hoc* categories” and receives proposals for customized training courses of foreign national.

- Memorandum of Understanding between ICAR and Brazilian Agricultural Research Corporation, Brazil was signed on 6 July, 2005.



Dr Mangala Rai, Director-General, ICAR (in the centre) signing the Joint Declaration with USDA in New Delhi in the presence of Shri Sharad Pawar, Union Agriculture Minister

- DARE/ICAR has single file system and has got signed mainly 3 Memoranda of Understandings with Brazilian Agricultural Research Co-operation, Brazil; Government of Republic of Afghanistan; and United States Department of Agriculture.
- During the reported period Indo-Collaborative Projects (18) were signed with France, USA, UK, German, European Union, Switzerland etc.
- The 36 proposals of deputation relating to collaborative projects activities of foreign countries were approved during the reported period.
- During 2005 Indian scientists (102) were approved to go on deputation.
- The Secretary (DARE) and DG, ICAR visited Israel as a part of Minister of Agriculture delegation from 13 to 16 November 2005 to attend Xth Commemorative anniversary of the assassination of the (late) Prime Minister, Yitzhak Rabin and also to participate in the bilateral meetings with Israeli Agriculture Minister and others on Dairy Farms and Horticultural Projects.
- Fourteen VIP visited India under VIP delegations. Among them President of Walloon Parliament at Nimur in Belgium, Vice Minister of Education of Ethiopia etc. visited India.
- The Minister of Rural Rehabilitation and Development, Afghanistan; and Minister of Agriculture, Water and Forestry, Namibia also led their corresponding delegations.
- The Directors-General of International Rice Research Institute, Manilla; Food and Agricultural Organization, Rome; International Food Policy Research Institute (IFPRI), USA; and Ex-Director-General of IFPRI, USA also visited at DARE/ICAR.
- Indian scientists also visited to foreign countries, viz. Russia, Brazil, Egypt, Myanmar, Nepal etc. for attending conferences, higher studies, workshops etc.
- DARE/ICAR has also hosted (6) delegations from Russia, Nepal, Uzbekistan, etc.
- DARE/ICAR deputed 26 Indian scientists abroad for participation in workshop, conferences, trainings, symposium, etc. in Indonesia, Thailand, Austria, China, Swetzerland, Iran, Bangkok etc.
- DARE/ICAR has deputed 35 scientists/technical officials/officers abroad for attending trainings/research work/overseas associatesship/post doctoral fellowship/higher studies/availing scholarship etc.
- During 2005 DARE has approved 102 scientists to go on deputation.



- Memorandum of Understanding between the Government of the Republic of India and the Government of the Republic of Afghanistan in the agricultural research and education was signed during the visit of Prime Minister to Afghanistan from 28 to 29 August, 2005.
- Joint Declaration of the Ministry of Agriculture, Government of India, and the United States Department of Agriculture regarding support for a India-United States Knowledge Initiative on Agricultural Education, Research, Service and Commercial Linkages was signed on 12 November, 2005.

During the reported period 18 foreign aided collaborative projects were received. However, following projects were approved for implementation by the various Institutes of the ICAR.

International Development Research Council Project

The project, 'Evaluation Capacity Building in Rural Resource Management, a pilot Action Research on Programme Evaluation', was launched for 15 months w.e.f. 1st October, 2005. The project is being implemented by IARI, New Delhi. The aim of the project is to build programme evaluation capacity among rural resource management programme staff in the South-Asian Region through development of cadre of evaluators who will be willing to and able to conduct evaluation of educational and/or development programmes through the trained approach. The total cost of the project is Canadian \$26,500 and is being funded by International Development Research Council.

Indo-French Collaborative Project

Use of DNA Markers (AFLP) for genetically improving the Productivity, Palatability, Storability and Dry-matter content of Tubers of Greater Yam is launched for 3 years w.e.f. 1 August 2005 and is being funded by Indo-French Centre for the Promotion of Advanced Research (IFCPAR), a joint organization of Government of India and France. The participating Institute of India is Central Tuber Crops Research Institute (CTCRI), Thiruvananthapuram, Kerala, and from France, the collaborating Institute is CIRAD. The project aims at genetic improvement of vegetatively propagated greater yam through the integrated techniques of biotechnology and conventional breeding recently developed by the institutes, viz. CIRAD and CTCRI. The Central Tuber Crops Research Institute is to get Rs. 2.168 million for implementing the project.

International Atomic Energy Agency (IAEA) Research Project

The Project "Identification and pyramiding of genes for improving salt tolerance and seed yield in Indian mustard (*Brassica juncea* L.) under salinity stress is on progress. It was launched

for 5 years w.e.f. December 2004 and is being renewed by IAEA on year to year basis. The Central Soil Salinity Research Institute, Karnal is implementing the Project. The overall objective of the project is the development of high-yielding, salt-tolerant cultivars of Indian mustard (*Brassica juncea* L.) by combination of conventional breeding, induced mutation and marker assisted breeding approaches. The funding by IAEA is Rs 329,796 million.

Indo-German Projects

- The project "Application of Molecular Markers to Broaden the Genetic Base of Tomato for Improved Tropical Adaptation and Durable Disease Resistance" is being funded by German Government under the umbrella network of South-Asian Vegetable Research Network, and is being executed through Asian Vegetable Research and Development Centre (AVRDC), Taiwan for 3 years w.e.f. 1 March, 2004. The collaborative institute of India is Indian Institute of Horticultural Research (IIHR), Bangalore. The total cost of the project is Euro 1,200,000 and India will be getting 93000 Euro. The project aims to improve heat tolerance, yield and multiple disease resistance of tropical tomato cultivars through application of molecular marker technique that permits effective exploitation of wild species and to make material available for use of National Agricultural Research System and private sector and adaptation by vegetable farmers.
- The Agency for Technical Cooperation in German language *Gesellschaft für Technique Zusammenarbeit* (GTZ) project 'Development of locally adapted, multiple disease resistant, high-yielding chili (*Capsicum annum* L.) cultivars for targeted countries in Asia' is in the second phase and is for 3 years w.e.f. 1 April, 2005. The Indian Institute of Horticultural Research, Bangalore is implementing this project, which is being funded by German Government under the South-Asian Vegetable Research Network and is being executed through Asian Vegetable Research and Development Centre (AVRDC). The budget meant for the Institute is 61,100 Euro. The project is to focus on the development of locally adopted multiple disease resistant chilly varieties in countries where the chili crop is economically important.

Indo-European Project

The project "Molecular, Environmental and Nutritional Evaluation of Bambara Groundnut for Food Production in Semi-Arid Africa and India" is being funded by European Union under their 6th Framework Programme (FP 6) on Research in all 8 countries, viz. UK, Denmark, German, Botswana, Ghana, Namibia, Tanzania and India for 48 months. From India, the collaborating institutes are National Research Centre on Groundnut, Junagarh,



Gujarat; University of Agricultural Sciences, Bangalore; and Central Arid Zone Research Institute, Jodhpur. Total funding, to be received by the 3 Indian collaborating centres, is to the tune of 305,628 Euro. The objective of the research at NRC on Groundnut is (i) to identify the traits associated with WUE and or drought tolerance and analysis of QTLs; (ii) to improve WUE under field situations in relation to crop canopy architecture and RUE, and to study the mechanism of cross tolerance i.e. drought and heat stress.

CFC/DFID/APCC/FAO Projects

- The 'Coconut Integrated Pest Management' project aims at developing packages of Integrated Pest Management (IPM) techniques using easily obtainable materials which can conveniently be applied by coconut small holders. Nine countries including India are participating in the project. The total cost



Mr Jacques Diouf, Director-General, FAO is in discussion with Dr Mangala Rai, DG, ICAR in a meeting held in New Delhi. Ms Sushama Nath, Secretary, ICAR also attended the meeting

of the project is US \$1,467,500 and financing by the CFC is US \$ 801,050 and co-financing from Department For International Development (DFID) Crop Protective Programme is to the tune of the US\$225,000. The contribution of India is US \$ 86,500 which is in kind. India will be provided US \$ 86,550 from the project funds for implementing the project. The project is being implemented by Central Plantation Crops Research Institute, Kasaragod, Kerala.

Indo-Swiss Collaborations

- The Directorate of Wheat Research, Karnal, and Institute of Plant Biology, University of Zurich, Switzerland are participating in the Biotechnology Project on "Enhancing genetic resistance against stripe and leaf rust using molecular markers in wheat adapted to the moisture stress raising". The nodal agency for funding this Swiss counterpart is SDC, Government of

Switzerland. The Department of Biotechnology is funding Indian counterpart. The total cost of the project of Directorate of Wheat Research, Karnal is Rs.2.394 million and the project is for 3 years w.e.f. December 2004. The objectives of the project areas (i) broadening resistance base against leaf and stripe rusts, using molecular markers linked to effective resistance genes (Lr34, Lr37, Yr10 and Yr15) in genotypes adapted to the rainfed areas; and (ii) study on the genomic region around Lr34 in selected Indian wheat lines to rapidly identify a marker (in collaboration with University of Zurich).

Collaborative Research Programme

Dr Lal Krishna, [(ADG, (Animal Health), ICAR)] and Dr D. Swarup, (Head, Division of Medicine, IVRI, Izatnagar) were deputed to South Africa to discuss collaborative research programme on "Safety, testing of Diclofenac and Alternative NSAID *vis-à-vis* decline in vulture population".

Global Environment Facility Project

Dr J.S. Samra, [(DDG (NRM), ICAR)] was deputed to participate in the Final Project presentation of the Global Environment Facility (GEF) Project on "Assessment of Soil Organic Carbon Stocks and Change at National Scale" held at UNEP (headquarters), Nairobi, Kenya from 23 to 27 May, 2005.

GTZ Funded Project

Dr S.D. Shikhamany, (Director, IIHR,, Bangalore) and scientist (5) were deputed for participation in the Phase II Planning Workshop of the GTZ funded project on "Development of locally adapted, multiple disease-resistant, high-yielding chili (*Capsicum annum* L.) Cultivars for targeted countries in Asia" was held in China from 16 to 21 May, 2005.

Watershed Modelling Project

Dr V.N. Sharda, (Director) and Dr.P.R. Ojasvi, (Senior Scientist), both from CSWCR&TI, Dehra Dun were deputed to McGill University, Canada to work on Watershed Modeling Project under the Shashtri Applied Research Project (SHARP), on "Environmental Impact Assessment of community Based Water Resources Management Projects in Uttanchal" from 29 July to 12 August, 2005.

DARE/ICAR also look after foreign delegations to India, delegations hosted, Indians to foreign delegations, and Indian Scientists to foreign countries.

Foreign delegations to India

- His Excellency Dr Teshome Yizengaw, Vice Minister of Education



of Ethiopia and Prof. (Dr) Belay Kassa, President of Alemaya University, Ethiopia, met Dr Mangala Rai, Secretary (DARE) and Director-General (ICAR), and other senior officers on 19 May 2005.

- Mr Jose Happart, President of the Walloon Parliament at Nimur in Belgium met Dr Mangala Rai, Secretary (DARE) and Director-General (ICAR), and other senior officers on 24 May 2005.
- Dr. R. Ziglet, Director-General, International Rice Research Institute, Manila, Philippines met Dr Mangala Rai, Secretary (DARE) and Director General (ICAR), on 22 June 2005.
- His Excellency Dr Abdolmahdi Bakshandeh, Deputy Minister of Agriculture, Planning and Finance, Government of the



Dr Abdolmahdi Bakshandeh, Dy. Minister of Agriculture, Planning and Finance, Govt. of Iran meeting with Dr Mangala Rai, Secretary (DARE) and DG, ICAR

Islamic Republic of Iran, and accompanied delegation visited ICAR (Hq), and Indian Agricultural Research Institute, New Delhi on 12 August 2005

- Dr Jacques Diouf, Director-General, Food and Agriculture Organization, Rome, visited Indian Agricultural Research Institute/ National Research Centre on Plant Biotechnology/ National Bureau of Plant Genetic Resources, National Agricultural Science Museum, and ICAR (Hq), New Delhi on 5 September 2005.
- His Excellency Mr Arturo Barrera, Deputy Minister of Agriculture, Chile, accompanied by 4-member delegation visited Indian Agricultural Research Institute (IARI), and National Bureau of Plant Genetic Resources, New Delhi on 12 September 2005.
- His Excellency Dr Nil Okai Hammond, Deputy Minister of Food and Agriculture, Ghana visited Central Tuber Crops Research Institute, Thiruvananthapuram on 13 September 2005.
- His Excellency Mr Haneef Atmar, Minister for Rural Rehabilitation and Development, Afghanistan, visited IARI, New Delhi from 3 to 5 October 2005.
- His Excellency Mr Han Chang On, Ambassador E and P, Embassy of the Democratic Peoples' Republic of Korea and accompanied

officials visited to IARI, New Delhi on 30 September 2005.

- Dr Joachim VonBraun, Director-General, International Food Policy Research Institute, USA met Dr Mangala Rai, Secretary (DARE) and Director-General (ICAR), on 20 October 2005.
- Dr Geoff Hawtin, Ex-Director-General, International Food Policy Research Institute, USA met Dr Mangala Rai, Secretary (DARE) and Director-General (ICAR), on 20 October 2005.
- Dr J.B. Penn, Under-Secretary for Farm and Foreign Programs, United States Department of Agriculture (USDA), USA, visited to a village organized by IARI, New Delhi on 13 November, 2005, and at ICAR (Hq) on 12 November 2005.
- His Excellency Mr Carlos Agostinho Do Rosario, High Commissioner of the Republic of Mozambique, New Delhi visited Water Technology Centre, Indian Agricultural Research Institute, New Delhi on 28 November 2005, and Central Research Institute for Dryland Agriculture, Hyderabad from 2 to 3 December 2005.
- His Excellency Dr Nickey Iyambo, Minister of Agriculture, Water and Forestry of Namibia accompanied by delegates (3) visited Indian Agricultural Research Institute, National Bureau of Plant Genetic Resources, and National Agricultural Science Museum, all in New Delhi on 5 December 2005.

Delegations hosted

- Dr Korinets Valentin, Director, (All-Russia Research Institute of Irrigating Vegetable Growing and Melon Production, Astrakhan, Russia) visited Central Institute for Post-harvest Engineering and Technology, Ludhiana from 26 April to 1 May 2005, for study in the field of "Research on power saving processing technology of vegetable and melon crops" under ICAR-RAAS Work Plan for 2004-2005.



Dr Jacques Diouf, FAO Director-General visiting the hall of Institutes of Veterinary Science. Dr S Ayyappan, DDG (Fisheries) has also accompanied the dignitary



- Shri Govinda P.Koirala, Shri Dhruv P.Subedi, Shri Bashant K.Pondeya, Shri Dev Raj Dhakal and Shri Sanjib K.Lamichhine (from Nepal Agricultural Research Council, Nepal) visited National Academy of Agricultural Research Management, Hyderabad from 12 to 16 September, 2005 for training in the field of “Administration/Finance Management” under ICAR-NARC Work Plan 2003–04 (extended upto 31.12.2005).
 - Dr Nasikov Vladimir Vyacheslavovich, (Principal Scientist, All-Russia D.N. Pryanishnikov Scientific Research Institute of Agrochemistry, Moscow, Russia) visited Indian Institute of Soil Science, Bhopal from 13 to 22 September 2005, for study in the field of “Development of ecologically safe fertilizers for long-term activity on a base of agropolymers” under ICAR-RAAS Work Plan for 2004–2005.
 - Dr Nomozov Shodmon Eregashevich, (Senior Research Fellow, Uzbek Scientific and Research of Cotton Selection and Seed Farming, Uzbekistan) visited National Bureau of Plant Genetic Resources, New Delhi, and Central Institute for Cotton Research, Nagpur from 22 to 27 November 2005, for study in the field of “Cotton Genetic and Growing” under the Work Plan for 2004 extended up to 31 December 2005.
 - Dr Mirzaev Mirmaksud Makhmudovich, (Director-General, Scientific and Production Corporation of Horticulture and Wine Making), Dr Avakov Valeriy Sergeevich, (Director, Experimental Winery No. 2 under Scientific and Production Corporation of Horticulture and Wine Making), and Dr Saiddjaliev Bekzad Rashidovich, (Director, Sharob Scientific Research and Production Enterprise under Scientific and Production Corporation of Horticulture and Wine Making, Uzbekistan) visited Indian Institute of Horticultural Research, Bangalore, and National Research Centre for Grapes, Pune from 7 to 16 December 2005, for study in the field of “Cotton Genetic and Growing” under the Work Plan for 2004 extended up to 31 December, 2005.
 - Dr Yusupov Suratbek, (Director, Uzbek Scientific and Research Institute of Astrakhan Breeding and Desert Ecology, Uzbekistan) visited Central Sheep and Wool Research Institute, Avikanagar and Central Institute for Research on Goats, Makhdoom from 13 to 17 December 2005, for study in the field of “Cotton Genetic and Growing” under the Work Plan for 2004 extended up to 31 December 2005.
- Indians to foreign delegations**
- Dr Ashwani Kumar [Project Coordinator (APA), Central Institute for Post- Harvest Engineering and Technology, Ludhiana] visited All-Russia Research Institute of Plant-Protection, St. Petersburg, Russia from 18 to 27 April 2005, for study in the field of “Protected Cultivation” under ICAR-RAAS Work Plan for 2004–2005.
 - Dr Nitin Virmani, [Scientist (Sr. Scale), National Research Centre for Equines, Hisar], and Dr. S. Nagarajan, (Scientist, High Security Animal Diseases Laboratory, Bhopal) visited All-Russia Research Institute of Veterinary Virology and Microbiology, Pokrov, Russia, from 25 April to 1 May 2005, for study “Epizootology Diagnostics and Vaccines for exotic animal diseases” under ICAR-RAAS Work Plan for 2004–2005.
 - Dr R.K. Sethi, (Principal Scientist and Incharge, Network Project on Buffaloes, Central Institute for Research on Buffaloes, Hisar) and Dr. Avtar Singh, (Senior Scientist, National Dairy Research Institute, Karnal) visited Agricultural Research Centre, Egypt for 4 weeks from 23 May to 20 June 2005, for training in the field of “Buffalo Breeding and Husbandry” under Indo-Egyptian Work Plan for 2004–2005.
 - Dr M.P. Sharma, (Principal Scientist, Indian Institute of Sugarcane Research, Lucknow) visited Cuba from 30 May to 13 June 2005, to study the latest technology in the field of sugarcane by-products development and utilization.
 - Dr R.K. Sethi, (Principal Scientist, Central Institute for Research on Buffaloes, Hisar) visited Brazil from 5 to 8 July, 2005, as a member of the delegation led by Hon’ble Agriculture Minister.
 - Dr P.G. Adsule, (Director, National Research Centre for Grapes, Pune) visited All-Russia Scientific Research Institute of Brewery, Non-alcoholic and Wine-Making Industry, Moscow, from 20 to 27 July 2005, for study in the field of “Technologies in Sparkling Wine-making” under ICAR-RAAS Work Plan for 2004–2005.
 - Dr Ranbir Chhabra, (Principal Scientist, Central Soil Salinity Research Institute, Karnal) visited All-Russia A.N. Kostyakov Scientific Research Institute of Hydrotechnique and Melioration, Moscow, Russia from 21 to 30 July 2005, for study in the field of “Bio-amelioration for saline and alkaline soil” under ICAR-RAAS Work Plan for 2004–2005.
 - Dr S. Ayyappan, [DDG (Fisheries)], and Dr R.K. Mittal, [(Principal Scientist, TC), both from ICAR (Hq), New Delhi] visited Myanmar for participation in ASEAN - India Consultation on Agriculture held at Mandalay, Myanmar on 27 July, 2005.
 - Dr K.S. Khokhar, [ADG (PIM), ICAR (Hq), New Delhi] visited Argentina from 28 to 30 July 2005 as a member of the delegation led by Minister of State (Agriculture).
 - Dr M. Madhu [(Sr. Scientist), Central Soil and Water Conservation Research and Training Institute, Research Centre, Udhagamandalam] visited Nepal from 7 to 16 August 2005, for study in the field of “Sloppy Land Management under ICAR-NARC Work Plan for 2003–2004.
 - Dr D.G. Dhandar, (Director) and Dr O.P. Awasthi, [(Senior Scientist, Horticulture), Central Institute for Arid Horticulture,



Bikaner] visited R.R. Shredder Uzbek Scientific and Research Institute of Horticulture, Viticulture and Wine-making, Uzbekistan, from 11 to 17 August 2005, for study in the field of “Horticulture (Fruits) in arid region - Variety Study/ Horticulture (Fruits) Management” under Work Plan for 2004 extended up to 31 December, 2005.

- Dr Desh Beer Singh [(Sr. Scientist), Central Institute of Post-harvest Engineering and Technology, Regional Station Abohar] and Dr I.N.D. Gowda, [(Sr. Scientist Post-harvest technology), Indian Institute of Horticultural Research, Bangalore,] visited All-Russia Selection and Technological Institute of Horticulture and Plant Nursery, Moscow, Russia from 10 to 19 September 2005, for study in the field of “Post- harvest Management of Horticulture Produce” under ICAR-RAAS Work Plan for 2004–2005.
- Dr T.S. Aghora, [(Senior Scientist, Vegetable Crops), Indian Institute of Horticultural Research, Bangalore] visited All-Russia Scientific Research Institute of Breeding and Seed Production of Vegetable Crops, Moscow and All-Russia Scientific Research Institute of Vegetable Production, Moscow, Russia from 10 to 19 September 2005, for study in the field of “Resistance/heterosis breeding in vegetable crops” under ICAR-RAAS Work Plan for 2004–2005.
- Dr Suresh Kumar Tandon, [ADG (Agricultural Engineering, ICAR (Hq), New Delhi) visited Uzbekistan from 25 September to 1 October 2005, for study in the field of “Agricultural Machinery - Test of Cotton Sowing and Cotton Picking Machines” under Work Plan for 2004 extended up to 31st December, 2005.
- Dr S. Rajan, [(Senior Scientist), Central Institute of Sub-tropical Horticulture, Lucknow] visited Nepal Agricultural Research Council, Nepal for study in “Production and Management of Fruits and Vegetables” under ICAR-NARC Work Plan for 2003–04.(extended upto 31 December 2005) from 02 to 06 October, 2005.
- Dr L.K.Sinha, [(Senior Scientist), Central Institute of Agricultural Engineering, Bhopal] visited Agricultural Research Centre, Egypt from 1 to 14 October, 2005, for study “Soybean Procoessing and diet food production” under Indo-Egypt Work Plan for 2004–05.
- Dr B.Rai [(Senior Scientist), Central Institute of Research on Goats, Makhdoom, Mathura] visited Nepal Agricultural Research Council, Nepal for study in the field of Goat Management under ICAR-NARC Work Plan for 2003–04(extended up to 31 December 2005) from 14 to 18 November 2005.
- Dr Prem Kumar, (Scientist) and Shri R.S.Haldar, [(Farm Manager(T–5), National Research Centre on Coldwater Fisheries, Bhimtal] visited Nepal Agricultural Research Council, Nepal for study in the field of “Trout Farming” under ICAR-NARC

Work Plan for 2003–04 from 12 to 16 December, 2005.

- Dr J.S. Samra, [DDG (NRM), ICAR,(Hq), New Delhi] and Dr R.S. Mertia, [(Head), CAZRI Regional Research Station, Jaisalmer, Rajasthan] visited Iran for finalization of collaborative research programme sand dune stabilization and upgradation/ improvement of range lands and degraded lands under the Work Plan for 2004–2005 from 10 to 18 November 2005.
- Dr Mangala Rai, [Secretary, (DARE) and Director-General (ICAR)] visited Israel as part of Minister of Agriculture’s delegation from 13 to 16 November 2005 to attend the 10th Commemorative anniversary of the assassination of (Late) Prime Minister, Yitzhak Rabin, and also to participate in the bilateral meetings with the Israeli Agriculture Minister and other officials and to visit important Agriculture Research Centres, Dairy Farms and Horticultural Projects.
- Dr H.S. Nainawatee, [(ADG (HRD-II), ICAR (Hq), New Delhi)] visited Rome to participate in the 33rd Session of the Food and Agriculture Organization Conference from 21 to 23 November, 2005.
- Dr Mangala Rai [Secretary (DARE) and Director-General (ICAR)], accompanied by Dr S.L. Bhat [Joint-Secretary (Seeds, Crops and TMOP), DAC]; Ms Gaitri I. Kumar, [Director (AMS), MEA]; Dr P.L. Gautam [Vice-Chancellor, GBPUA&T, Pantnagar]; Dr S.D. Sundar Singh, (Vice-Chancellor, TNAU, Coimbatore), and Dr M.P. Yadav [Director, IVRI, Izatnagar], visited New York/Washington, USA for participation in the 1st Board Meeting of the Knowledge Initiative Board for Agriculture and to visit relevant Agricultural Business Units/Research Centres/Universities from 12 to 16 December 2005.

Indian Scientists to foreign countries

- Dr S Ayyappan, [DDG (Fisheries), ICAR] visited from 10 to 13 May, 2005 for participation in the “World Aquacultures, 2005 Conference and Exposition” at Bali, Indonesia
- Dr P S Minhas, (Director, CSSRI, Karnal) visited from 18 to 21 April 2005 participation in the FVAO mid-term Workshop on “Integrated Management for Sustainable Use of Low fertility and Salt Affected Soils in Rainfed Agriculture including Salt Affected Soils Coastal Areas” at Thailand.
- Dr A.K.Garg, (Principal Scientist, NRL, IARI, New Delhi), visited from 9 to 13 May, 2005 for participation in the International Conference entitled “FAO/IAEA International Conference on Area-wide Control of Insect Pests Integrating the Sterile Insect and Related Nuclear and Other Techniques” at Austria.
- Dr K V Prabhu, (Scientist, IARI, New Delhi) visited to Swaziland in Africa for 3 weeks as an FAO expert w.e.f. 11 May 2005; (Expenditure by IAEA).



- Dr Suresh Chandra (T-5) and Dr Bibhudatta Mishra (T-2) from Central Institute for Freshwater Aquaculture, Bhubaneswar, visited China from 15 May to 13 August, 2005 for participation in the Training Course on 'Integrated Fish Farming in China'.
- Dr Anjani Kumar, (Scientist (SS), NCAP, New Delhi) visited to International Livestock Research Institute (ILRI), Regional Office, New Delhi for 2 years on deputation basis as Agricultural Economist.
- Dr Abraham Verghese, (Principal Scientist, IIHR, Bangalore) visited Switzerland from 12 to 16 September 2005 for participation in the "2nd International Symposium on Biological Control of Arthropods " at Pavos, Switzerland
- Dr I D Garg (Head, Plant-Protection, CPRI, Shimla) visited Scotland, UK, from 12 to 16 September 2005 as a member of Expert Working Group of FAO- Exp by European Plant Protection Organization (EPPO)
- Dr R G Agarwal (Senior Scientist, NBPGR, New Delhi) visited from 29 August to 2 September 2005 to attend a Workshop on "In situ Conservation" and a training Course on GLS in the FAO Regional Office for Asia and the Pacific, Bangkok, Thailand.
- Dr N Sarangi, (Director, CIFA, Bhubaneswar) visited Iran from 27 September to 3 October, 2005 for participation in the "Eight Technical Advisory Committee meeting of NACA", and the "FAO/NACA Regional Workshop to Synthesize the NASC", and develop an prospective analysis of the future Aquaculture Development in Asia in Iran.
- Dr R J Rabindra (Project Director, Project Directorate of Biological Control, Bangalore), visited UK from 22 to 23 September for participation in the Pathways out of Poverty Conference in United Kingdom entitled "Biological Control of *Mikinia micrantha* with *Puccinia spgazzini* at Project Directorate on Biological Control, Bangalore (Expenses by ICAR-CABI collaboration).
- Dr A K Jain, (ADG, ARIS), visited Thailand from 18 to 20 October, 2005 for participation in the Workshop on "Integrating Agricultural Information Systems", Bangkok, Thailand.
- Dr B P Neema, (Principal Scientist, CIAE, Bhopal) visited China, for participation in the "International on Biological Technology for Reduction and Sustainable at China" from 18 to 20 October 2005,
- Dr J L Karihaloo (Director, NBPGR, New Delhi) visited Rome from 26 to 28 October, 2005 for participation in the Third Session of the Inter-governmental Technical Working Group on "Plant Genetic Resources for Food and Agriculture" at Rome, Italy.
- Dr P Sreeramakumar (Senior Scientist, Project Directorate of Biological Control, Bangalore) visited Britain from 22 to 23 September 2005, for participation in the "Biological control of *Mikinia micrantha* with *Puccinia spgazzini* at Project Directorate on Biological Control, Bangalore"
- Dr G Kalloo, [(DDG (Horticulture and Additional Charge of DDG, Crop Science)] visited Bangkok from 7 to 10 November 2005, for participation in the High Level Policy Dialogue on "Biotechnology for Food Security and Poverty Alleviation and APAARI Annual Meeting".
- Dr (Mrs) Gurinder Jit Randhawa, (Senior Scientist, NBPGR, New Delhi) visited to participate in the High Level Policy Dialogue on "Biotechnology for Food Security and Poverty Alleviation and APAARI Annual Meeting" at Bangkok from 7 to 10 November, 2005.
- Dr Ramesh Chand (Acting Director, NCAP, New Delhi), visited Dhaka from 8 to 9 November, 2005 to attend the Programme Committee Meeting of the SAARC at Dhaka (Expenditure of Rs 29,200 was given by DARE).
- Dr J P Mishra [ADG (ESM), ICAR (Hq)], Dr R P Singh (Head, Division of Agricultural Economics, IARI, New Delhi), Dr N P Singh, and Dr Ranjit Kumar [Scientists (IARI, New Delhi)] visited Bogor from 6 to 9 December 2005, for participation in the Regional Workshop on "Rural Prosperity and Secondary Crops" towards Applied Pro-poor Research Policies in Asia and Pacific in Bogor.
- Dr B Mishra (Director, Directorate of Wheat Research, Karnal), and Dr M Prashar (Senior Scientist, Regional Research Station, Shimla) visited Rome from 15 to 16 December 2005, for participation as Wheat Rust Experts in the Expert Workshop on "Breeding and Disease Manpower Strategies for the Prevention and Control of the new Virulent Rae of the Wheat black stem rust" at Rome.
- Dr R C Bhattacharya [(Scientist, (SS), NRC on Plant Biotechnology, IARI, New Delhi)] visited USA for availing 'Biotechnology Overseas Associateship (long-term) award at the Institute of Biological Chemistry, Washington State University, USA for 12 months w.e.f. 1 March 2005 His entire deputation cost including air fare was given by the Department of Biotechnology, New Delhi.
- Dr Ajoy Mandal [(Scientist (SS), NDRI, Karnal)] visited France for availing Post-doctoral Fellowship Position at INRA, France for 12 months w.e.f. 14 March 05. His entire deputation cost including international level was given by Organizer of the Programme.
- Dr A K Mohanty [Scientist (SS), NDRI, Karnal] visited USA for availing Biotechnology Overseas Associateship (Long-term) Award, University of California, USA for 12 months w.e.f. March, 2005. His entire deputation cost including air-fare was given by the Department of Biotechnology, New Delhi.
- Dr P Venkatarami Reddy (Sr.Scientist, IIHR, Bangalore) visited Japan for availing UNU Kirin Fellowship for carrying research



in Biochemical and molecular basis of resistance to collosobruchimchirensissbeans, cowpea and pea germplasm at IFRI, Trukuba, Japan for 12 months w.e.f. April, 2005. His entire deputation cost including air-fare was given by the Department of Biotechnology, New Delhi.

- Dr (Mrs.) Amika Baldev Gaikwad, (Scientist, NBPGR, New Delhi) visited USA for availing Department of Science and Technology's "BOYCAST fellowship for training in the areas of Plant Genetic Resources Characterization" at University of Arizona, USA for 12 months w.e.f. from second half of March, 2005. Her entire deputation cost including international travel was given by the Department of Science and Technology, New Delhi.
- Shri Sandip Gangil (Scientist, Central Institute of Agricultural Engineering, Bhopal) visited Japan for higher studies leading to the award of Ph.D. Programme at Shizuoka University, Japan for 3 years w.e.f. 1 April 2005. His entire deputation cost including international travel will be borne by the Organizer of Course.
- Dr J K Jena, (National Fellow, CIFA, Bhubaneswar) visited to attend an international course on 'Aquaculture Production and Management', in Israel from 16 May to 19 June 2005. His local living cost was given by the Government of Israel, and International air-fare by the Project Water IMB, Bhubaneswar.
- Dr S.L.Ahuja (Sr. Scientist, CICR, Nagapur) visited USA to attend short-term training. on new technology in "Cotton Production Research" under ICAR Research Associate Programme in Washington, USA from 9 to 18 May, 2005. His local living cost was given by the Training Organizers and international travel expenses was given by Dr Ahuja himself.
- Dr M Prabhakar (Scientist, CRIDA, Hyderabad) visited Netherlands to attend Training Course on "Integrated Pest Management and Food Safety" at IAC, Wageningen, the Netherlands from 23 May to 1 July 2005. His entire deputation cost including International air fare(bothways) was given by the Organizers of the Programme.
- Dr (Mrs.) K B R S Visarada (Sr. Scientist, NRC on Sorghum, Hyderabad) visited Netherlands to attend training course on "Design of Plant Breeding Variety protection molecular markersin Plant breeding" at IAC, Wageningen, the Netherlands from 23 May to 1 July 2005. Her entire deputation expenses including international air-fare was given by the Organizers of the Course.
- Dr Jai Gopal, (Principal Scientist, CPRI, Shimla) visited Japan to conduct 2nd spell of research at Graduate School of Agriculture, Hokkaido University, Japan for 10 months w.e.f. 5 July 2005 His entire deputation expenses including air-fair was given by the Organizers of the Course.
- Dr K S Reddy (Senior Scientist, CIAE, Bhopal) visited to attend training on "Agricultural Infrastructure Improvement in Upland Crops Area: in Japan" from 29 May to 20 August 2005. His entire deputation cost including bothway international air-fare was given by the Government of Japan.
- Dr (Ms.) Celia Chalam V (Senior Scientist, NBPGR, New Delhi) visited to attend training in operation and technical discussions on TEM equipment procured by the Bureau under NATP Project at M/s JEO Ltd., Tokyo, Japan from 3 to 10 July, 2005. Her entire deputation expenses including air-fare was given by the Organizers of the Course.
- Sh. Ashok Maurya (Technical Officer, NBPGR, New Delhi) visited to attend training in operation and technical discussions of TEM equipment procured by the Bureau under NATP Project at M/s JEO Ltd., Tokyo, Japan from 3 to 10 July, 2005. His entire deputation expenses including air-fare was given by the Organizers of the Course
- Dr P P Srivastava (Technical Officer, CIFE, Mumbai) visited for availing Biotechnology Overseas Associateship (short-term) award training in the area of "Effect of dietary fish-oil suppression on gene expression profiling in lives of rainbow trout fish" at INRA, France for 6 months w.e.f. September, 2005. His entire deputation cost including air-fair (bothways) was given by the Department of Biotechnology, New Delhi.
- Dr K Narayanan (Scientist, SRS of CSWRI, Kodaikanal, Tamil Nadu) visited for higher studies for Ph. D. programme in Animal Reproduction at Laval University Canada for a period of 3 years from w.e.f. 2 February 2005. His local living cost including tuition fees etc., was given by the concerned Institution in Canada. International air-fare cost was given by the applicant himself.
- Dr Uttam Kumar Mandal, (Scientist, CRIDA, Hyderabad) visited for availing Israel Government Scholarship at Hebrew University for 8 months w.e.f. 8 November 2005 to 8 July 2006. His local living cost including tuition fees etc., was given by the concerned Institution in Canada. International air-fare cost was given by the applicant himself.
- Dr (Ms.) Kamla Venkateswaran, (Senior Scientist, NBPGR, New Delhi) visited Thailand to attend 2 weeks training programme on "Plant Genetic Diversity Analysis and Molecular Marker Assisted Breeding" at Kasetstart University, Thailand from 20 May to 4 September, 2005. Her entire deputation cost including both ways international air-fair was given by the Generation Challenge Programme (GCP) i.e. Organizer of the Course.
- Shri P Hertwin Amala Dhas, (Scientist, SRS of NDRI, Bangalore) visited for Higher studies leading to Ph.D. programme in the subject "Agricultural and Biosystems Engineering" at University of Nebraska-Lincoln, USA for 3 years w.e.f. 15 August, 2005.



His local living cost including tuition fees etc., will be borne by the concerned Institution in USA; and International air-fare cost was given by the applicant himself.

- Dr B K Das (Senior Scientist, CIFA, Bhubaneshwar) visited for availing Biotechnology Overseas Associateship (Long-term) award at Marine Laboratory, Scotland, UK for 12 months w.e.f. 16 November 2005. His entire deputation cost including both ways international air-fare was given by the Department of Biotechnology, New Delhi.
- Dr Parveen Singh [(Scientist, (SS), IVRI, Izatnagar, Uttar Pradesh)] visited for availing of JSPS Post-doctoral Fellowship at Kyushi University, Japan for 24 months w.e.f. 1st week of September, 2005. His all expenses including international air-fare was given by the Fellowship Organizers.
- Dr M Sarkar [(Scientist (SS), NRC for Yak, Dirang, Arunachal Pradesh)] visited to attend training course on 'Embryo Transfer Technology and Andrology' in China w.e.f. 25 August 2005 for 1 month under INSA's Bilateral Exchanges of Scientists Programme. His local living cost was given by host academy in China. International air-fare was given by the applicant himself.
- Dr K K Pal, [(Scientist, (Sr. Scale), NRC on Groundnut, Junagadh, Gujarat)] visited USA to avail Department of Biotechnology sponsored Biotechnology Overseas Associateship (long-term) Award at Ohio State University, Wooster, USA for 12 months w.e.f. 16 November 2005. His entire deputation cost including both ways international air-fare was given by the Department of Biotechnology, New Delhi.
- Dr I Prince Devadasan, (Scientist, NRC on Meat, Hyderabad) visited USA for availing Post-doctoral Fellowship in the area of Muscle biology at University of Texas Medical Branch, Galveston, Texas, USA for 2 years w.e.f. October 2005. His all expenses including air-fare was given by the Fellowship Organizers.
- Dr S Ayyappan [(Deputy-Director-General, (Fy.), ICAR, New Delhi)] visited for participation in Executive Programme entitled "Science and Technology and in fermentation Policy at John G. Kennedy School of Government, Harvard University Massachusetts, USA from 27 November to 2 December 2005. His all deputation cost including air-fare met under HRD training Plan Budget of ICAR, (Hq), New Delhi.
- Dr P K Krishnakumar (Senior Scientist, CMFRI, Research Centre, Mangalore) visited for participation in the training-cum-workshop on Food Security in Hiroshima, Japan from 26 to 30 September 2005. His all deputation cost including air-fare was given by the Training Organizers.
- Dr Suresh Walia (Principal Scientist, IARI, Pusa, New Delhi) will go to attend training in UK from 20 March to 17 June 2006 under INSA's Bilateral Exchange of Scientists Programme

with foreign Academies. His local living cost abroad was given by the host Academy concerned and International air-fare by the applicant.

- Dr Sunil Kumar (Senior Scientist, IGFRI, Jhansi) visited Israel to attend training on Agriculture and Environment Process and practical in soil and water at CINADCO, Israel from 8 to 29 November 2005. His local living cost was given by the Training Organizer and air-fare by the applicant.
- Dr Uma Rao (Senior Scientist, IARI, New Delhi) visited UK for availing short-term course of Department of Biotechnology, "Biotechnology Overseas Associateship award, 2004-05" at the University of Leeds, U K, from 6 January to 5 June 2006. Her entire deputation cost including air-fare was given by Department of Biotechnology.
- Dr Rajender Kumar (Senior Scientist, NRC on Equines, Hisar), visited Japan to attend training course on "Molecular Diagnosis Protozoa Diseases" at University of Agriculture and Veterinary Medicine, Obhiro, Hokkaido, Japan from 10 January to 23 February 2006. His entire deputation cost including air-fare was given by the Organizers of the programme.
- Dr B P Mohanty, [Scientist, Senior, Scale, CIFRI, Barrackpore, Kolkata (West Bengal)] visited for availing Department of Biotechnology's short-term 'Biotechnology Overseas Associateship award, 2004-05' at the University of Aberdeen, U K for 6 months w.e.f. January 2006. His entire deputation cost including air-fare was given by Department of Biotechnology
- Dr S Ayyappan [(DDG (Fisheries), ICAR)] and Dr H S Nainawatee, [ADG (HRD-II), ICAR] visited China from 28 March to April 2005. As a member of Indian delegation led by Hon'ble Agriculture Minister for exchanging successful experiences in agricultural development of the 2 countries and for identifying priorities for agricultural co-operation so as to contribute to the common effort in promoting the continuous development of agriculture.
- Dr Mathura Rai, (Director, IIVR, Varanasi) visited to Argentina from 2 to 14 May 2005 for participation in the "The Asia and Near-East Regional Workshop.
- Dr K C Bansal (Professor and Principal Scientist, NRC on Plant Biotechnology, IARI, New Delhi) visited to Argentina from 19 to 20 May 2005 as a member of Indian delegation of Department of Science and Technology to participate in the Indo-Argentine joint Workshop followed by visit to Research and Development institutions.
- Dr M Sujatha (Senior Scientist, DOR, Hyderabad) visited Novi Sad, Serbia and Montenegro from 17 to 22 July 2005. He was nominated to attend the FAO consultation meeting on Sunflower including visit to the wild species nurseries (Annual and Perennial species).



- Dr Beche Lal (Principal Scientist, NBPGR, New Delhi) visited Japan from 11 to 15 July 2005 as a member of an Indian delegation of Department of Agriculture and Co-operation to discuss phytosanitary issues related to the export of Indian mangoes to Japan.
- Dr Ratan Tiwari, (Senior Scientist, Directorate of Wheat Research, Karnal) was deputed at the University of Zurich, Switzerland for 2 months, from 15 September to 15 November, 2005 for research work relating to Indo- Swiss Collaboration in Biotechnology project on “Enhancing genetic resistance against stripe and leaf rust using molecular markers in wheat adopted to the moisture stress raising”.
- Dr M Kochu Babu, (Director, NRC on Oilpalm, Pedavegi) visited Malaysia from 25 to 29 September 2005 for participation in the Malaysian Palm Oil Board International Palm Oil Congress (PIPOC).
- Dr R P Nachane (Principal Scientist, CIRCOT, Mumbai) visited Liverpool, U K from 25 to 29 September as a member of Indian delegation for the 64th Plenary meeting of the International Cotton Advisory Committee (ICAC) and to present a research paper.
- Dr J S Samra, [(DDG (NRM), ICAR)] visited Nairobi, Kenya from 3 to 7 October 2005 for participation in the 3rd World Congress on “Conservation Agriculture” and to bid for holding of the 4th World Congress on Conservation Agriculture in 2007 in India to showcase achievements realized in the India to steer leadership in Asia.
- Dr M S Sahani, (Director, NRC on Camel, Bikaner), visited Saudi Arabia from 22 to 24 November 2005 for participation in the International Scientific Conference on Camels.
- Dr R K Chowdhury [OSD, Directorate of Seed Research, Mau (Uttar Pradesh)], visited Shanghai, China, from 7 to 10 November 2005 for participation in the Asian Seed Congress including APSA-UPOV workshop.
- Dr C.P.R. Nair, (Head, CPCRI Regional Station, Kayangulam) was deputed for attending second Annual Review Meeting and Mid-term Review of the CFC/DFID/APCC/FAO project on ‘Coconut Integrated Pest Management’ held in Sri Lanka from 13 to 16 December, 2005.