



CSWCRTI News



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आने वाले समय में अपने देश को 'विकासशील' से 'विकसित' की श्रेणी में लाने के लिए आवश्यक है कि हम अपने देश के किसानों, जो कि अधिकतर गरीब हैं, कि समस्याओं पर ध्यान दें। हमारे देश में यह एक विडम्बना है कि गरीब किसान जो दूसरों का पेट भरने के लिए अन्न उपजाते हैं, स्वयं भरपेट नहीं खा पाते हैं। इसका मुख्य कारण देश के लगभग 60 प्रतिशत कृषि भूमि में वर्षा आधारित खेती और पारम्परिक विधियों से कम उपज वाली स्थानीय अन्न प्रजातियों की बुवाई है। केन्द्र एवं राज्य सरकारों ने कृषि उत्पादकता बढ़ाने के लिए समय-समय पर बहुत से कार्यक्रम चलाए हैं, तथा बहुत सी परियोजनाएं काफी हद तक सफल भी रही हैं और कुछ खाद्यान्न फसलों के बारे में हम आत्मनिर्भर होने का दावा भी कर सकते हैं। तथापि, कृषि के क्षेत्र में देश में आई हरित क्रांति मुख्य रूप से महंगी लागतों के साधनों जैसे रासायनिक उर्वरक एवं कीटनाशकों इत्यादि पर निर्भर रही है। अपनी कमजोर आर्थिक स्थिति के कारण हमारे देश का अधिकांश कृषि समुदाय अभी भी इन महंगे साधनों, सुझाई गई खाद की खुराकों आदि के अनुरूप प्रयोग करने में सक्षम नहीं है। उनकी यह अक्षमता हमारे पर्यावरण के स्वास्थ्य, विशेषकर मृदा एवं जल के लिए एक तरह से एक वरदान ही सिद्ध हुई है, क्योंकि इस कारण हमारा पर्यावरण, विशेषकर भूमि एवं जल अवांछित रासायनों से बहुत अधिक प्रदूषित नहीं हुआ है।

वर्तमान परिदृश्य में इन सब बातों का संज्ञान लेते हुए, टिकाऊ पैदावार हेतु मृदा एवं जल के संरक्षण को ध्यान में रखते हुए, जो कि संस्थान का मुख्य उद्देश्य है, संस्थान द्वारा देश के 9 कृषि-पारिस्थितिक क्षेत्रों हेतु विभिन्न फसलों (अन्न, सब्जी एवं फल) के लिए 55 सस्ती, टिकाऊ, किसान एवं पर्यावरण हितैषी तकनीकों विकसित की गई हैं।

संस्थान मुख्यालय, देहरादून द्वारा उत्तर-पश्चिमी हिमालय क्षेत्र के लिए 27 तकनीकों विकसित की गई हैं। उत्तर-पश्चिमी क्षेत्र में पारंपरिक कृषि की तुलना में समेकित पोषक प्रबंध (INM) तकनीक को अपना कर की गई कृषि से प्राप्तियों में दो वर्ष में औसत बढ़ोतरी विभिन्न फसलों में 31.6% से 171.8% के बीच रही। इसी क्षेत्र में सगंध घास आधारित संरक्षण कृषि से अपवाह में औसतन 30% एवं मृदा हानि में 34% की कमी आई। इस क्षेत्र की अवनत भूमि में आम आधारित कृषि बागवानी प्रणाली अपना कर प्रतिवर्ष ₹16,850 प्रति हेक्टर का शुद्ध लाभ प्राप्त हुआ। कृषि-वानिकी से इस क्षेत्र में 7-8 वर्षों के एक छोटे अनुक्रम में सामान्य फसल पैदावार के अलावा एक हेक्टेयर में 400 पाउलोनिआ के वृक्षों से लगभग ₹1.5 लाख की प्राप्ति हुई। ढालू भूमियों में संरक्षण सीढ़ीनुमा वेदिका तकनीक द्वारा अपवाह 36.3% से घट कर 7.4% हुआ एवं मृदा हानि 10.1 टन प्रति हेक्टर से घट कर 1.19 टन प्रति हेक्टेयर हुई। संचित जल से गेहूं की फसल को 3 अनुपूरक सिंचाई देने से फसल उत्पादकता में 23% की बढ़त हुई।

शिवालिक क्षेत्र में स्थित संस्थान के अनुसंधान केन्द्र ने अपराधित शिवालिक क्षेत्र के लिए भूमि उपयोग तकनीकों एवं संचित जल का अनुपूरक सिंचाई के लिए प्रयोग संबंधी तकनीकों विकसित की हैं। अनुसंधान केन्द्र उधमगण्डलम् (तमिलनाडु) ने दक्षिण पर्वतीय उच्च वर्षा क्षेत्र के लिए मृदा एवं जल संरक्षण के साथ-साथ उत्पादकता बढ़ाने वाली तकनीकों विकसित की हैं। नीलगिरी में निर्यात उन्मुख फसलों में समेकित पोषक प्रबंध तकनीकों अपना कर किसानों को प्रति हेक्टर ₹0.51 लाख से ₹1.47 लाख तक की आय हुई। ओडिशा राज्य में स्थित अनुसंधान केन्द्र कोरापुट ने पूर्वीघाट क्षेत्र के लिए रागी + अरहर की अंतर्फसली तकनीक व जल संचय के लिए झोला कुण्डी की सरल एवं सस्ती तकनीक विकसित की है जिसका उपयोग कर कृषक सब्जियों का उत्पादन कर रहे हैं और ₹0.38 लाख से ₹0.58 लाख प्रति हेक्टर की आय प्राप्त कर रहे हैं।

यमुना नदी के बीहड़ग्रस्त क्षेत्र की उत्पादकता बढ़ाने हेतु अनुसंधान केन्द्र आगरा, उत्तर प्रदेश ने तकनीकों विकसित की हैं। बेर उद्यान में वृक्ष अंतः अंतरालों में निचली मंजिल की फसल की तरह ग्वारापाठा (Aloe vera) की खेती द्वारा ₹40 लाख/हेक्टर/वर्ष का अतिरिक्त शुद्ध लाभ प्राप्त किया जा सकता है। अनुसंधान केन्द्र कोटा (राजस्थान) द्वारा दक्षिण-पूर्वी राजस्थान में उत्पादकता स्थिरीकरण/बढ़ाने हेतु विकसित तकनीकों में अच्छे परिणाम दिये हैं। समोच्च खूड़ तकनीक का प्रयोग कर ज्वार+अरहर अंतर्फसली से न केवल पैदावार में स्थिरता आई, अपितु 30% तक वृद्धि भी हुई। गुजरात में स्थित अनुसंधान केन्द्र वासद ने माही नदी के बीहड़ग्रस्त क्षेत्र के लिए कृषि एवं जल संरक्षण तकनीक विकसित की हैं। तम्बाकू के स्थान पर यदि सहजन उगाया जाए तो कुल प्राप्ति ₹18,000 प्रति हेक्टर से बढ़ कर ₹56,500 प्रति हेक्टर हो जाती है। पांच वर्षों में पुनर्भरण छलनी तकनीक द्वारा पुनर्भरण भूमिगत जल (4,05,160 मी) के प्रयोग द्वारा फसल वृद्धि का अनुमानित लाभ लगभग ₹11.25 लाख आंका गया।

लाल मृदा युक्त बूंदेलखण्ड क्षेत्र के लिए अनुसंधान केन्द्र दतिया (मध्य प्रदेश) ने वर्षा जल संचय एवं उपयोग, संसाधन संरक्षण एवं पलवार विधियां एवं लाल मृदाओं हेतु केंचुआ खाद की तकनीक विकसित की है। उप-शुष्क काली मृदा क्षेत्र में स्थित संस्थान के अनुसंधान केन्द्र बेल्लारी (कर्नाटक) ने जल संचय एवं जैव-बाड़ की तकनीकों विकसित की हैं। जैव-बाड़ युक्त खेत में ज्वार की पैदावार में 20 से 26% की बढ़त हुई।

मेरा मानना है कि संस्थान मुख्यालय एवं उसके अनुसंधान केन्द्रों द्वारा विकसित तकनीकों केवल किसानों के लिए ही नहीं, बल्कि राज्य सरकारों के विभिन्न विभागों, गैर सरकारी संगठनों, कृषि एवं प्राकृतिक संसाधन प्रबंधन के प्रशिक्षकों के लिए भी उपयोगी सिद्ध होंगी।

पी.के. मिश्रा



New Initiatives

A Series of Consultancy Projects on Riverbed Mining

- “Pre-feasibility report for extraction of river bed material (RBM) from Malan and Sukhrao rivers under Kotdwara range” under jurisdiction of Divisional Marketing Manager, Uttarakhand Forest Development Corporation, Kotdwara, Uttarakhand.
- “Study of hydrological profile, aspect and impact of extraction of RBM on the hydrological profile of river Sharda (Tanakpur) for the year 2013-14” under jurisdiction of DFO, Haldwani Forest Division, Haldwani, Uttarakhand.
- “Estimation of the annual rate of the sedimentation for permissible limit of minor mineral extraction on specified rivers” under jurisdiction of Regional Manager (Tehri region), Uttarakhand Forest Development Corporation, Dehradun, Uttarakhand.
- “Assessment of sustainably extractable RBM from river Dabka for the year 2013-14” under jurisdiction of Regional Manager, Ramnagar, Uttarakhand Forest Development Corporation, Ramnagar, Uttarakhand.
- “Assessment of sustainably extractable RBM from river Kosi for the year 2014-15” under jurisdiction of Regional Manager, Uttarakhand Forest Development Corporation, Ramnagar, Uttarakhand.
- “Assessment of permissible extraction of RBM from river Gaula during the year 2014-15” under jurisdiction of DFO, TEFD, Haldwani, Nainital, Uttarakhand - MoU submitted.

SWC Activities Advisory through Mobile SMS System

- Suitable soil and water conservation (SWC) activities advisory in hindi language are being regularly sent at weekly intervals through collaboration with “Mobile SMS System of KVK, Datia” covering > 40,000 farmers of District Datia.

Consultancy Project for Reclamation of Chambal Ravine Lands

Memorandum of Understanding (MoU) for consultancy project on “Macro Planning for Reclamation of Ravine Lands for Productive Utilization” has been signed between National Bamboo Mission (NBM), GOI and CSWCRTI.

Important Events

Hon'ble Union Agriculture Minister Visited Dehradun and Haridwar

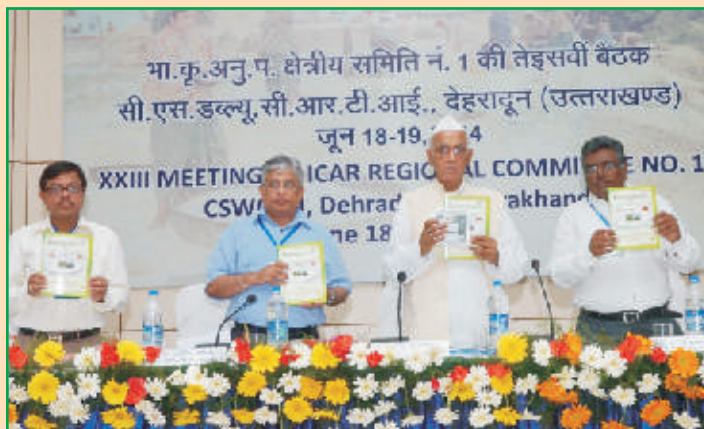
Hon'ble Union Agriculture Minister, Government of India, Shri Radha Mohan Singh visited Haridwar and Dehradun on May 29-30, 2014. Dr. P.K. Mishra, Director, along with the Heads of Divisions, Chief Administrative Officer and other officials received him at Jolly Grant Airport and accompanied him to Haridwar. The Hon'ble Minister had a meeting with officials of central and state government organizations connected with agriculture and allied sectors. Dr. P.K. Mishra apprised him about the ongoing activities of the Institute and future programmes/initiatives. He briefed the Hon'ble Minister about the land lease problem of Research Farm, Selaqui. The Hon'ble Minister was kind enough to give it a patient hearing and provided guidance/instructions for the remediation.



ICAR Regional Committee Meeting Organized at CSWCRTI

The XXIII Meeting of ICAR Regional Committee No. I comprising of Jammu & Kashmir, Himachal Pradesh and Uttarakhand was organized at Dehradun by CSWCRTI during June 18-19, 2014. The meeting was inaugurated by Shri Harish Chandra Durga Pal, Hon'ble Minister for Labour, Khadi and Small Industries, Government of Uttarakhand. The meeting was Chaired by Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR, New Delhi and was attended by Shri Arvind R. Kaushal, Additional Secretary, DARE and Secretary, ICAR; Shri Sudhir Bhargava, Member, Governing Body, ICAR; Deputy Director Generals (DDGs) of ICAR; Vice Chancellors of participating State Agricultural Universities (SAUs), Directors of participating ICAR Institutes; Directors of Zonal Project Directorates; Assistant Director Generals (ADGs) of ICAR; Directors of Research and Extension of SAUs; Heads of Research Centres (of ICAR Institutes) located in the region; Directors/Heads of different departments of State Governments of participating states; and, Progressive Farmers from the three states. This year being the Birth Centenary Year of late Dr. Norman Borlaug, the United Nations declared the current year as International Year for Family Farming. Taking cognizance of this fact, the ICAR especially invited Innovative and Progressive Farmers from the partner states.

Dr. N.K. Krishna Kumar, Deputy Director General (Horticulture) and Nodal Officer for ICAR Regional Committee No.I welcomed the Chief Guest. The opening remarks about the meeting were presented by Shri Arvind R. Kaushal, as Dr. S. Ayyappan had to leave for New Delhi on June 17, 2014. A number of publications were released by the Chief Guest. The Chief Guest also felicitated the innovative farmers. The Chief Guest in his inaugural address expressed his happiness for the felicitation of farmers and for inviting them for participation in the



deliberations of the meeting. He remarked that the Region has a highly fragile ecology. It experiences severe soil and water loss. Irrigation in undulating topography is a challenge. Organic farming, cultivation of vegetables and flowers in polyhouses in the region needs to be promoted. Old/senile orchards need to be rejuvenated / replenished with fresh and better germplasm. Inadequate milk production in the region needs to be increased by practising scientific dairy husbandry techniques and following breed improvement/selection programmes. The Chief Guest closed his address by expressing his thanks for organizing this meeting in Uttarakhand and giving him an opportunity to express his views. A vote of thanks was delivered by Dr. P.K. Mishra, Director, CSWCRTI who is Member Secretary, Regional Committee No.1.

The technical session commenced under the Chairmanship of Shri Arvind R. Kaushal on June 17, 2014. The innovative farmers were requested to present their views on the agricultural problems and issues of their locality, and how to tackle them for speedy agricultural development. The farmers actively presented their views and solutions. Thereafter, discussions were held on various issues raised by the state department officers. On June 19, 2014, the second day of the meeting held under the Chairmanship of Dr. S. Ayyappan, complete progress of research, education and outreach programs of ICAR Institutes, State Agricultural Universities (SAUs) and KVKs located in three hill States were reviewed. The Chairman stressed for knowing our soils and called for soil health cards, trees around bunds, agro-forestry models, and bringing quality research & education and thesis works in universities and Institutes. He stressed upon development of horticulture, agro-forestry and fodder production units in flood affected areas; promotion of goat rearing and low-chilling apple in Uttarakhand and Himachal Pradesh; and improvement of saffron production in J&K. Various points emerged during the interaction, mainly regarding mechanization in hill areas; need of protected cultivation and related technologies for nematode and disease control in vegetable crops; strategies to promote availability of virus & disease free planting and seed materials to promote horticultural production, particularly Kinnow, malta, and apple; State propagation of low chilling apple; Governments to operationalize spawn production laboratories and compost production units; use of tissue culture technique to promote propagation of Saffron; compatibility chart for pesticides; protection of farmers' interests with minimum support prices; promotion of aqua-tourism models in suitable sites; development & popularisation of integrated farming technologies & systems with combination of promising components; hay & silage making facilities to tide over fodder scarcity during winter etc.



Earlier, Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR, inaugurated a renewed visitors' facility and laid a foundation stone for construction of a new auditorium at CSWCRTI. He also felicitated an innovative farmer. Shri Arvind Kaushal, Secretary (ICAR) and Additional Secretary (DARE), and Dr. A.K. Sikka, Deputy Director General (Natural Resource Management) had interaction with scientists and staffs of CSWCRTI and appraised them about new developments at ICAR, and the need of improving delivery and redress mechanism.

CSWCRTI Forty-First Foundation Day Celebrated

The Central Soil and Water Conservation Research and Training Institute celebrated its 41st Foundation Day on April 1, 2014 at Dehradun. Dr. P.P. Bhojvaid, Vice Chancellor, FRI (Deemed University), and Director, Forest Research Institute (FRI), Dehradun was the Chief Guest, and he inaugurated the day-long ceremonial function.

Speaking on the occasion, Dr. Bhojvaid appreciated the efforts of the CSWCRTI in development and dissemination of technologies for conservation of soil, water and other natural resources and their conservative uses. Particularly, he emphasized upon participatory water resource development and participatory research executed by CSWCRTI as worthy interventions for emulating. Remembering the renowned scientists and personalities of the CSWCRTI, he gave tips for junior scientists and technical personnel to help farmers and manage natural resources sustainably. Briefing the importance of soil and water as two out of five constituents of life and their conservation needs, he called for collaborative research programs between the CSWCRTI and FRI, particularly availing the funds of Corporate Social Responsibility (CSR) of corporate organizations like ONGC.





Earlier, Dr. P.K. Mishra, Director, CSWCRTI while welcoming and felicitating the Chief Guest and the invitees, spoke on the importance and relevance of the foundation day. He also specified that this program would energize the Institutes' activities and help in introspecting the developments and achievements while providing way forward. Dr. G.P. Juyal, Head (Hydrology and Engineering Division) and Chairman, Organizing committee of the function summed up the achievements of the Institute during the last year. Staffs retired from service during last year were honored with mementos by the Chief Guest and dignitaries. Four publications of the Institute were released during the occasion.

As a part of the event, Sports Meet for different staff groups and family members of the Institute was organized. The function culminated with an eventful cultural program by the staff of the Institute. Children, family members and staff of the Institute exhibited their unique potential and talents during the cultural program. Office staff from the Selakui Research Farm, friends and guests of the staff of the Institute took part in various events of the function. The function ended with price distribution and felicitation to the performers by the dignitaries.

Foundation Days of Research Centres Celebrated

The CSWCRTI Research Centre, Chandigarh celebrated its 59th Foundation Day on May 8, 2014 as it was established in 1956 under Ministry of Agriculture, Government of India. All retired persons and present personnel of the Centre attended the function. Welcoming the invitees, Dr. A.K. Tiwari, Head of Research Centre spoke about the importance and relevance of the event. He also spoke about past and recent achievements of the Centre in research and training. Former scientists Dr. R.C. Bansal, Dr. Y. Agnihotri and Dr. S.S. Grewal, and other staff shared their experiences during founding years of the establishment. Serving Scientists highlighted the contribution made by the retired scientists, technical officers and other staff in bringing recognitions to the Centre and honoured them by giving mementos. The participants paid condolence on the demise of Sh. A.D. Sud, a founder member of the Centre and prayed for two minutes for peace of the departed soul.

The CSWCRTI Research Centre, Datia celebrated its Foundation Day on September 19, 2014. Dr. R.K. Tiwari, Principal Scientist, IGFRI, Jhansi was honoured as Chief Guest. Scientists, officers and representatives from KVK (Datia), and Soil Conservation, Agriculture, and Animal Husbandry state line departments were also present on the occasion. Prizes were distributed to winners of an Essay Writing Competition in which 41 students from four schools participated. Farmers from 5 villages also joined in this celebration and were exposed to different soil and water conservation technologies through a documentary video video.



The Foundation Day of CSWCRTI Research Centre, Vasad was celebrated on May 5, 2014. Dr. R. S. Kurothe, Head of the Centre welcomed 52 participant farmers and highlighted research and development activities of the Centre. He also emphasized on people's participation on Mahi ravine development and asked farmers for their suggestions on work carried out by this Centre for Mahi ravine development. Centre's documentary film was screened to show different soil and water conservation projects carried out by the Research Centre. The scientists presented technologies developed and also held discussion with farmers on their queries related to soil and water conservation.

ICAR Foundation Day Celebrated at CSWCRTI

ICAR Foundation Day was celebrated at CSWCRTI, Dehradun on July 16, 2014. Forty students and two teachers from Kendriya Vidyalaya (Indian Military Academy), three officers of OPTO Electronics Factory, Dehradun, and Heads of Division and Officers-in-Charge of different Cells/Sections of the Institute participated in the programme. Dr. O.P.



Chaturvedi, I/c Director of the Institute highlighted importance of Natural Resource Management, Water Harvesting, Water Use Efficiency and Agricultural Education for achieving sustainability in agriculture sector and meeting the growing food demand of teeming population of this country to the participating students, teachers and officers. Dr. N.K. Sharma, Head (SS&A Division) and Acting Heads, Dr. P.R. Ojasvi (H&E Division) and Dr. Charan Singh (HRD&SS Division) of the Institute, spoke about various avenues of agricultural education and numerous job opportunities that are available in the country and abroad. On this occasion, participants were sensitized about various land degradation problems and their mitigation measures through a documentary film show and a visit to the Institute Museum.

RAC Meeting 2014 Held

Research Advisory Committee (RAC) meeting was held during June 2-3, 2014 at Dehradun under the Chairmanship of Dr. B.C. Mal, Professor & Former Head, Department of Agriculture & Food Engineering, IIT Khargpur & Ex-VC, Chhattisgarh Swami Vivekanand Technical University, Bhilai. Research Programme-wise progress of on-going projects was presented by Programme Implementers. New project proposals submitted to RAC were also discussed for implementing in future.

IRC Meeting 2014 Held

Institute Research Committee (IRC) meeting was held during June 23-28, 2014 at Dehradun under the Chairmanship of Dr. P.K. Mishra, Director and Member Secretary Dr. B.L. Dhyani, Principal Scientist & OIC (PME Cell) to review the progress of ongoing projects and projects which concluded during 2013-14. In addition, various new projects and observation trials were approved. The meeting was attended by 81 Scientists of the Institute.

Swachh Bharat Mission Launched at CSWCRTI

On the inspiring call of the Hon'ble Prime Minister of India, the Swachh Bharat Mission was launched at CSWCRTI on September 25, 2014 with *shramdan* for cleaning the premises of the Institute. At Dehradun, all the members of the CSWCRTI family whole heartedly participated in the pious activity of cleaning one's surroundings and place of work. All the officers and staff of CSWCRTI spread throughout the generally clean campus to make its every nook and corner hygienic. Garbage was systematically collected and disposed off. Continuing in this endeavour, on the Birth Anniversary of our Father of the Nation, October 2, 2014, the officers and staff of the Institute vigorously undertook cleaning of their respective office rooms and working areas. A lot of unwanted paper, plastic and other materials were



systematically disposed off. The Institute premises now bears a "clean as a whistle" look which the CSWCRTI family is determined to maintain in the present as well as the future.

The Research Centre, Chandigarh also initiated the Swachh Bharat Mission for cleaning its premises, residential colonies and other areas of work. All the staff visited Research Farm at Panchkula on September 29, 2014. The road sides were properly cleaned after removing debris. A choked drain was cleaned to facilitate proper conveyance of rain water. The Guest House premises were cleaned and all were advised to throw all waste material in proper bins, and that their residential and office premises be kept neat and clean all the time. The cleaning activity created good awareness among all at the Centre. On October 2, 2014, a Shapath in this regard was taken by the Centre's staff to promote cleanliness not only in Institute premises but also outside for creating hygienic condition and clean environment.



Himalaya Day Observed

Himalaya Day was observed on Sept. 9, 2014 at CSWCRTI, Dehradun to create awareness among college students who are pursuing their degree programmes in Agriculture, Forestry, Agri-business etc. disciplines in various academic organizations located in Dehradun. On this day, the Institute museum, meteorological station, hydrology laboratory and research farm were kept open for visits of students and their faculty members. Dr. P.K. Mishra, Director conducted a pledge ceremony on 'Conserve Soil - Protect Nature' in which 550 students of 5 colleges along with scientists, officers and staff of the Institute took pledge under Save Soil Campaign. Thereafter, he addressed the students about environmental



importance of Himalayas, they being a great reserve of natural resources, especially water and soil. For perennial flow of Ganga river, the Great Himalayas must be understood and protected. The students visited the Institute museum and interacted with scientists on various issues of soil and water conservation, watershed management, water harvesting etc. They were also shown a documentary film covering salient developments in the field of soil and water conservation at Dehradun and Regional Research Centres. They visited the research and demonstration facilities developed at Research Farm, Selakui. In their feedback, the students said that they read these topics in books only but they have now realized how resource conservation technologies developed at CSWCRTI work towards minimizing soil loss, conserving rainwater, increasing crop productivity, and protection of the environment. Few students expressed their curiosity about the impact of climate change on agriculture and hydrology of Himalayan region. During the museum visit, the concept of climate variation/change and its impact on agriculture and hydrology was explained with different illustrations and visual presentations.

Four Months Certificate Training Course Organized

Four months regular training course (110th batch) on “Soil and Water Conservation and Watershed Management” was organized by CSWCRTI at Dehradun during June 2 to October 1, 2014. Twenty participants from different States (Jammu & Kashmir-7, Punjab-5, Kerala-3, Meghalaya-3 and Madhya Pradesh-2) participated. Dr. K.S. Dadhwal, Ex-Head, Division of Soil Science & Agronomy, CSWCRTI was the Chief Guest during the valedictory function of the training. Course completion alongwith eight merit certificates for outstanding performances were awarded to the participants. Efforts made by the CSWCRTI were appreciated by the participants during their feedback session of the valedictory function.



Training on Engineering Structures for Watershed Management in South India Organized

The CSWCRTI Research Centre, Udhagamandalam organised a six days advanced training on “Planning and Design of Engineering Structures in Watershed Management Programme for South India” during May 26-31, 2014 sponsored by National Rainfed Authority, Planning Commission, Government of India, New Delhi. The training was inaugurated by Dr. A.K. Sikka, DDG (NRM), ICAR on May 26, 2014. Twenty-eight participants - Assistant Executive Engineers and Assistant Directors from Tamil Nadu, Kerala, Karnataka and Andhra Pradesh participated. The programme aimed at training middle level officers in South India who are involved in watershed management to improve their knowledge and skills in planning and designing of engineering structures.

Dr. A.K. Sikka, Deputy Director General (Natural Resource Management), ICAR in his inaugural speech said that though natural resource management was of considerable importance, its objectives could not be achieved without addressing livelihood issues. Importance should be given to wisdom of the people in execution of the comprehensive watershed development programmes, which constituted a paradigm shift from all other forms of land management. Lamenting the issues were ignored in most of the development programmes, he said production, productivity and livelihood systems should be linked. Regretting that the country still did not have a proper land use policy, Dr. A.K. Sikka said a proper and rational policy needs to be put in place. The Government was working on one. He said the people should know which land use was good for what purpose. Good land should not be diverted for non-agricultural use. Only when land is made profitable, the youth can be attracted to farming. Pointing out that 120 million hectares was now degraded, Dr. Sikka cautioned that in the years to come there would be less land and water for agriculture. The Government is promoting integrated farming systems. Even if the situation on food front could be managed, fodder would turn scarce. Expressing the fear that climate change would take place faster than expected, he said a mapping of districts vulnerable to global warming has been done, and about 100 districts have been identified. Er. K.B. Ramakrishnan, Chief Engineer (River Valley Project), Agricultural Engineering Department, Govt. of Tamil Nadu, Chennai, who presided, said nearly 50% of geographical area of country was affected by various forms of land degradation. This resulted in an annual soil loss of 5300 million tonnes, reducing crop productivity. Soil and water were the basic resources in a watershed, and they must be carefully conserved and judiciously utilized to sustain crop productivity and livelihood security. Dr. O.P.S. Khola, Head of Centre welcomed the gathering. Scientists and other officers of Centre and officials of line departments participated in the Inauguration Function.



Kissan Mela Organized at Village Pasauli, Dehradun

A Kissan Mela was organized at Village Pasauli, Dehradun under TDET-MoRD Project of Govt. of India by CSWCRTI, Dehradun on May 15, 2014. Villagers of four adopted villages - Godaria, Devthala, Pasauli and Doongakheth participated in the programme. Dr. B.L. Dhyani, Principal Investigator of the project, in his welcome speech, elaborated the achievements of the project and thanked the Department of Land Resources (DoLR), Ministry of Rural Development, Govt. of India for the financial support. Various activities in the project included water resources development, improved agricultural practice and new livelihood options. A marked improvement in productivity of crops after introduction of the project was reported. In his inaugural address, Dr. P.K. Mishra, Director, CSWCRTI appreciated the farmers' involvement and active participation since inception of the programme. He stressed upon the need to carry out such programmes in similar landscape in different parts of Uttarakhand. In all, 3000 small and big demonstrations were exhibited during 7-years of the program, which has exhibited productivity increase remarkably. Sh. C.S. Mehra, Director Agriculture, Govt. of Uttarakhand felicitated the innovative farmers. He also appreciated the work and promised the farmers for all future help in their endeavors. Sh. Pritam Singh, Assistant Commissioner, Dept. of Land Resources, Govt. of India expressed happiness over the development of water resources. Officers from CSWCRTI and Govt. of Uttarakhand attended the Mela.



Agricultural Technology Week Celebrated at Kota

Agricultural Technology Week was celebrated at CSWCRTI Research Centre, Kota, during August 25-30, 2014. Number of activities was carried out to acquaint farmers and students with latest technical know-how related to soil and water conservation technologies developed by the Centre. Recent technologies of soil and water conservation developed/refined by Centre were demonstrated to participants through audio-visual aids and field visits of experimental sites. Farmers from Kota, Bundi and Barn districts of Rajasthan and students from J.L. Nehru Senior Secondary School, Kota participated in a week long celebration. Dr. R.K. Singh, Head of Centre, while briefing about importance of celebrating Agricultural Technology Week said that this event is a platform to bring together researchers, end-users and stakeholders, so that better technologies can reach grass root level, and to get proper feedback for future research and development activities. Other scientists of the Centre spoke about role of conservation forestry for natural resource management and climate change mitigation, importance of plantation of underutilised fruit

species in undulated topographic situations, cost effectiveness and economical viability of technologies, and soil testing and integrated nutrient management for better soil health and productivity. Dr. S.N. Prasad, Former Head of Centre, while chairing a session, shared his experiences with farmers of Hadoti region.

OUAT Students Celebrate Teacher's Day at Koraput

B.Tech students from OUAT on two-months Practical Training in CSWCRTI Research Centre, Koraput celebrated Teacher's Day with Scientists and Staff of the Centre, and also campus children on September 5, 2014. On this occasion, Dr. M. Madhu, Head of Centre emphasized upon the roll and responsibility of training faculty in knowledge and skill development of the students. He also emphasized upon the importance of practical training and skill development of students for addressing future challenges.



Workshop on Development and Application of Potentially Important Jute Geo-Textile for Road Construction and Slope Stabilization Organized

The workshop was organized by CSWCRTI Research Centre, Udhagamandalam on September 15, 2014 and was inaugurated by Jute Commissioner, Dr. Subrata Gupta, IAS, National Jute Board, Ministry of Textile, Government of India in presence of Dr. P.K. Mishra, Director, CSWCRTI and Shri R. Ambalawan, IA&AS, Executive Director, Tea Board, Coonoor. Dr. Subrata Gupta pointed out that plastic and other synthetic materials are not bio-degradable and efforts to destroy them pollute the atmosphere, whereas bio-degradable jute geo-textiles (JGT) have been found to be highly efficacious in slope management and road construction. JGT have been approved by agencies such as the Central Road Research Institute, the Indian Road Congress and the Bureau of Indian





Standards. Ever since their introduction, about eight years ago, JGT have been used in 150 projects in the area of road construction and slope stabilization in various part of the country. Participants from Tamil Nadu, Andhra Pradesh, Karnataka and Kerala attended. Out of 166 delegates, 98 were engineers working in the areas of road construction and slope stabilization and 25 were from press and media.

Dr. P.K. Mishra in his address stated that CSWCRTI is involved research on application of JGT for erosion control and will continue to work on various aspects of application of jute geo-textiles for soil and water conservation. CSWCRTI is also planning to utilize JGT for reclaiming ravine areas through its Research Centres located at Kota, Agra and Vasad. Similar research work can be extended to tribal areas from its Research Centres located at Koraput, Odhisa for desirable use of jute for the advancement of tribal community by linking to Tribal Sub Plan (TSP). The JGT can also be used for stabilizing of mine spoils through research work by its Research Centre at Bellary, Karnataka and control the landslides and slips through research work of its Research Centre at Chandigarh. Mr. K. Ambalavanan remarked that application of JGT in area of soil conservation and slope stabilization is very important to promote vegetation in land slide / mass eroded areas. National Jute Board and Tea Board should work together for enhancement of tea growth by application of JGT. The dignitaries and participants were welcomed by Dr. O.P.S. Khola, Head of Centre. The aim and purpose of the workshop was briefed by Dr. S. Manivannan, Senior Scientist and Principal Investigator of prototype field study. Mr. A. Bhagat, Deputy Chairman of Indian Jute Mills Association (IJMA), Kolkata appreciated the efforts in conducting workshop and popularizing JGT materials for road construction, slope stabilization and river bank protection among user groups. Though efficacy of JGT is well known by users, application part is very weak.

Six technical papers were presented after inaugural session. After the presentations, the industry partners and user agencies made their comments on use of JGT for slope stabilization and road construction. Smt. S. Kavitha, Project Director, District Rural Development Agency, The Nilgiris informed that slope stabilization is more important in Nilgiris as soil resources are degrading day by day. There is also need for technical clarification on advantages of jute geo-textiles over coir geo-textiles as coir is easily available in South India. Mr. Srinivas R Reddy, Project Director, HADP, The Nilgiris stressed upon importance of application of JGT in Nilgiris hills as landslides, poor land management and urbanization in steep slopes and faulty agricultural practices along steep slopes are major problems in the region. Dr. Subrata Gupta concluded the workshop and stated that either jute or

coir can be used for slope stabilization or road construction, but not the synthetic material which will affect the ecosystem. He also expressed that there should be continuous collaboration between National Jute Board and CSWCRTI in research and capacity building in the area of application of jute JGT for slope stabilization. One special session was organized to interact with press and media and twenty-five reporters from various dailies and Medias were presented during the press meet. Dr. Subrata Gupta, Dr. P.K. Mishra, Sh. R. Ambalavanan, Sh. A.K. Khastagir, Sh. P.K. Choudhury, Dr. O.P.S. Khola and Dr. S. Manivannan (Organizing Secretary) interacted with press and media reporters. Workshop was widely covered with various press and media. Dignitaries and industry partners visited the three sites on September 16, 2014 where the Research Centre is conducting the field study.

Transfer of Technologies

North-Western Himalayas

- Mango (cv. Mallika) in 2.0 ha, Lemon grass (cv. Krishna) in 2.0 ha and Bhimal in 1.0 ha at farmer's fields under TOT programme have been established.
- 3500 MPTS have been planted in degraded community land at Udpalta village under TSP.
- Lemon grass has been demonstrated in farmers' fields in 2.0 ha area at Lal dhang area near Rudarpur.
- 1000 fruit plants were planted at farmers' fields and seeds of improved cultivars of sweet pepper (1.0 kg) cucumber (0.50 kg) and beans (20.0 kg) were distributed among 80 farm families under TSP project.

Black Soil Semi-Arid Region

- An agri-horticulture system comprising of a high density orchard of sapota, pomegranate and lime irrigated by a drip irrigation system with water from runoff harvesting pond (2145 cum capacity), and a small area under Bengalgram (under compartmental bunding) is being set up under ToT at Veerapuram village (District Bellary).
- The promotion of a *Melia dubia* based agro-forestry system under ToT programme has been set up by planting 786 *Melia* seedlings and 156 mango seedlings at farmers' fields bearing Survey No. 94, 88 and 102 (covering 1.25 ha area) at Hanumapura village in Ramasagara watershed. The entire system is being managed under protective irrigation with 100% survival. The system is expected to provide good financial returns under short rotation forestry practices. Fruit yields from mango will have a longer gestation period.



केन्द्रीय मृदा एवं जल संरक्षण अनुसंधान एवं प्रशिक्षण संस्थान में हिन्दी सप्ताह सफलतापूर्वक सम्पन्न

केन्द्रीय मृदा एवं जल संरक्षण अनुसंधान एवं प्रशिक्षण संस्थान, 218 कौलागढ रोड, देहरादून में दिनांक 15 सितम्बर, 2014 से 22 सितम्बर, 2014 तक हिन्दी सप्ताह का आयोजन संस्थान के निदेशक डा. पी. के. मिश्रा के निर्देशन में डा. (श्रीमती) संगीता एन. शर्मा, मुख्य तकनीकी अधिकारी द्वारा समस्त कार्यक्रम का संचालन सफलतापूर्वक किया गया। इस दौरान संस्थान में हिन्दी प्रयोग को बढ़ावा देने के लिए कई प्रतियोगिताएँ आयोजित की गईं (शब्दावली, अनुवाद, निबंध एवं ऋतिलेख)। जिसमें संस्थान के वैज्ञानिकों, अधिकारियों एवं कर्मचारियों ने भाग लिया। समापन समारोह में मुख्य अतिथि डा. वी. एन. शारदा, सदस्य, कृषि वैज्ञानिक चयन मण्डल, नई दिल्ली ने प्रतियोगिताओं के विजेताओं को पुरस्कृत किया। डा. शारदा ने इस अवसर पर एक किसान दिग्दर्शिका का विमोचन भी किया। मुख्य अतिथि ने संस्थान द्वारा हिन्दी भाषा को बढ़ावा देने के लिए किये जा रहे कार्यों की सराहना की और कहा कि इस अवसर पर हम संकल्प करें कि हम अपनी राजभाषा में कार्यालय का अधिक से अधिक कार्य हिन्दी में करेंगे। संस्थान की प्रभारी मुख्य प्रशासनिक अधिकारी एवं राजभाषा अधिकारी श्रीमती सरोज सेमवाल ने संस्थान द्वारा हिन्दी में किये जा रहे कार्यों का संक्षेप में लेखा-जोखा प्रस्तुत किया। संस्थान के मानव संसाधन विकास प्रभाग के प्रभारी प्रभागाध्यक्ष डा. चरण सिंह द्वारा बताये गये हिन्दी के प्रचार-प्रसार हेतु दिये गये योगदान जैसे एक वर्ष में बारह पम्पलेट, छः स्टीकर्स, एक बुलेटिन तथा 12 अल्प प्रशिक्षण पुस्तिकाओं के प्रकाशन हिन्दी में किये जाने पर प्रशंसा की। संस्थान के निदेशक डा. पी. के. मिश्रा ने भी संस्थान मुख्यालय एवं अधीनस्थ केन्द्रों में किये जा रहे कार्यों का संक्षिप्त विवरण प्रस्तुत किया एवं राजभाषा के उत्थान के लिए संस्थान मुख्यालय भारतीय कृषि अनुसंधान परिषद, नई दिल्ली एवं राष्ट्रीय स्तर पर गृह मंत्रालय के राजभाषा विभाग द्वारा राजभाषा के प्रयोग को कार्यालयों में बढ़ाने के लिए किये जा रहे प्रयास एवं कार्यों से सभी को अवगत कराया। साथ ही संस्थान द्वारा हिन्दी में प्रकाशित सामग्री को संस्थान की उपलब्धियों के प्रसार हेतु किये जा रहे सफलतम प्रयोग जैसे किसान मेलों, गोष्ठियों, एवं प्रशिक्षण आदि के विभिन्न माध्यमों से अवगत कराया। इस अवसर पर सभी प्रभागाध्यक्ष एवं वरिष्ठ वित्त एवं लेखा अधिकारी एवं समस्त वैज्ञानिक, अधिकारी एवं कर्मचारी उपस्थित थे।



नगर राजभाषा कार्यान्वयन समिति आगरा द्वारा राजभाषा में उत्कृष्ट कार्य हेतु आगरा केन्द्र पुरस्कृत

आगरा नगर राजभाषा कार्यान्वयन समिति की 65 वीं बैठक दिनांक 25.04.2014 को यूथ हॉस्टल संजय प्लेस में सम्पन्न हुई। इस बैठक में आगरा शहर में स्थित समस्त 105 केन्द्र सरकार के कार्यालयों के कार्यालय अध्यक्षों ने भाग लिया। इस कार्यक्रम में ग्रह मंत्रालय द्वारा गठित समिति ने समस्त केन्द्रीय कार्यालयों का मूल्यांकन कर आगरा केन्द्र को द्वितीय पुरस्कार से सम्मानित किया। केन्द्र की तरफ से केन्द्राध्यक्ष डा. एस. के. दुबे एवं राजभाषा प्रभारी अधिकारी डा. अशोक कुमार सिंह ने यह पुरस्कार नराकास अध्यक्ष डा. डी. पी. सेमवाल से ग्रहण किया। इस अवसर पर ग्रह मंत्रालय से आये अधिकारी ने केन्द्राध्यक्ष से अपील की कि भविष्य में इस परम्परा को आगे बढ़ायें तथा प्रथम पुरस्कार लेने का प्रयास करें।



केन्द्रीय मृदा एवं जल संरक्षण अनुसंधान एवं प्रशिक्षण संस्थान, आगरा केन्द्र पर वर्ष 2014-15 की प्रथम तिमाही के दौरान दिनांक 5.6.2014 को एक दिवसीय हिन्दी कार्यशाला का शुभारम्भ केन्द्राध्यक्ष डा. एस. के. दुबे द्वारा माँ सरस्वती की वन्दना एवं दीप प्रज्ज्वलित कर किया गया। इस अवसर पर डा. आर. एस. तिवारी, सचिव नराकास (केन्द्र सरकार कार्यालय), आगरा मुख्य अतिथि तथा श्री रामेन्द्र शर्मा, वरिष्ठ प्रबन्धक, केनरा बैंक एवं सचिव नराकास, आगरा, विशिष्ट अतिथि के रूप में उपस्थित रहे। उन्होंने केन्द्र पर किये जा रहे हिन्दी कार्यों की भूरि-भूरि प्रशंसा की। श्री राजेन्द्र शर्मा जी ने राजभाषा कार्यान्वयन के लक्ष्य एवं कार्यक्रम के क्रियान्वयन सम्बन्धी बारीकियों से अवगत कराया तथा राजभाषा सम्बन्धी सभी 12 नियमों एवं उपनियमों की विस्तार से चर्चा की तथा कार्यशाला के बाद सतत हिन्दी में कार्य करने हेतु प्रण करवाया। डा. आर. एस. तिवारी ने अपने अध्यक्षीय भाषण में राजभाषा में किये जा रहे कार्यों को भली भाँति परिलक्षित होने की अनिवार्यता और राजभाषा संवर्धन हेतु हर संभव कदम उठाने की आवश्यकता पर भी जोर दिया। डा. ए.के. सिंह ने पिछली तिमाही में केन्द्र पर किये राजभाषा के कार्यों का लेखा जोखा प्रस्तुत किया। कार्यक्रम का संचालन श्री बी.पी. जोशी, तकनीकी अधिकारी ने किया तथा सभा के अन्त में इस कार्यशाला में निदेशक डा. पी.के. मिश्रा के सहयोग सहित सभी के सहयोग का धन्यवाद किया गया।

उधमगण्डलम् केन्द्र में हिन्दी चेतना मास मनाया गया

केन्द्रीय मृदा एवं जल संरक्षण अनुसंधान एवं प्रशिक्षण संस्थान, अनुसंधान केन्द्र, उधमगण्डलम् पर 16 सितम्बर, 2014 से 15 अक्टूबर, 2014 की अवधि में मनाये जा रहे हिन्दी चेतना मास का उद्घाटन समारोह दिनांक 16-09-2014 को अपराह्न 3:30 बजे संस्थान के निदेशक, डा. पी.के. मिश्रा की अध्यक्षता में केन्द्र के सभागार में सम्पन्न हुआ। इस अवसर पर केन्द्र के सभी अधिकारी एवं कर्मचारियों के साथ-साथ चार अन्य वैज्ञानिक जो कि देहरादून, चण्डीगढ़, एवं आगरा से जूट पर आयोजित कार्यशाला में पधारे थे, भी उपस्थित थे। समारोह के प्रारंभ में श्री एन. पी. शर्मा, प्रभारी राजभाषा ने सभागार में उपस्थित सभी अधिकारियों एवं कर्मचारियों का स्वागत किया। तत्पश्चात् केन्द्र के केन्द्राध्यक्ष, डा. ओ.पी.एस. खोला ने मुख्य अतिथि डा. पी.के. मिश्रा, निदेशक, केन्द्रीय मृदा एवं जल संरक्षण अनुसंधान और प्रशिक्षण संस्थान, देहरादून का पुष्पगुच्छ प्रदान कर एवं शाल पहनाकर सम्मानित किया। तत्पश्चात् केन्द्र के सभी अधिकारियों एवं कर्मचारियों से अनुरोध किया गया कि वे इस अवसर पर हिन्दी के प्रचार प्रसार एवं संवर्धन हेतु अपने विचार प्रस्तुत करें। कुछ अधिकारियों ने इस सन्दर्भ में अपने विचार प्रस्तुत किये। श्री एन. पी. शर्मा ने केन्द्र पर हिन्दी प्रगति पर विस्तृत प्रकाश डाला तथा हिन्दी गतिविधियों हेतु वार्षिक लक्ष्यों को प्रस्तुत किया। केन्द्राध्यक्ष, डा. ओ.पी.एस. खोला द्वारा हिन्दी में किये जा रहे प्रयासों को उचित बताते हुए हिन्दी में और अधिक प्रयास करने पर जोर दिया। तदोपरान्त क्रमशः डा. जी.पी. जुयाल, पूर्व प्रधान वैज्ञानिक एवं विभागाध्यक्ष, संस्थान मुख्यालय, देहरादून, डा. एस.के. दुबे, प्रधान वैज्ञानिक एवं केन्द्राध्यक्ष, के.मू. एवं ज.सं. अनु. एवं प्रशि. संस्थान, अनु. केन्द्र, आगरा, डा. वी.के. भट्ट, प्रधान वैज्ञानिक- अभियान्त्रिकी, के.मू. एवं ज.सं. अनु. एवं प्रशि. संस्थान, अनु. केन्द्र, चण्डीगढ़ एवं डा. हर्ष मेहता, प्रधान वैज्ञानिक, संस्थान मुख्यालय, देहरादून ने भी इस अवसर पर अपने विचार प्रस्तुत किये तथा सभी अधिकारियों एवं कर्मचारियों से अधिक से अधिक कार्य हिन्दी में करने का



आग्रह किया तथा हिन्दी चेतना मास के आयोजन के सफल होने की कामना की। मुख्य अतिथि महोदय, डा. पी.के. मिश्रा ने अपने सम्बोधन में केन्द्र पर हिन्दी में प्रशिक्षण हेतु नराकास के अतिरिक्त अन्य विकल्प तलाशने पर जोर दिया क्योंकि उन्हें बताया गया कि नराकास, अरुवनकाडू में हिन्दी शिक्षण योजनान्तर्गत नियुक्त प्रशिक्षक का स्थानान्तरण हो गया है तथा प्रशिक्षण कार्य बन्द है। केन्द्र के लगभग 25 अधिकारी/कर्मचारी हिन्दी प्रशिक्षण हेतु शेष हैं। उन्होंने हिन्दी के वार्षिक लक्ष्यों को प्राप्त करने हेतु हिन्दी की त्रैमासिक बैठकों में अधिक से अधिक चर्चा कर समीक्षा करते हुए अधिक प्रयास करने पर जोर दिया जिससे इस सन्दर्भ में निरन्तर प्रगति को आंका जा सके और प्रयासों को गति दी जा सके। अन्त में डा. के. कन्नन, वरिष्ठ वैज्ञानिक द्वारा आभार प्रदर्शित किया गया। श्री एन. पी. शर्मा द्वारा एक बार पुनः सभी अधिकारियों एवं कर्मचारियों को कार्यक्रम में भाग लेने हेतु धन्यवाद किया।

आगरा केन्द्र में विश्व पर्यावरण दिवस मनाया गया

केन्द्रीय मृदा एवं जल संरक्षण अनुसंधान एवं प्रशिक्षण संस्थान अनुसंधान केन्द्र, छलेसर, आगरा पर 05 जून 2014 को विश्व पर्यावरण दिवस मनाया गया। इस वर्ष संयुक्त राष्ट्र संघ द्वारा विश्व पर्यावरण दिवस की Theme, "Raise your voice not sea level" है। इसी सन्दर्भ में पर्यावरण को सुरक्षित रखने तथा Global warming के प्रभाव को कम करने के लिये अधिक से अधिक वृक्षों का होना अति आवश्यक है। इस केन्द्र पर भी वृक्षारोपण का कार्यक्रम आयोजित किया गया जिसमें सभी वैज्ञानिकों तकनीकी तथा प्रशासनिक अधिकारियों तथा कर्मचारियों ने बढ़ चढ़कर भाग लिया। हिन्दी कार्यशाला आयोजन में पधारे अतिथियों डा. आर.एस. तिवारी, सचिव, नराकास, आगरा तथा डा. रामेन्द्र शर्मा, सचिव, नराकास (बैंक), आगरा ने भी वृक्षारोपण कार्यक्रम में भाग लिया।



ICAR News/Website Reporting

- "Effect of Slope and Land Use on Soil Carbon Stock and Soil Quality in Nilgiris"- ICAR News, 2014. 30(2): 8.
- "Participatory Water Resources Development in a Village under Tribal-Sub Plan"- ICAR News, April-June, 2014.
- "Effect of Slope and Land Use on Soil Carbon Stock and Soil Quality in Nilgiris"- ICAR News, April-June, 2014.
- "Litchi-based Agri-horti Systems on Degraded Lands of Dehradun"- ICAR News, April-June, 2014.
- "Design and Development of Site-Specific Artificial Groundwater Recharge Filters"- ICAR News, April-June, 2014.
- "Safflower Varieties for Shivalik Region-Chandigarh"- ICAR News, April-June, 2014.
- "Foundation Day Celebrated at CSWCRTI, Chandigarh"- ICAR website, May 8, 2014
- "Union Minister of Agriculture Visited CSWCRTI, Dehradun "- ICAR website, May 30, 2014

- "ICAR Foundation Day Celebrated at CSWCRTI, Dehradun"- ICAR website, July 16, 2014
- "Himalaya Day Observed at CSWCRTI, Dehradun"- ICAR website, September 9, 2014.

Awards and Recognitions

- Dr. (s). R.S. Kurothe, V.C. Pande, B.K. Rao, Gopal Kumar, A.K. Vishwakarma, D.R. Sena, G.L. Bagdi, and P.K. Mishra received ICAR Award for Outstanding Team Research in Natural Resource Management and Agricultural Engineering - 2011-12.



- Dr. M. Madhu, Er B.S. Naik, Sh. Praveen Jakhar, Sh. H.C. Hombe Gowda, Dr. P.P. Adhikary and Dr. K.P. Gore received Vasant Rao Naik Team Award for Outstanding Research and Application in Dryland Farming Systems - 2013.



- Research Centre, Agra awarded 2nd prize for Excellent Work in Hindi by NARAKAS, Ministry of Home Affairs, Govt of India.
- Research Centre, Agra and HRD&SS Division, Dehradun awarded First Prize in Krishi Evam Gramaya Vikas Exhibition organized by Pandit Deen Dayal Upadhyay Smriti Mahotsav Samiti at Mathura, U.P.
- Dr. Debashis Mandal, Senior Scientist (Soils) received National Fellow Award from ICAR, New Delhi in recognition to his meritorious contribution and to facilitate his research and related activities.
- Dr. Sharmistha Pal, Scientist (Soils) received "Endeavour Cheung Kong Award" for post-doctoral research in Australia on August 14, 2014.
- Sh. Anand Kumar Gupta, Scientist (Environmental Sciences) awarded second prize in Quiz Competition at CESCRA, IARI on World Environment Day.
- Sh. C.S. Tiwari, Sh. Suresh Kumar and Sh. Anand Kumar Gupta with Sh. S.K. Sinha awarded first, second and third prizes respectively in translation competition on the occasion of Hindi Week at CSWCRTI, Dehradun.

- Sh. Amrit Morade, Dr. B.N. Ghosh and Dr. N.M. Alam awarded first, second and third prizes respectively in Hindi *Shrutilekh Pratiyogita* at CSWCRTI, Dehradun.
- Smt. Manjula Dobhal, Sh. S.K. Sinha and Smt. Neha Dobhal awarded first, second and third prizes respectively in Bilingual *Anuvad Pratiyogita* at CSWCRTI, Dehradun.
- Sh. Prem Singh Rawat, Sh. Rajiv Joshi and Sh. Chandra Pal awarded first, second and third prizes respectively for *Nibandh Pratiyogita* at CSWCRTI, Dehradun.

Important Publications

Research Papers

- Adhikary PP, Chandrasekharan H, Dubey SK, Trivedi SM, Dash Ch Jyotiprava (2014). Electrical resistivity tomography for assessment of groundwater salinity in west Delhi, India. *Arabian Journal of Geosciences*, DOI 10.1007/s12517-014-1406-y.
- Alam NM, Raizada A, Jana C, Meshram RK, Sharma NK (2014). Statistical modelling of extreme drought occurrence in Bellary district of Eastern Karnataka. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, DOI 10.1007/s40011-014-0381-0.
- Bhattacharyya R, Pandey AK, Gopinath KA, Mina BL, Bisht JK, Bhatt JC (2014). Fertilization and crop residue addition impacts on yield sustainability under a rain fed maize-wheat system in the Himalayas. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, DOI 10.1007/s40011-014-0394-8.
- Dotaniya ML, Datta SC, Biswas DR, Meena HM and Kumar K (2014). Production of oxalic acid as influenced by the application of organic residue and its effect on phosphorus uptake by wheat (*Triticum aestivum* L.) in an Inceptisol of North India. *National Academy Science Letter*. DOI 10.1007/s40009-014-0254-3.
- Ghosh BN, Sharma NK, Alam NM, Singh RJ, Juyal GP (2014). Elevation, slope aspect and integrated nutrient management effects on crop productivity and soil quality in north-west Himalayas, India. *Journal of Mountain Science*, 11(5): 1208-1217.
- Dev I, Radotra S, Khola OPS, Misri B, Sindhu S, Singh JP, Srivastava A K, Singh B, Sharma SK, Chamoli KP and Kumar D (2014). Impact of participatory silvipastoral intervention and soil conservation measures for forage resource enhancement in western Himalaya. *Indian Journal of Agricultural Sciences*, 84(3): 365-70.
- Jha P, Mahapatra KP, Dubey SK (2014). Fine roots carbon mineralization and soil carbon stabilization under major tree species of the semi-arid regions of India. *The National Academy of Science India*, 37(5): 413-418.
- Kumar A, Singh KN, Lal B, Chawla A, Uniyal SK, Kaushal R, Singh RD, Ahuja PS (2014). Regeneration pattern of tree species in forested landscapes of Himachal Pradesh, Western Himalayan region, India. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, 84(3): 695-707.
- Kumar G, Kurothe RS, Brajendra Vishwakarma, AK, Rao BK and Pande VC (2014). Effect of farm yard manure and fertilizer application on crop yield, runoff and erosion and soil organic carbon under irrigated pearl millet (*Pennisetum glaucum*). *Indian Journal of Agricultural Sciences*, 84(7): 816-823.
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- Kumar Suresh, Raizada A, Biswas H (2014). Prioritizing development planning in the Indian semi-arid Deccan using sustainable livelihood security index approach. *International Journal of Sustainable Development & World Ecology*, DOI:10.1080/13504509.2014.886309.
- Kurothe RS, Kumar G, Singh Rajiv, Singh HB, Tiwari SP, Vishwakarma AK, Sena DR, Pande VC (2014). Effect of tillage and cropping systems on runoff, soil loss and crop yields under semiarid rainfed agriculture in India. *Soil & Tillage Research*, 140: 126-134.
- Lal B, Rana KS, Rana DS, Gautam Priyanka, Shivay YS, Ansari MA, Meena BP, Kumar Kuldeep (2014). Influence of intercropping, moisture conservation practice and P and S levels on growth, nodulation and yield of chickpea (*Cicer arietinum* L.) under rainfed condition. *Legume Research*, 37(3): 300-305.
- Lenka NK, Mandal D, Sudhishri S (2014). Permissible soil loss limits for different physiographic regions of West Bengal. *Current Science*, 107(4): 665-670.
- Mandal KG, Kannan K, Thakur AK, Kundu DK, Brahmanand PS, Kumar A (2014). Performance of rice systems, irrigation and organic carbon storage. *Cereal Research Communications*, 42(2): 346-358.
- Pande VC, Kurothe RS, Singh HB and Tiwari SP (2014). Determinants and incentives for soil conservation in Central Gujarat: An empirical study. *African Journal of Agricultural Research*, 9(22): 1729-1739.
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- Rao BK, Chandrasekararao C, Anuradha M, Pande VC (2014). Effect of micro-sprinkler system on input use efficiency, labour cost and economic viability in tobacco (*Nicotiana tabacum*) seedling production. *Indian Journal of Agricultural Sciences*, 84(4): 439-443.
- Rathore AC, Lal H, Sharma NK, Mehta H, Jayaprakash J, Chaturvedi OP (2014). Livelihood security through Litchi (*Litchi chinensis* L.) based agri-horticultural models for resource poor communities of Indian Sub-Himalaya, *Current Science*, 106 (11):1481-1486.
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Books

- Raizada A, Khola OPS, Mishra PK, Manivannan S, Loganandhan N, Mandal D (2014). *Farmer Innovations and Initiatives in Natural Resource Conservation in the Southern Region*. Indian Association of Soil and Water Conservationists, Dehradun: 106 p.
- Sundarambal, P (2014). *Developing Infrastructures Model -For Dry land Agriculture*. Lambert Academic Publishing, Germany ISBN No. 978-3-659-53373-0.

Technical/Extension Brochure/Bulletin

- Ramamurthy V, Nalatwadmath SK, Srinivas S, Rama Mohan Rao MS, Shivaprasad CR, Adhikari RN, Naidu LGK, Patil SL, Raizada A, Sarkar Dipak, Singh SK and Mishra PK (2014). *Soil Erosion in Karnataka*. Publication of the NBSS&LUP & CSWCRTI. NBSS & LUP Publ. No. 162: 70p.
- Raizada A, Ghosh BN, Jayaprakash J and Singh Charan (2014). *Wasteland Utilization for Fodder and Firewood Production from High Density Plantations in the North West Himalayan Region*. CSWCRTI, Dehradun.
- Narayan Dev and Tiwari SP (2013). *Intercropping of Castor + Green Gram for Resource Conservation and Higher Productivity Under Rainfed Conditions in Red Soils of Bundelkhand*. CSWCRTI, Dehradun.
- Narayan Dev and Tiwari SP (2013). *Green Manuring for Resource Conservation and Enhancement of Productivity of Red Soils of Bundelkhand Region*. CSWCRTI, Dehradun.
- Narayan Dev and Tiwari SP (2013). *Contour Bunds for Resource Conservation and Sustainable Production in Red Soils of Bundelkhand*. CSWCRTI, Dehradun.
- Leaflet on "Inter cropping Pegeon Pea with Ragi in Tribal Dominated Eastern Ghats Region" (in Odiya). CSWCRTI, Dehradun.
- Leaflet on "Jhola Kundi-A Low Cost Water Harvesting Technology in Tribal Dominated Eastern Ghat Region of Odisha" (in Odiya). CSWCRTI, Dehradun.

Radio/TV Talks

- Dr. SP Tiwari, Head, Research Centre, Datia delivered a talk on Doordarshan, Gwalior on "Seasonal Soil and Water Conservation Activities" on July 22, 2014.
- Sh. G.B. Naik (T-5) delivered phone in live radio talk programme on All India Radio (AIR), Jeypore on "Jala bibhajika re maccha chasa" on August 29, 2014.
- Sh G.W. Barla (T-4) delivered phone in live radio talk on AIR, Jeypore on "Jala bibhajika ra gurutwa o upajogita" on September 12, 2014.
- Dr. Kuldeep Kumar, Scientist (Agronomy) delivered a radio talk on AIR, Kota on "Mrida evam jal sarankshan ke vaigyanik upaya" on June 9, 2014.
- Sh. H.R. Meena, Scientist (Horticulture) delivered a radio talk on AIR, Kota on "Bagvani main aavshyak krishi karya" on July 15, 2014.
- Dr. Kuldeep Kumar, Scientist (Agronomy) delivered a radio talk on AIR on "Khariffaslon main pramukh krishi karya" on July 28, 2014.

Distinguished Visitors

- Dehradun:** Dr. S. Ayyappan, Secretary (DARE) & DG (ICAR); Dr. J.S. Samra, CEO, NRAA; Sh. Arvind Kaushal, IAS, Secretary (ICAR) & Additional Secretary (DARE); Dr. V.N. Sharda, Member, ASRB, ICAR; Dr. A.K. Sikka, DDG (NRM); Dr. S.K. Dutta, DDG (Crops Science); Dr. K.M.L. Pathak, DDG (Animal Science); Dr. B Meenakumari, DDG (Fisheries); Dr. N.K. Krishna Kumar, DDG (Hort.); ICAR; Sh. Ashish Khare, Secretary, Govt. of Assam.
- Agra:** Dr. M.P. Jadav, Director, CSA University of Agriculture and Technology, Kanpur; Dr. Omveer Singh, Managing Director, National Dairy Development Board, New Delhi.
- Chandigarh:** Dr. J.S. Samra, CEO, NRAA, New Delhi; Dr. C.G. Anand, Central Coffee Research Institute, Karnataka; Sh. B.S. Nain, Director, HAMETI,

Agriculture Department, Government of Haryana; Prof. K.P. Singh, Former Director and Chairman, Centre of Advanced Study, PU, Chandigarh; Dr. D.R. Bhumbra, Ex DDG, ICAR and Former Director, CSSRI, Karnal; Dr. Suresh Kumar, Chief Project Director, Swan Watershed Project, Una, H.P.

Datia: Dr. Arvind Kumar, Vice-Chancellor, Central Agriculture University; Dr. P.K. Ghosh, Director, IGFRI; Dr. Vishwakarma, Deputy Director, Animal Husbandry; Dr. U.K. Garg, Dean, College of Veterinary Sciences, Mahu, JNKVV, Jabalpur.

Koraput: Mr. Naresh Chandra Patro, Scientist (SS), MS Swaminathan Research Foundation, Jeypore; Sh. B.K. Panda, DFO, Koraput; Ms Monalisha Tripathy, WMT(S), IWMP-1, Khurda, Odisha; Sh. Pancham Lal, DC, CRPF 202, COBRA Battalion; Sh. B.S. Kalo, PD, Watershed; Sh. B.B. Paul, TE, Watershed, Koraput.

Kota: Dr. A.K. Samadia, Principal Scientist, CIAH, Bikaner; Sh. U.C. Prasad (CAO), IVRI, Bareilly; Dr. N.V. Patil, Director, NRC on Camel, Bikaner; Dr. A. Sahoo, Head, Department of Animal Nutrition, CSWRI, Avikanagar; Dr. Sujeet Kumar Jha, Principal Scientist, NDRI, Karnal; Dr. S.N. Prasad, Former Head, CSWCRTI, RC, Kota.

Udhagamandalam: Dr. A.K. Sikka, DDG(NRM), ICAR, New Delhi; Dr. J.B. Jadav, Assistant Conservator of Forests, Maharashtra; Dr. S. Ramkumar, SRMV-IARD; Dr. Christopher, TNAU, Coimbatore; Sh. P.R. Rajamani, WTC, TNAU, Coimbatore; Abalya Rural Development Trust, IWMP, Tiruvallur; Forest College and Research Institute, Mettupalayam; Sh. V. Thavamuni, DWDA, Sivagangai, Tamil Nadu; Pazhakulam Social Service Society, Meelocal Watershed; NGO, IWMP, Tiruvallur, Tamil Nadu; Sh. A. Srinivasalu, KAU, Kerala; Dr. H.S. Sivaramu, Professor, UASB, Bengaluru, Karnataka; Dr. V. Danaseelan, Krishi Bhavan, Kollam, Kerala.

Foreign Visits

- Dr. H. Biswas, Senior Scientist (Soils) and Dr. Rajesh Kaushal, Senior Scientist (Forestry) visited Carbon Management and Sequestration Centre, Ohio State University, Columbus, USA under NAIP Training Programme from May 14 - June 13, 2014.
- Dr. B.K. Rao, Senior Scientist (SWCE) and Dr Gopal Kumar Scientist (Soils) visited University of Arkansas, USA under NAIP Training Programme from May 14 - June 13, 2014.
- Dr. M. Muruganandam visited Auburn University, Alabama, USA under NAIP training programme from May 14-15, 2014.

Workshops/Trainings/Visits/Melas/Days/Weeks

- Exposure - cum - Training programme on Soil and Water Conservation sponsored by Deputy Conservator of Forests, Kedarnath Wildlife Division, Gopeshwar, Chamoli during April 3-5, 2014 at Dehradun.
- Exposure - cum - Training Programme on Soil and Water Conservation sponsored by Deputy Conservator of Forests, Nanda Devi National Park, Joshimath during April 15-19, 2014 and April 28 - May 2, 2014 at Dehradun.
- Kissan Mela* for farmers of adopted villages of TDET MoRD Project at Vikasnagar block on May 15, 2014 at Dehradun.
- Training on Integrated Watershed Management sponsored by DWDA, Kota during May 19-21, 2014 at Research Centre, Kota.
- Training-cum-Exposure Visit Programme on Soil and Water Conservation sponsored by Office Manager Odisha Forestry Sector Development Project, SFTRI Campus, Ghatikia, Bhubaneswar during May 19-22, 2014 at Dehradun.
- Training cum Workshop for Administrative Personnel during May 12-15, 2014 at Research Centre, Kota.
- Field Engineering Training on Watershed Management for State Forest Officers sponsored by Central Academy for State Forest Service,

- Coimbatore, Tamil Nadu during May 15-24, 2014 at Research Centre, Udhagamandalam.
- Training on Soil and Water Conservation and Water Harvesting Techniques during May 26-31, 2014 at Dehradun.
 - Gene Campaign on Soil Testing Training Programme for farmers of Dhari Block, District Nainital, Uttarakhand on May 30, 2014 at PWD Guest House, Kashiyalakh.
 - Training on Planning and Design of Engineering Structures in Watershed Management Programme for Southern Region sponsored by National Rainfed Area Authority, Ministry of Agriculture, New Delhi, Govt. of India during May 26-31, 2014 at Research Centre, Udhagamandalam.
 - Exposure Visit for 30 tribal farmers under Centre for Tribal and Rural Development Trust during May 27-28, 2014 at Research Centre, Udhagamandalam.
 - Four months Regular Training Course (110th batch) on Soil and Water Conservation and Watershed Management during June 2 - October 1, 2014 at Dehradun.
 - Four months In Plant Training on Soil and Water Conservation Engineering for B.Tech students from College of Agricultural Engineering, Acharya N.G. Ranga Agricultural University, Madakasira, Andhra Pradesh during June 1-September 30, 2014 at Research Centre, Udhagamandalam.
 - Training on PRA & Micro Watershed Planning for Probationers from Central Academy for State Forest Service, Dehradun during June 4-11, 2014 at Dehradun.
 - Four months Summer Practical Training on Soil and Water Conservation Engineering for B.Tech students of Agricultural Engineering from Bapala and Madakasira Engineering Colleges of Acharya N.G. Ranga Agricultural University, Andhra Pradesh during June 1 - September 30, 2014 at Research Centre, Kota.
 - Four months In Plant Training for B.Tech students from Andhra Pradesh on Soil and Water Conservation Engineering at Research Centre, Vasad.
 - One month Summer Training on Soil and Water Conservation Engineering for B.Tech (130 nos.) and M.Tech (16 nos.) from 15 different Institutes at Dehradun.
 - One month Summer Practical Training on Soil and Water Conservation Engineering and Watershed Management for B.Tech students from eight different colleges during June 1-30, 2014 at Research Centre, Udhagamandalam.
 - One month Summer Practical Training on Soil and Water Conservation Engineering for B.Tech students from College of Agriculture Engineering and Technology, Juangadh, Gujarat and College of Agricultural Engineering and Technology, Dapoli, Ratnagiri during June 1-30, 2014 at Research Centre, Bellary.
 - One month Summer Practical Training on Soil and Water Conservation Engineering for B.Tech students from Dr. Ulhas Patil College of Agricultural Engineering & Technology, Jalgaon; Aditya Agricultural Engineering & Technology College, Telgaon Road, Beed, and Vasantnaik Marathwada Krishi Vidyapeeth, Parbhani during June 1-30, 2014 at Research Centre, Datia.
 - One month Summer Practical Training on Soil and Water Conservation Engineering for B.Tech students from BCKV, Mohanpur, West Bengal during June 1-30, 2014 at Research Centre, Koraput.
 - One month Summer Practical Training on Soil and Water Conservation Engineering for students of B.Tech from Assam University, Silchar and Dr. B.S. Konkan Krishi Vidyapith, Dapoli during June 1-30, 2014 at Research Centre, Kota.
 - Training on Capacity Building on Soil and Water Conservation sponsored by DFO, Alaknanda Soil Conservation, Forest Division, Gopeshwar during July 7-11, 2014 at Dehradun.
 - Meeting for Finalization of Contingency Crop Plan for Prevailing Delayed Monsoon Conditions in South-eastern Rajasthan on July 16, 2014 at Research Centre, Kota.
 - Training Course on Disaster Management Landslide Rehabilitation and Control in Agricultural Watersheds during July 21-27, 2014 at Dehradun.
 - Meeting on Macro Planning for Reclamation of Ravine Lands for Productive Utilization on July 21, 2014 at Research Centre, Kota.
 - Exposure Visit of forty-two farmers from two blocks of district Bhind and one block of district Datia sponsored by State Agriculture Department on July 22 and 24, 2014 at Research Centre, Datia.
 - One month Summer Practical Training on Soil and Water Conservation Engineering for B.Tech students from GKVK, UAS, Bangalore during August 1-30, 2014 at Research Centre, Bellary.
 - Two months In Plant Training on Soil and Water Conservation Engineering for B.Tech students from OUAT, Bhubaneswar during August 1 - September 30, 2014 at Research Centre, Koraput.
 - Training on Land and Water Management in Watershed Areas under IWMP for Watershed Management Team (WMT) Members sponsored by Odisha Watershed Development Mission (OWDM), Bhubaneswar, Govt. of Odisha during August 10-14 and 18-22, 2014 at Research Centre, Koraput.
 - District level Training for Self Help Groups, User Groups and Farmers under IWMP during August 12-14, 2014 at Research Centre, Agra.
 - Exposure Visit of sixteen farmers from district Guna under *Mukhya Mantri Khet Tirth Yojna* on August 21, 2014 at Research Centre, Datia.
 - Exposure visit of women farmers from district Morena under MP State Govt. Scheme MAPWA on August 22, 2014 at Research Centre, Datia.
 - Agricultural Technology Week during August 25-30, 2014 at Research Centre, Kota.
 - Training on Integrated Watershed Management during September 8-13, 2014 at Research Centre, Kota.
 - Exposure Visit for seven Civil Servants from Himachal Pradesh under Natural Resource Management Group (NRMG) of People Science Institute (PSI), Dehradun during September 10-12, 2014 at Research Centre, Udhagamandalam.
 - Workshop on Development and Application of Potentially Important Jute Geo-Textile for Road Construction and Slope Stabilization on September 15, 2014 at Research Centre, Udhagamandalam.
 - Hindi Pakhwara during September 16-30, 2014 and Hindi Diwas on September 29, 2014 at Research Centre, Chandigarh.
 - Hindi Pakhwara during September 15-30, 2014 at Research Centre, Datia.
 - Hindi Diwas and Hindi Essay Competition on "*Bhartiya arthvyavstha me krishi ka mahatav*" on September 27, 2014 at Research Centre, Kota.
 - Hindi Workshop on September 27, 2014 at Research Centre, Agra.
 - Six days Training Programme on Watershed Treatment Techniques and Advancements for officers of Gujarat State Watershed Management Agency at Research Centre, Vasad.
 - Trainings on Integrated Watershed Management (12 nos.) sponsored by different District Watershed Development Agencies at Research Centre, Udhagamandalam.
 - Trainings on Post Project Management (3 nos.) sponsored by different District Watershed Development Agencies at Research Centre, Udhagamandalam.
 - Trainings on Watershed Activities (4 nos.) sponsored by District Watershed Development Agency, Madurai at Research Centre, Udhagamandalam.



- Five days training programmes (10 nos.) on Skill Development for Community Level Workers and Secretaries on Land and Water Management under IWMP sponsored by Odisha Watershed Development Mission (OWDM), Bhubaneswar, Govt. of Odisha during April-September, 2014 at Research Centre, Koraput.
- Trainings (16 nos.) for Farmers, State Government Officials and PRI Members of Himachal Pradesh and Haryana at Research Centre, Chandigarh.
- Sh. Vijay Kumar Meena, Scientist (Soils), VPKAS, Almora successfully completed three months professional attachment training under Dr. B.N. Ghosh, Principal Scientist (Soils).
- Sh. Abhishek Kumar, Scientist (Forestry), CAZRI-Regional Station, Jaisalmer, Jodhpur successfully completed three months professional attachment training during May 9-August 8, 2014 under Dr. A.C. Rathore, Senior Scientist (Horticulture) and Dr. J.M.S Tomar, Senior Scientist (Forestry).

Workshops/Meetings/Trainings Attended

- Professional Development Workshop organized by Australian Government of Education at Adelaide, Australia (April 8, 2014): Dr. Sharmistha Pal.
- Mid Term Review Meeting of XXII ICAR Regional Committee at CSSRI, Karnal (April 23, 2014): Dr. A.K. Tiwari.
- Training programme on Advanced Techno Management for D, E and F level (and equivalent) scientists at Administrative Staff College of India, Hyderabad, sponsored by DST, Govt. of India, and New Delhi (March 24 to April 25, 2014): Dr. S. Manivannan.
- Meeting regarding Preparation of Master Action Plan for Ranjit Sagar Dam Catchment Area Treatment at Chandigarh on (April 25, 2014): Dr. A.K. Tiwari.
- SAC meeting of KVK Datia (May 6, 2014): Dr. Dev Narayan.
- Training-cum-Workshop for Administrative Personnel at CSWCRTI Research Centre, Kota (May 12 -15, 2014): Sh. Manjeet Rawat.
- Three months Professional Attachment Training at Centre for Environment Science and Climate Resilient Agriculture (CESCRA), Indian Agricultural Research Institute (IARI), New Delhi (May 12-August 12, 2014): Sh. Anand Kumar Gupta.
- Three months Professional Attachment Training at Water Technology Centre, Indian Agricultural Research Institute (IARI), New Delhi (May 12-August 12, 2014): Dr. Rama Pal.
- Three months Professional Attachment Training at National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi (May 9-August 9, 2014): Sh. Mukesh Kumar Meena.
- Three months Professional Attachment Training at Central Arid Zone research Institute (CAZRI) Jodhpur (May 12-August 12, 2014): Sh. Manish Kumar.
- Three months Professional Attachment Training at Indian Institute of Horticulture Research, Bangalore (May 12-August 12, 2014): Sh. Amrut Morade.
- Regional Workshop on Research Priorities and Reconciliation in Eastern India at ICAR Research Complex for Eastern Region, Patna. (May 28, 2014): Dr. M. Madhu.
- Training on Soil Testing to farmers of Dhari Block, Nainital District of Uttarakhand at Kashiyalakh (May 30, 2014): Dr. U.K. Maurya.
- Directors' Conference at New Delhi (June 4-5, 2014): Dr. P.K. Mishra.
- Meeting with the Director General, ICAR (June 17, 2014): Dr. P.K. Mishra.
- XXIII Regional Committee No. I meeting organized by CSWCRTI, Dehradun at ICFRE, Dehradun (June 18-19, 2014): Dr(s) P.K. Mishra, G.P. Juyal, O.P. Chaturvedi, N.K. Sharma, B.L. Dhyani, Charan Singh, Pradeep Dogra, Ambrish Tiwari, D.V. Singh, B.N. Ghosh, D. Sena, D. Mandal, JMS Tomar, A. Rathore, M. Muruganandam, U.K. Maurya, Lekh Chand, R. Kaushal, J. Jayparkash, N.M. Alam, Raman Jeet Singh, S. Patra, C. Jana.
- Meeting with Hon'ble Union Minister of Agriculture and Food Processing, GoI related to on-going activities of the Institute at Rishikesh (June 20, 2014): Dr(s). P.K. Mishra and N.K. Sharma.
- Meeting with Hon'ble Union Agricultural Minister, GoI Shri Radha Mohan Singh with officials of central and state government connected with agriculture and allied sectors (June 29, 2014): Dr(s). P.K. Mishra, N.K. Sharma, O.P. Chaturvedi.
- ICAR Regional Committee Meeting held at CIFRI, Barrackpore, Kolkata (June 27-28, 2014): Dr. M. Madhu.
- Fishing Festival (*Mound*) organized in Aglar valley (June 29, 2014): Dr. M. Muruganandam.
- International Summer and Winter Turn (ISWT) on Hydrology & Climate Change at IIT Kharagpur (July 1-11, 2014): Er. Uday Mandal.
- Scientific Exchange Workshop on Drought Proofing for Semi-Arid Region of Bundelkhand at NRCAF, Jhansi organized by Development Alternatives under Water and Climate Resilience (WACREP). (July 4, 2014): Dr(s) S.P. Tiwari and Dev Narayan.
- Two day Interface Workshop for *kharif* season as resource person organized by Dy. Director ATMA, Datia (July 5, 2014): Dr(s). S.P. Tiwari, Dev Narayan and Om Prakash.
- Short-term Training Course on Forestry in Landslide Risk Management at Forest Research Institute, Dehradun (July 7-11, 2014): Dr. Lekh Chand and Mrs. C. Jana.
- Brain Storming Workshop on Promotion of Ecology and Economy through Biotechnological Intervention organized by Department of Biotechnology, New Delhi and HESCO, Dehradun at Isotope Hydrology Centre, HESCO, Dehradun (July 7, 2014): Dr. U.K. Maurya.
- Two days Farmers Training organized by Assistant Director Horticulture (July 9, 2014): Dr(s) S.P. Tiwari, Dev Narayan and Om Prakash.
- Meeting with farmers to provide technical and advisory support to state line departments and farming communities in context of current monsoon (July 15, 2014): Dr(s) N.K. Sharma, D. Mandal, Lekh Chand, Raman Jeet Singh.
- Meeting of farmers organized by KVK Datia on eve of ICAR Foundation Day (July 16, 2014) at village Sanora, Distt Datia: Research Centre, Datia
- Workshops on Ravine Consultancy at Research Centre, Kota and Research Centre, Vasad (July 21; September 1-2; October 9-11, 2014): Dr(s) R.S. Kurothe, V.C. Pande, B.K. Rao and Gopal Kumar.
- Meeting with Director Agriculture about Contingency Planning for prevailing monsoon conditions (July 22, 2014): Dr(s) N.K. Sharma, D. Mandal, Lekh Chand, Raman Jeet Singh.
- National Symposium on Natural Resource Management and Sustainable Hill Farming System for Livelihood at SKUAST, Jammu (July 23-24, 2014): Dr (s). B.N. Ghosh and P. Panwar.
- ICAR Foundation Day at NASC complex (July 29, 2014): Dr. P.K. Mishra.
- Directors' Conference at NASC complex (July 30, 2014): Dr. P.K. Mishra.
- Consultative Meeting on Traditional Fishing Festivals of Garhwal Himalayas (*Mound*) at Dehradun (August 2, 2014): Dr. M. Muruganandam and Er. Sridhar Patra.
- All India Seminar on Engineering Technologies for Sustainable Agriculture through Natural Resource Management at Ahmednagar, Maharashtra (August 8-9, 2014): Dr. V.K. Bhatt.
- Meeting on Preparation of Training Manual for MGNREGA held at MoRD, New Delhi (August 12, 2014): Dr(s) P.K. Mishra and P.R. Ojasvi.

- Member of Research Advisory Committee in Central Silk Board, Pampore, J&K (August 12-13, 2014): Dr. B.N. Ghosh.
- Consultative Meeting on Landscape Conservation & Development Initiatives in Uttarakhand at Dehradun (August 20, 2014): Dr(s) P.K. Mishra and P.R. Ojasvi.
- Academic Council Meeting at IARI (August 21, 2014): Dr. P.K. Mishra.
- Training Programme on MIS/MFS at IASRI, New Delhi (August 20-23, 2014): Dr. O.P.S. Khola, Sh. V.A. Padmanabha, AAO and Mrs. N. Revathi.
- Short course for state level training officers/WDT engaged in IWMP in Bihar State as Resource Person (August 24 to 27, 2014): Dr. D.R. Sena.
- Meeting of Rashtriya Krishi Vikas Yojana of State Level Sanctioning Committee (SLSC) at Uttarakhand Secretariat, Dehradun (August 26, 2014): Dr. N.K. Sharma.
- Seminar on Geospatial Tools organized by Geospatial Media Pvt. Ltd. at Dehradun (August 27, 2014): Dr(s) P.R. Ojasvi, M. Muruganandam and Er. S.S. Shrimali.
- District level watershed committee meeting organized by *Zila Panchayat* Datia on to review the progress of watershed works under Rajiv Gandhi Watershed Mission under Chairmanship of Collector, Datia (August 28, 2014): Dr. S.P. Tiwari.
- International Conference on Life Sciences, Informatics, Food and Environment at Jaypee Institute of Information Technology, Noida, U.P. (August 29-30, 2014): Sh. Anand Kumar Gupta.
- Convocation of IFS at FRI, Dehradun (August 30, 2014): Dr. P.K. Mishra.
- Meeting of THDC for Report Finalization at IEI (UKSC) Auditorium, Dehradun (August 30, 2014): Dr. B.N. Ghosh.
- Meeting organized by Deputy Director, Agriculture, Datia for finalization of technical programme for "*Krishi Mahotsav*" held under the chairmanship of Collector, Datia (August 25, 2014): Dr. S.P. Tiwari.
- Seminar of ESRI, India, on Geo-enabling State Government Departments, at Chandigarh (September 3, 2014): Dr(s) A.K. Tiwari and V.K. Bhatt.
- National Seminar on BIOVISION-2014 at Arumugam Pillai Seethai Ammal College, Thirupathur, Sivagangai District (September 5-6, 2014): Dr D. Dinesh.
- Scientific Advisory Committee Meeting of KVK, Rayagada, Gunpur (September 11, 2014): Dr. D.C. Sahoo.
- ICAR Regional Committee Meeting for Zone-VI at Anand Agricultural University, Anand, Gujarat (September 12-13, 2014): Dr. R.K. Singh.
- Workshop on Development and Application of Potentially Important Jute Geo-Textile for Road Construction and Slope Stabilization at Research Centre, Udhagamandalam (September 15, 2014): Dr(s) P.K. Mishra, G.P. Juyal, Harsh Mehta and V.K. Bhatt.
- MDP on Advanced Analytical Tools for Social Science at NAARM, Hyderabad (September 17-26, 2014): Dr. V.C. Pande.
- Third Science Expo-2014 to showcase Centre's Technologies at Solan, Himachal Pradesh (September 18-20, 2014): Research Centre, Chandigarh.
- Meeting of *Nagar Rajbhasha Kriyanawan Samiti* at NTPC, Anta in Baran district (September 19, 2014): Dr. B.L. Mina.
- *Krishi Evam Gramaya Vikas* Exhibition organized by Pandit Deen Dayal Upadhyay Smriti Mahotsav Samiti at Nanglachandrabhan, Farah, Mathura, U.P. (September 20-22, 2014): HRD Division, Dehradun.
- Meeting to review progress of consultancy assignment for preparing macro plan on ravine reclamation for productive utilization with Additional Secretary (Horticulture), MoA, Gol (September 23, 2014): Dr. R.K. Singh.

- Training on MIS/FMS at IASRI, New Delhi (September 23-26, 2014): Sh. K.K. Lalwani and Mohammad Irfan.
- Meeting of Project Advisory Committee (PAC) of project "Maximizing Mountain Agriculture Project" of the Himmothan Society of the Sir Ratan Tata Trust (SRTT), Mumbai at Dehradun (September 25, 2014): Dr. N.K. Sharma.
- Training on Conservation Agriculture: Developing Resilient Systems organized by CSSRI/CIMMYT at Karnal (September 27- Oct 4, 2014): Er. S. Patra.
- *Kissan Mela* organized by VPKAS, Almora (September 30, 2014): HRD Division, Dehradun.

Personalia

Joinings/Transfers

- Dr. G.C. Sharma, Principal Scientist (Ag. Stat.) joined Dehradun on transfer from PDFSR, Modipuram.
- Sh. A.K. Singh, Chief Administrative Officer joined Dehradun on transfer from CPRI, Shimla.
- Dr. Rama Pal, Scientist (Environmental Sciences) joined Research Centre, Agra after completion of 3 months FOCARS training.
- Sh. Anand Gupta, Scientist (Environmental Sciences) joined Plant Science Division, Dehradun after completion of 3 months FOCARS training.
- Sh. Amrut Morade, Scientist (Fruit Science) joined Plant Science Division, Dehradun after completion of 3 months FOCARS training.
- Manish Kumar, Scientist (Agroforestry) joined Research Centre, Datia after completion of 3 months FOCARS training.
- Sh. Mukesh Kumar Meena, Sci (Agri. Econ) joined Research Centre, Koraput after completion of 3 months FOCARS training.
- Sh. V.K. Dwivedi, ACTO joined CSWCRTI, Dehradun on transfer from Research Centre, Datia.
- Sh. Krishan Kumar, Technical Officer joined Research Centre, Datia on transfer from Research Centre, Agra.
- Sh. Mohd. Irfan, Research Centre, Kota joined as Junior Account Officer.
- Sh. Dalbir Singh, UDC joined CSWCRTI, Dehradun on transfer from Research Centre, Agra.
- Sh. R.C. Meena, Assistant joined Research Centre, Agra on transfer from Research Centre, Kota.
- Sh. Ravish Singh, Technician joined Plant Science Division, Dehradun.

Promotions

- Dr. Dev Narayan and Dr. Om Prakash promoted to Principal Scientist.
- Dr. K. Rajan promoted to Senior Scientist.
- Sh. Vishwa Ranjan, Chief Administrative Officer joined IIM Lucknow as Chief Administrative Officer.
- Sh. Mohd. Irfan, LDC, Research Cente, Kota promoted to Junior Accounts Officer.
- Sh. M. Vishwanathan, SSS, Research Centre, Udhagamandalam promoted to LDC.

Retirements

Dr. G.P. Juyal, Head (H&E) (Dehradun); Sh. A.K. Bhatt, ACTO (Dehradun); Sh. B. Chandran, TO (Udhagamandalam); Sh. M.H. Vaghela, TO (Vasad); Sh. Raghvander, TO (Dehradun); Sh. M. Murugaiah, TO (Udhagamandalam); Sh. B.K. Thapa, Security Supervisor (Dehradun); Sh. Risal Singh, SSS (Dehradun); Sh. Hans Raj, SSS (Agra); Sh. Ram Prasad, SSS (Agra); Sh. Ram Swaroop, SSS (Agra); Sh. B. Jagadeesh, SSS (Bellary); Sh. Nirbhaya Shankar, SSS (Kota); Sh. R. Rajamani, SSS (Udhagamandalam) and Sh. L. Rajappan, Casual Labourer (Udhagamandalam).



Technology

Katta-Crate Technology: A Cost Effective Measure for Rehabilitation of Torrentsand Minespoil Areas

Torrents affect about 7500 sq km of land in the Shivaliks spread over states of Uttarakhand, Uttar Pradesh, Haryana, Punjab, Himachal Pradesh, Jammu & Kashmir and the Union Territory of Chandigarh. Besides, vast tract of land (over 25000 ha) are degraded and erosion prone due to mining activity in the Himalayan region, which need to be rehabilitated by proper soil conservation measures. Stone-wire-crate gabion structure is the most commonly used soil conservation measure on such type of degraded land. However, where stone has to be transported over a long distance, cost of the gabion structures becomes exorbitant. Therefore, an alternative low cost technology based on locally available material was developed by CSWCRTI, which can serve the purpose of training the torrents and rehabilitating minespoil sites as done by conventional gabion structures.

The technology involves making of mortar out of locally available material from *nala* (stream) bed i.e. sand/gravel, pebbles, mine-spoil etc. mixed with a small quantity of cement (1:18 ratio). The mortar is filled in disposed (used) synthetic cement bags (locally known as *Katta*). The bags filled with this mortar laid out in defined fashion called "*Katta-crate*" are used for construction of soil conservation structures such as spurs, check dams/barriers, retaining walls etc. laid as per design, instead of stones transported over a long distance. The bags may be encased with a GI (galvanized iron) wire mesh made of 10 SWG (3.15 mm dia) wire for greater stability. The laid out bags become a solid mass in due course of time and are as good as stones.

Such structures were field tested at mine spoil and torrent control project sites and were observed to perform satisfactorily. The *Katta-crate* construction worked out to be cheaper by 20% as compared to gabion construction in a typical case study where stone had to be supplied from a distance of about 20 km by road transport and head load. In case GI wire mesh is not used, then *Katta-crate* is cheaper by 46% than a gabion structure.

The technology can be implemented with ease in much less time compared to the conventional gabion structures. The *Katta-crate* structures are more economical than the conventional gabion structures, where stone is not readily available. *Katta-crate* technology can be used for construction of structures for torrent training and mine-spoil stabilization at sites where big size stones are not available in the near vicinity. The technology is useful for State Departments of Soil Conservation, Watershed Development, Irrigation and Flood Control, Forests, mining industry, NGOs and farmers.

Shri Veer Harnail Singh, a farmer of Village Patti Sultanpur, Tehsil Milk, District Rampur (Uttar Pradesh) adopted the torrent control and *Katta-crate* technology developed by CSWCRTI, Dehradun for protecting his land and stone crusher situated along the banks of Kosi River from flood damages. With construction of seven *katta-crate* spurs (12 m x 6 m x 4 m) in stepped fashion and a *katta-crate* toe wall with a cross-section of 4 m x 2 m x 2 m and 800 m length along the river bank, he could protect extensive land and other infrastructure situated near the river bank. These structures helped in diverting the river flow to about 15 m towards the centre of river during the monsoon period of 2012 and further about 50 m during 2013 monsoon that immensely benefitted to protect land and human resources. Seeing this, many farmers and development agencies present in the region are coming forward to adopt the technology to protect their agriculture land and other resources.



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