



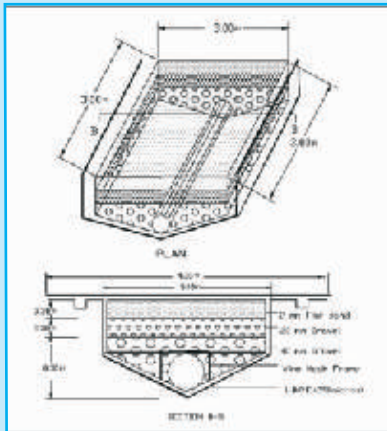
IISWC News



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Natural Resource Management for Livelihood Security

From The Director's Desk



Being selected by the Intergovernmental Science and Policy Platform on Biodiversity and Ecosystem Services (IPBES), Bonn, Germany, I had the opportunity to attend the meeting on Land Degradation and Restoration in September 2015 with specific responsibility on Decision Support System (DSS) vis-à-vis policy framework. I want to share my observation on the topic.

To make the land degradation assessment and restoration program effective over space and time, a robust and friendly Decision Support System is very much needed. The Decision Support System is an integrated assembly of models, data, interpretive routines and other relevant information that efficiently processes input data, runs the models and displays the results in an easy to interpret format. The DSS will help in the decision making process, to understand the problem and explore various alternative courses of actions. DSS helps the user to analyze facts and situations, to try out several different scenarios, and help in selecting the most appropriate decision. In rehabilitation of degraded lands, DSS may help to generate useful information by incorporating the knowledge base and technological options/ solutions available, and then putting the information into a form enabling the users to improve rationality in decision that lead to sustainable production by respecting the environment. Development of Decision Support System is an incremental and innovative process. The development of a decision support system involves knowledge acquisition, problem structuring and system design, problem encoding and system testing. The knowledge sources may be textbooks, manuals, research articles, personal experience and expert advice. In the present perspective, the DSS is best developed on a digital platform.

To tackle the rehabilitation of degraded lands in watershed perspective, efforts have been made by various agencies to provide WebGIS-based resource maps of watersheds and master plan to stakeholders for easy data retrieval and updating. A comprehensive computer application is still required for scientific planning of watershed development programmes based on the spatial and non-spatial database, resource conservation technologies and established design procedures and decision rules. A robust DSS can deliver the goods for the planners and implementers, provided it is supported with a strong and reliable data base. In the present world, with digital explosion of information, there is a need to research upon the available bio-physical and economic models, design protocols, global data bases and decision rules etc. for developing DSS for specific use. The decision support framework for reclamation and productive utilization of degraded land should have a very strong database on different types of land degradation at higher resolution, assessment of the inventory of treated area at temporal and spatial scales for various land uses for future planning, uniformity in categorizing/classification of different types of degradation at national and international level, characteristics (attributes) of type of degradation to avoid overlap between and among the types of degradation, and biodiversity status (vegetation above the ground and flora and fauna of soil) of degraded lands to be understood or to be studied.

DSS may contain both Indigenous and Local Knowledge (ILK) and scientific Soil and Water Conservation (SWC) measures to tackle the problems of degradation based on agro-ecological region. Restoration options are many and need to be identified for different types of degradation considering the socio-economic conditions of the users. Ultimately, the developed DSS should be validated by the user agencies/departments. Hence, the development of a DSS should be participatory in nature from the time of conceptualization till the development of the product.

P.K. Mishra



NEW INITIATIVES

Externally Funded Projects

- National Mission on Sustaining Himalayan Eco-system - Task force on Himalayan Agriculture for Lower and Middle Himalayan Region (NMSHE Project) funded by Department of Science & Technology, Ministry of Science & Technology, Government of India (Dehradun and Chandigarh).
- Environmental Tracer Based Study on Erosion Induced Loss of Soil Organic Carbon and Its Impact on Agronomic Productivity and Environmental Quality (ICAR-National Fellow Project) funded by ICAR under National Fellow Programme (Dehradun).
- Consortia Research Platform-Water Theme 1 - Water Resources Augmentation / Conservation (Water Platform Project) funded by ICAR (Dehradun, Agra, Bellary, Chandigarh, Datia, Koraput, Kota, Udhagamandalam and Vasad).
- Efficient Groundwater Management for Enhancing Adaptive Capacity to Climate Change in Sugarcane Based Farming Systems in Muzaffarnagar District, U.P. funded by Ministry of Agriculture under National Mission for Sustainable Agriculture (NMSA) (Dehradun).
- Ensuing Sustainable Agricultural Development and Livelihood Security in Lower Shiwalik Range of Uttarakhand funded by Department of Science & Technology, Ministry of Science & Technology, Government of India (Dehradun).
- Approval of grant of ₹ 15 lacs received from Director, Horticulture Mission under the aegis of “National Horticulture Mission for NEH and Himalayan states” for the establishment of Modern Nursery at Institute.

Consultancy Projects

- NABARD funded watershed evaluation consultancy project on impact assessment of 12 watershed projects implemented by NABARD, Bangalore (Bellary).
- Study on “Impact Assessment of Soil and Water Conservation Measures Implemented in Swan Catchment” under Swan River Integrated Watershed Management Project (SRIWMP), Una, Himachal Pradesh (Chandigarh).
- Evaluation of activities taken up at wetlands of Punjab during 2014-15, funded by Punjab State Council for Science & Technology (Chandigarh).
- “Development of a Model Ravine Cluster for Productive Utilization in Upper Chambal Catchment” for Rajasthan Government under Rastriya Krishi Vikas Yojna (Kota).

IMPORTANT EVENTS

Deputy Director General (NRM) Visited Research Centre Agra

Dr. A.K. Sikka, Deputy Director General (NRM), ICAR visited ICAR-IISWC Research Centre at Agra on June 6, 2015. Dr. S.K. Dubey, Head of Centre along with other scientists, technical and administrative staff welcomed him. Dr. S.K. Dubey briefed about the various R&D

activities of the centre and a short film about centre was also screened. The DDG visited museum, laboratory and ARIS cell and completed new office facilities. He took special interest in Central Laboratory and auditorium. Posters in Hindi were his area of interest and suggested changes needed for museum. He emphasized on making the museum more viable to farmers. TSP and TOT programmes implementation by the centre were discussed and ways were investigated for improving their implementation. In afternoon, a meeting was held with all staff members of the centre. He was very happy with the research publications and awards of the centre. He stress upon taking new initiative to address the upcoming issues of R&D.



Dr. Mangala Rai Felicitated

Dr. Mangala Rai, Vice-Chancellor of GBPUAT, Pantnagar and Former Secretary (DARE) & Director General (ICAR) visited ICAR-IISWC, Dehradun on June 20, 2015. Dr. Mangala Rai viewed exhibits highlighting various activities of the Institute. He interacted with scientists of the Institute while viewing the exhibits and advised them specifically about how to address the gaps in taking the generated technologies from research farm to farmers. He stressed on a holistic approach for the state department functionaries and farmers in the matter. He interacted on each of the displayed activities through exhibits with the scientists. Later on, he was formally felicitated in a function attended by all scientists and staff of the Institute. Dr. P.K. Mishra, Director, ICAR-IISWC welcomed the Honourable Guest and presented him mementos. He thanked Dr. Mangala Rai for sparing his valuable time for interacting with the scientists and staff of the Institute. He also highlighted the achievements and progress of the Institute in the last five years. Dr. Mangala Rai in his address discussed about how to achieve outputs and outcomes in the present scenario.



State Level Joint Meetings of ICAR Regional Committee No. I Held

State level joint meetings of ICAR Regional Committee No. I for Himachal Pradesh, Uttarakhand and Jammu & Kashmir were held on 22nd May, 3rd June and 3rd July, 2015 at CSKHPKV (Palampur, HP),





GBPUAT (Pantnagar, UK) and SKUAST-J (Jammu, J&K), respectively. The meeting at Palampur was inaugurated by Shri S.S. Pathenia, Minister of Agriculture, Non-Conventional Energy Resources, MPP & Power, Government of H.P. At Pantnagar, it was inaugurated by Dr. Mangala Rai, Vice-Chancellor of GBPUAT, and at Jammu, Dr. P.K. Sharma, Vice Chancellor, SKUAST-J inaugurated the meeting.

The Honourable Minister, Govt. of H.P. stressed upon development of cost effective technologies for high value, low volume crops, in addition to cereal crops for socio-economic upliftment of farmers as majority of these farmers have small land holdings and agriculture is rainfed. Two publications of CSKHPKV and one of ICAR-IISWC were released by the Honourable Minister. The Vice Chancellor, GBPUAT, Pantnagar emphasized upon enhancing production of minor millets, pulses, especially short duration cowpea. He also emphasized on enhancement of production and improvement of quality of fruit crops. The Vice Chancellor, SKUAST-J highlighted the importance of Extension Programmes, so that research endeavours of scientists are brought to the doorstep of farmers to accrue benefits of sustainable hill farming. Dr. P.K. Mishra, Secretary, ICAR Regional Committee No. I presented the Action Taken Report in these meetings, and urged all concerned to abide by the recommendations of the meeting in letter and spirit.

Training Programme for All India Service Officers on PMKSY Conducted

A training course for IAS and IFS Officers on *Pradhan Mantri Krishi Sinchai Yojana* (PMKSY) was organized by ICAR-IISWC, Dehradun during September 21-24, 2015. A total of 22 participants from 7 northern states, viz; Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Madhya Pradesh and Chhattisgarh attended the training. Shri S. Ramasamy, Principal Secretary, Agriculture, Uttarakhand and Dr. Sanjeev Chopra, Joint Secretary (Agriculture) and Mission Director, PMKSY, New Delhi inaugurated the course in presence of Dr. Vinod Kumar, Director, IGNFA, Dehradun, resource persons from various partner Institutions across the country, Dr. N.K. Sharma (In-charge Director), Heads of Divisions, scientists and other staff of IISWC on September 21, 2015.

Chief Guest of the Valedictory Session, Shri N. Ravi Shankar, Former Chief Secretary, Uttarakhand addressed the participants on September 24, 2015. In his concluding remarks he said that PMKSY would be a powerful programme to change subsistence farming into commercial farming if it could realize the expectation of the farmers. He went on to say that undoubtedly poor efficiency of irrigation system affects farm outputs and it stands as a major challenge before scientists and technocrats. Enhancing the irrigation efficiency would save water and that would bring larger area under irrigation. The advance irrigation methods like micro-irrigation not only save precious water but also enhance productivity of crops. This would make the slogans *Har Khet Ko Pani* and *More-Crops-Per-Drop* stand true.

Earlier, Dr. Pathak, Joint Director, Agriculture; Dr. Jyothi, Chief Agriculture Officer; and officers from other line Departments including Dehradun District Horticulture Officer and Assistant Engineer, Kalsi (Dehradun) interacted with the participants

explaining activities of the respective Departments imposed in the field. Water specialists from various organizations including ICAR-IISWC (Dehradun), ICAR-IIWM (Bhubaneswar), CWC-NWA (Pune), NIRD (Hyderabad) etc. were involved in the programme. Dr. P.R. Ojasvi, Head, Hydrology and Engineering, ICAR-IISWC coordinated the programme. Dr. Ojasvi summed up details of the programme. He said that intricacies involved in enhancing availability of irrigation water resources and use efficiency were explained to the participants. Required managerial skills for better planning, implementation and monitoring of irrigation program were infused to the officer trainees.

In addition to lecture sessions, a daylong field visit was conducted to familiarize the action components of PMKSY. During field visit, trainee officers were exposed to the "Gravity-fed Water Conveyance System" developed by ICAR-IISWC at Pasauli, Vikasnagar Block,



Dehradun. They received firsthand information on functioning and benefits of the system by interaction with farmers. On the last day, hands-on exercise was conducted to equip the participants to prepare District Irrigation Plan and proceed further with the plan for implementation and monitoring. The participants in their feedback expressed usefulness and effectiveness of the irrigation systems observed in fields and practical exposure on preparation of District Irrigation Plan (DIP) models. They opined that systems observed are really innovative and suitable for larger area, particularly hill agriculture.

Impacts of Fishing Festivals Studied and Farmers Sensitized at Aglar and Bathrigad Rivers

Impacts of fishing festivals (mound mela) celebrated on June 28 and July 16, 2015 at Aglar and Badrigad rivers, respectively (80-150 km from Dehradun), two important tributaries of Yamuna in Tehri District of Uttarakhand were surveyed by ICAR-IISWC, Dehradun. These festivals are common in most of the 5th - 6th order rivers at many locations in Garhwal Himalayas. This year festivals were attended by over 4000 and 8000 fishermen on 28th June and 2000-3000 on 16th July besides few researchers, media persons, local political persons and on-lookers from Dehradun, Lucknow, and elsewhere. Only about 10% of the participants caught fish using various gears and methods and majority rest returned empty handed disappointingly, mainly due to loss of fish habitats. Also, the fishermen were of the opinion that fish were caught by the villagers from nearby villages using bleaching powder and dynamites illegally few days prior to festival day despite existence of stringent local rules and regulation with punishment up to a fine of Rs 25000, which largely led to this minimum fish availability and catches. More of young ones and juvenile were caught during the festivals. Almost all of the fish catch was below the recommended catch sizes that endanger fish sustainability. Roughly 25 snakes were killed during the festival besides killing lot of insects. The festival visibly affected riverine water quality, macro-invertebrates, snakes, macro-algae,



fish species, fish habitats and total aquatic biodiversity and ecosystems as such besides endangering one of the important medicinal herbs, *Zanthoxylum armatum* DC. This formed one of the sources of cultural pollution of riverine resources. The impacts of the fishing festivals were sensitized to the local people and fishermen participated in groups, drawing support from over 16 years of observations made by IISWC. The need of reorganization of the festivals that promote conservation and shared responsibility for conservation of fish and aquatic resources was highlighted. Impacts of fishing festivals have also been shared with line Departments.

ICAR Zonal Sports Meet 2015 Organized

ICAR Inter Institutional North Zone Staff Sports meet was organized at IISWC, Dehradun during April 18-21, 2015. The sports meet was inaugurated by Dr. Vinod Kumar, Director, IGNSA, Dehradun. The inaugural tune played by Indian Army, Garhwal Regiment made the opening ceremony spectacular and memorable. Dr. P.K. Mishra, Director, ICAR-IISWC welcomed the participants and wished a happy and memorable stay at Dehradun. On this occasion, a souvenir on sports meet highlighting the tournament



schedule and tourist places in Dehradun was also released. In the Sports Meet, 850 staffs from 23 ICAR Institutes located at Lucknow, Kanpur, Bareilly, Varanasi, Mathura, Meerut, Almora, Nainital, Dehradun, Karnal, Hisar, Ludhiana, Shimla, Solan and Srinagar participated. Twenty categories of track and field events, namely, running, jumping and throwing, 4 categories of indoor games such as badminton, table tennis, carom and chess and 5 categories of outdoor, team games, viz; basketball, football, kabaddi, volleyball (shooting and smashing) were played. In the closing ceremony, Dr. P.P. Bhojvaid, Director, FRI distributed the shields and medals to winning teams and player as Chief Guest of the closing function. Mr. Rajnish Kumar and Mr. Sandeep Deswal from NDRI, Karnal and Mrs. Manisha Arya, from VPKAS, Almora were adjudged as best athletes amongst men and women, respectively. NDRI, Karnal won the overall championship by securing maximum points.

Himalaya Day Celebrated

The Himalaya Day was celebrated at ICAR-IISWC, Dehradun on September 9, 2015. The celebration was attended by about 300 students and teachers from Central School/KV-ONGC, KV-IMA, KV-Beerpur, Girls Inter College (Garhi Cant) and Dolphin Institute of Natural Sciences (Dehradun), besides scientists and staffs of IISWC, Dehradun. The daylong celebration began with reading-out introductory remarks of Dr. P.K. Mishra, Director, ICAR-IISWC on

Himalayas. An exhibition on the theme of technological necessities to improve agriculture production was organized for benefit of students and participants. Dr. N.K. Sharma, In-charge Director, IISWC briefed the importance of Himalayas and the



celebration to bring focus on their protection. He urged all the participants and inhabitants of Himalayan region to use the resources responsibly for their own benefit and people in downstream reaches. The students and participants were exposed to various technological information through an interactive seminar on importance of Himalayas, environment and technological needs. They were sensitized about technological advancements made at IISWC to protect soil and water resources, and initiatives taken for sustainable management of Himalayas. Importance of Himalayas, their biodiversity and ecosystems for climate amelioration, socio-economic importance and livelihood support were briefed to the participants. As a focussed activity, the students, teachers and participants solemnly took oath to protect Himalayas with themes of "Conserve Soil and Water", "Save Himalayas" "Save Life". The Day was also organized at the ICAR-IISWC Research Centre, Chandigarh.

Four Months Certificate Course on "Soil & Water Conservation and Watershed Management" Executed

ICAR-IISWC, Dehradun organized its regular Four Months Certificate Course on 'Soil & Water Conservation and Watershed Management' during April 22 to August 21, 2015. In this course, 22 officer trainees from 5 states (Assam-8, Chhattisgarh-8, Madhya Pradesh-3, Uttarakhand-



2 and J&K-1) participated, including 6 women officers. Eminent Soil Conservationist and Professor J.S. Bali, was invited as the Chief Guest of the Valedictory Function. Dr. Bali exhorted the participants to adopt bio-industrial watershed management concept. Water is the key factor for the farmers. If availability of water is assured then other inputs can be managed for profitable crop husbandry. Proper use of soil and water can make farmers as best watershed managers. It can be possible only through intensive and comprehensive capacity building programmes. Focus on skill development in soil and water conservation can make a difference among soil conservation extension workers and farmers. Based on outstanding performance of the participants, 8 merit certificates were awarded to Smt. Abhilasha Anthwal & Ms. Lipee Baruah for Engineering, Shri Satish Kumar Awasthi for Soil Science, Shri Manoj Singh for Agronomy, Ms. Abhina Narah & Smt. Abhilasha Anthwal for Forestry, Smt. Barnali Barbaruah for IWM, Shri Satish Kumar Awasthi for Local Project and Smt. Deepanjali Brahma & Smt. Barnali Barbaruah for Study Tour. Smt. Abhilasha Anthwal Officer Trainee of Uttarakhand was also awarded with Overall Aggregate

Certificate for her excellent performance in different modules of the training all-together.

The session was presided over by Dr. P.K. Mishra, Director, ICAR-IISWC. He said that all the officer trainees are our ambassadors in their working areas towards promoting soil and water conservation technologies. He stated that more attention should be given on active involvement of villagers in watershed projects. He appreciated that remote sensing, GIS, experiential learning and practical exposure, etc. have been emphasized in this course. In this course, Soil & Water Conservation Engineering; Soil Management for Controlling Land Degradation; Conservation Forestry; Conservation Agronomy; and Integrated Watershed Management: Guidelines & Processes were covered. The trainees were provided an opportunity to make independent benchmark survey on engineering, hydrology, soils, forestry, agronomy, livestock and human aspects for realistic watershed planning.

Resource Conservation Technologies Exhibited in Kissan Mela

The ICAR-IISWC, Dehradun exhibited its natural resource conservation technologies in a *Kissan Mela* organized by Vivekanand Parvathiya Krishi Anusandhan Sansthan (ICAR-VPKAS), Almora on April 8, 2015. The Chief Guest, Shri Manoj



Tewari, MLA, Almora; Dr. P.P. Dhyani, Director, GB Pant Institute of Himalayan Ecology, Almora; Dr. A. Patnayak, Director, VPKAS; and Dr. J.C. Bhatt, Ex-Director, VPKAS spoke on various achievements of ICAR, VPKAS and the other research Institutes located in the region. Over 30 stalls were installed in the mela that were mainly from organizations located in Kumaon region. Stall of IISWC was the only stall from Garhwal region.

The IISWC Stall attracted groups of farmers and participants. Useful publications and technology details generated by IISWC were distributed to farmers and participants. Farmers showed keen interest on technological aspects of soil and water conservation and had useful interaction with the scientists. Over 300 farmers and participants benefited from the IISWC Stall, which exhibited specifically prepared exhibits and technological details. The Chief Guest, farmers, other participants and the organizers appreciated efforts being made by IISWC, Dehradun.

Participated in Mega Exhibition

The ICAR-IISWC Research Centre, Chandigarh participated in Government of India Mega Exhibition on May 28, 2015 at Chandigarh. A number of farmers from different villages of Punjab participated in the event. A stall was installed and manned by a team of the centre. The farmers discussed role of soil testing in diagnosing conditions of available nutrients in soil which indicates fertility and productivity of the soils. It was explained to them that it also helps in assessing soil constraints related to soil fertility. The farmers were shown sample soil health card developed in Mandhala watershed. The use of such information by the farmers

were explained and it was also discussed whether the health card would help reduce consumption of fertilizers. The farmers raised the issue of bridging gap between number of soil testing laboratories that exist today and targeted number that needs to be established in following three years. The farmers also discussed about problems they are facing regarding water availability and salinity in soils, specially in cultivation of rice.

Foundation Day of Datia Centre Celebrated

The ICAR-IISWC Research Centre, Datia celebrated its Foundation Day on September 18, 2015. On the occasion, a “Field Day cum Sensitization Workshop” was organized to popularize adoptable soil and water conservation technologies for



different stakeholders through field visits, presentations, documentary film show etc. Shri Bhaskar Lakshakar, Collector and Chief Executive Officer, Zila Panchayat, Datia along with Dr. R.K. Tiwari, Principal Scientist as representative of ICAR-Central Agroforestry Research Institute (Jhansi) inaugurated the programme. More than 75 participants, including district level heads of state departments (Deputy Director Agriculture, Sub-divisional Officers, etc.), Assistant Directors of state line departments (Horticulture, etc.), NGO Development Alternatives, educationists, students and progressive farmers from more than 6 villages attended the programme. Shri Bhaskar Lakshakar Collector Datia at the occasion appraised the research works being done at the centre and advised to prepare short duration video clips on each technology for their wide spread dissemination through various district level extension programmes.

Interaction Workshop on Jhola Land Utilization Organized

One day interaction workshop on “Jhola Land Utilization” was organized by ICAR-IISWC Research Centre, Koraput on April 22, 2015. The objective of the programme was to discuss, collect information on several relevant issues related to jhola land cultivation. In the workshop, a



total of 23 farmers and farm women from 6 villages (Chalanput, Patraput, Podagada, Mukhibidai, Badabadigaon, Malipungar) of Semiliguda Block, Koraput district participated. Dr. M. Madhu, Head and other scientists of centre interacted with the farmers. Understanding of jhola land by the local community and their nomenclatures used by them for different top-sequences were discussed. Relevant issues of jhola land systems like present cultivation practices, related cultivation problems, water source, viable development options, and scientific management were discussed. The workshop concluded that jhola lands are the lands, continuously fed with stream water. These are most fertile land among arable lands, however cultivated with only paddy



throughout a year. Iron toxicity along with sediment deposition during rainy season is the major problem of these lands. The water of jhola land can be diverted and used in adjoining upland.

Training-cum-Exposure Visit of TSP Beneficiaries Organized

For exploring the possibility of alternative source of income, a one-day Training-cum-Exposure Visit of TSP beneficiaries was conducted on August 20, 2015 by ICAR-IISWC Research Centre, Koraput. Prior to this visit, a meeting with stakeholders was held on August 19, 2015 to discuss and select beneficiaries. During the discussion Dr. M. Madhu, Head briefed about various successful farming entrepreneurial activities in adjoining blocks of this region. Finally, it was decided to visit



successful farming of goat, Japanese quail and fish farming. Four farmers from TSP adopted villages were selected. To make the visit a successful one, the farmer who is doing the activities and the line department officials that are involved / promoting these activities were requested to be present during this visit so that the visiting members have first-hand glance and face-to-face discussion regarding their activities. Accordingly, the selected farmers visited the goat farming of Shri Chakra Harijan at Village Ghumar, Block Kundra, Japanese Quail Farm at Village Bijapur, and Fish Seed Production Unit at Jeypore in Koraput district of Odisha. Seeing is believing. The farmers were much impressed by seeing the income generating farming activities and committed to initiate these activities in convergence mode for the betterment of self and the community as a whole.

Review-cum-Interaction Meeting of TSP Stakeholders Organized

ICAR-IISWC Research Centre, Koraput organized a one-day Review-cum-Interaction Meeting of TSP stakeholders on April 22, 2015. The meeting was presided over by Dr. M. Madhu, Head and expressed his satisfaction for the last year achievements and support from tribal community and staff of the centre. The interaction meeting was held with the objectives of reviewing activities of previous year and to assess needs of the community for finalization of 2015-16 proposal. In the programme, 23 farmers, including 5 women SHG representatives of TSP adopted villages, namely Challanput, Padagad, Patroput, Mukhibidai and Malipungar villages participated and shared their views. Individual members expressed their personal and community need related to soil and water conservation, improvement of degraded land, conservation agriculture, water harvesting and conveyance of stream water to meet agriculture and domestic needs, creating awareness about Swachh Bharat Abhiyan, IGAs, vermi-composting, conservation horticulture, agricultural hand tools and machinery, inputs, fisheries, etc. The participated members were

satisfied with the interaction and hope that this year's activities of TSP will fulfil their needs. For better implementation, management and coordination of TSP activities, two representatives from each village were nominated for smooth function of TSP work. During the meeting it was decided to hold a meeting in each village and presentation of their need and desire expressed during this meeting before deciding/finalizing/implementing TSP activities during this year. After meeting the community in their respective villages, the centre's team will have village level meeting to assess technical feasibility. Finally TSP proposal will be consolidated and finalised for the year 2015-16.

Agriculture Technology Week Celebrated

Agricultural Technology Week was celebrated at ICAR-IISWC Research Centre, Kota during August 24-29, 2015. Progressive and innovative farmers from Bundi district of Rajasthan and students from Kendriya Vidyalaya No



2, Kota participated in the week long activities. A number of activities were carried out to acquaint farmers and students with latest technical know-how related to soil and water conservation developed by the centre. Recent technologies developed or refined were demonstrated to participants through audio-visual aids and field visit of experimental sites. Dr. R.K. Singh, Head while briefing about the importance of celebration of Agricultural Technology Week said that the event is a platform to bring together researchers, end-users and stakeholders so that better technologies can reach to grass root level and get proper feedback for future research and development activities. Other scientist speakers laid emphasis on in-situ moisture conservation techniques, runoff management for better production under rainfed condition, diversified agriculture and horticulture, and soil management practices for better soil health and productivity under changing climate change scenario. A video film on soil and water conservation and field activities of the centre was screened to farmers and queries of farmers were replied to.

Institutional Training on SWC Conducted for B.Tech Students

ICAR-IISWC Research Centre, Udhagamandalam conducted one month Training on Soil and Water Conservation for B.Tech Students during June 1-30, 2015. Twenty-five B.Tech Agricultural Engineering



students from Maharashtra and Gujarat participated in this training programme. The training consisted of lectures, practicals and field exercises on design of soil conservation structures, drainage line treatments, water harvesting and recharge structures, integrated watershed management, agronomical and agro-forestry soil and

water conservation methods, climate change and carbon sequestration, application of GIS and GPS, physical and chemical analysis of soil, runoff and soil loss estimation, and participatory watershed management. The Chief Guest of Valedictory Function, Er. Lourdu Arockia Kumar, Superintending Engineer, Agricultural Engineering Department, The Nilgiris on June 30, 2015 distributed certificates to the students. In his Valedictory Address, he congratulated the students for selecting ICAR-IISWC for their Institutional Training in Soil and Water Conservation. Soil and water are the two important natural resources which have to be conserved and managed properly. Because of topography and rainfall pattern of Nilgiris, it is the best place to study soil and water conservation technologies. He also emphasised that all students should use the gained knowledge in their future carrier. The participants gave positive feedback about the training.

Participated in AGRI INTEX 2015 Trade Fair at Coimbatore

ICAR-IISWC Research Centre, Udthagamandalam participated in the AGRI INTEX 2015, India's Prime Agricultural Trade Fair organized at CODISSIA Trade Fair Complex, Coimbatore, Tamil Nadu during July 17-20, 2015 by Coimbatore District Small Scale Industries Association. Dr. S.



Manivannan, Principal Scientist and Dr. V. Kasthuri Thilagam, Scientist displayed activities and mandate of the institute, various soil and water conservation technologies, agronomical measures for controlling soil erosion, causes and remedial measures for landslides in Nilgiris, and demonstration on application of jute geotextiles for slope stabilization from a stall. Dr. K. Alagu Sundaram, Deputy Director General (Engineering), ICAR inaugurated the Agri Intex 2015 on July 17, 2015. About 2500 farmers from 5 states namely Tamil Nadu, Kerala, Karnataka and Andhra Pradesh, Maharashtra and Puducherry Union Territory visited the stall. Overall, 2850 visitors including farmers, scientists, industrialists, extension functionaries and students visited the exhibits and gained knowledge about soil and water conservation technologies and environmental issues. Farmers and visitors were interested on technologies developed by IISWC and they had useful interaction with the Scientists. Publications regarding activities of the centre and technology bulletins on various developed soil water conservation technologies by the centre were distributed to farmers and participants. The exhibition provided a platform for wide publicity of the Institute and to disseminate knowledge on importance of soil and water conservation in present scenario.

World Nature Conservation Day Celebrated

In order to sensitize farmers for conservation of natural resources, the ICAR-IISWC Research Centre, Vasad organised World Nature Conservation Day on August 3, 2015. The function was attended by about 70 farmers from different villages in Anand district. The Chief Guest, Dr. Jitendra Kumar, Director, ICAR-Directorate of Medicinal

and Aromatic Plants, Boriavi addressed the participants about resource conservation and linking it to remunerative farming. Speaking on nature conservation, he reminded the farmers the fact that since ages farming community is tilling land and is



aware of importance of conservation; however, there is need of reminding them about ill effects of ignoring nature conservation. Dr. P.R. Bhatnagar, Head explained about importance of natural resource conservation and how it can be beneficial to overall agricultural production system in a long run. He also elaborated on constituents of nature and importance they have in our lives. He asked the farmers to take care of nature for their own benefit and benefit of the next generation. Other participants were Programme Coordinators of Panchmahal KVK, Anand KVK and Vadodara KVK; Head of Regional Station, ICAR-CSSRI, Bharuch; and In-charge Head, Regional Station, CIFA, Anand. The speakers explained the importance of nature and sensitized the farmers about its conservation. Different components of natural resources, viz; soil, water, solar energy, fish, salinity based land degradation, fertilization using organic composts, etc. were well discussed with farmers. Various conservation measures and ways and means to increase productivity without jeopardizing environment e.g. intensive organic farming, soil and water conservation measures, fertilizer management, multiple uses of resources and intergrated farming were well explained by different persons and farmers. The function ended with an oath to conserve our nature for sake of our humanity. The participant farmers also visited the Research Farm of the centre and got readymade information on different technologies and methods to conserve land and water resources developed at the centre.

Participated in Agriculture Exhibition 2015 at Piprakothi (Bihar)

The ICAR-IISWC Research Centre, Agra participated in Agriculture Exhibition 2015 at Piprakothi, Motihari, Bihar during August 20-21, 2015. More than 3000 farmers from East Champaran and neighbouring districts participated in the event. Over 90 ICAR institutes,



Deem Universities, NRCs, National Bureaus, Directorates, Project Directorates, and SAUs participated. Farmers and other participants were explained by Dr. D.C. Meena, Scientist (Agril. Economics) the importance of soil and water conservation at an IISWC exhibition stall. Participants were also suggested to adopt innovative technologies for sustainable agriculture production. Importance of forestry with agriculture and role of soil testing in diagnosing conditions of available nutrients in the soil was discussed. Suitable publications and technology details developed by IISWC were distributed to the participants. Shri Radha Mohan Singh, Hon'ble Minister of Agriculture and Farmers Welfare laid foundation stone of



National Research Centre on Integrated Farming on August 21, 2015 at Piprakothi, Motihari district (Bihar). The Chief Guest, Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR briefed about the mandate of the newly established Institute and Dr. A.K. Sikka, Deputy Director General (NRM), ICAR spoke on importance of this Institute in the region and the country as well. The Guests of Honour, Shri Pramod Kumar, MLA, Motihari; Shri Sachindra Prasad Singh, MLA, Kesaria; Dr. B.P. Bhatt, OSD of the Institute and Director of ICAR Research Complex for Eastern Region; and, Dr. Rameshwar Singh, Project Director, ICAR-DKMA were present on this occasion. Dr. S. Ayyappan, Dr. A.K. Sikka and other guests visited the IISWC exhibition stall.

International Yoga Day Celebrated with Great Enthusiasm

The International Yoga Day, which has now made the ancient Indian invention well recognized for attaining good health of mind and body, was enthusiastically celebrated by scientists and staff as well as their families on June 21, 2015 at ICAR-IISWC HQ at Dehradun, and Research Centres at Agra and Kota.



At Dehradun, adults and children gathered in an open ground of the Institute campus in the dawn of the celebrated day and under the guidance of a Shri Vijay Kumar Arya, a Yoga Teacher affiliated to Patanjali Yogpeeth, Haridwar, performed various asanas and pranayam, and relaxation exercises. Many of the participants, who had not practiced yoga, enthusiastically followed the instructions of the Yoga Teacher and tried to emulate their fellow participants who are regular practitioners of yoga for improving their health. The one hour celebration ended with a round of open hearted laughter and a prayer for all-round peace. Some of the participants interacted with the Yoga Teacher for clarifying their doubts.

At Agra centre, Dr. R.P. Singh, a distinguished Yoga Teacher affiliated with Patanjali Yogpeeth, Haridwar emphasized on importance of yoga for attaining good health of the mind, body, and soul. All staff members from scientific, technical, administrative



and supporting categories enthusiastically celebrated the day by learning and practicing some yoga asanas and pranayams. At the end, doubts for some specific health problems were raised by staff, which were clarified by Dr. Singh. At Kota, the Head and the staff the centre actively participated in the celebrations organized by Jawahar Lal Nehru Rajkiya Ooch Madhyamik Vidyalaya, Kota.

Mera Gaon Mera Gaurav Programme Actively Pursued

The Government of India Mera Gaon Mera Gaurav Programme has been actively pursued by ICAR-IISWC at HQ at Dehradun and Research Centres at Bellary, Chandigarh, and Koraput. This programme was designed to understand existing problems of farmers, to provide appropriate technical solutions of these

problems, to sensitize farmers of climate resilient resource conservation technologies, and to improve the capacity building of the farmers for productive utilization of degraded soil. At Dehradun, on July 21, 2015 multi-disciplinary scientists and technical officers interacted with the Gram Pradhan, Shri Vijay Panwar, farming community, including women farmers, and weaker sections of village Pavwala Soda and nearby villages on July 21, 2015 to apprise about the programme for taking up technological interventions. They prescribed improved farming practices with emphasis on integrated farming systems covering crop cultivation, dairy, goatry, poultry, and fish farming and micro-irrigation systems using water harvesting system being managed by the Village Samiti. The available land and water resources, farmers' demands and problems were analysed on ground and suitable sites were identified for demonstration of improved farming technologies, like fish farming in ponds under poly-house, integrated fish-poultry-crop farming and drip-irrigation systems to augment water productivity in existing farming systems in consultation with the farming communities. Also, farming tips in line with the on-going monsoon status were given to the farmers. On September 4, 2015 a team of social scientists/Technical Officers visited Pasauli and Dungakhet villages of Vikasnagar block, Dehradun and interacted with village community and Gram Pradhan Sh. Anand Singh Tomar. A Baseline information of the villages was collected. Also, a future plan of action was discussed with the Gram Pradhan.

Two team of scientists of Bellary centre visited eight villages, viz: K. Veerapura, Joladarasi, Chellagurki in Ballari taluk and district, and Netranahalli, Maremmanahalli, Hanumapura, Vitlapura and Veerapura in Molakalmuru taluk, Chitradurga district, and organized



group meetings and collected basic data of the villages and major problems encountered by the villagers in agricultural production activities.

In order to enlighten farmers about scientific natural resource management for sustainable production and provide need based farming solutions related to different aspects of soil and water conservation and agricultural and horticultural crop production technologies for degraded Shivaliks, one-day interface meetings were organized by ICAR-IISWC Research Centre, Chandigarh on June 25, at village Mallah (Panchkula district, Haryana), July 30 at village Sukhomajri (Panchkula district, Haryana), August 27 at village Mandhala (Solan district, Himachal Pradesh) and September 29, 2015 in village Janouli (Panchkula district, Haryana). At village Mallah, about 35 farmers including Sarpanch and Present Chairman participated in the programme. At village Mandhala, the President of Hill Resource Management Society of Shri Fateh Singh, villagers, and women farmers were apprised of the initiatives of the programme. The President of Hill Resource Management Society of village Sukhomajri, Shri Gurmail Singh, villagers, women farmers and school children participated in the programme. The farmers

mentioned about the serious damage caused by wild animals to crops, inadequate supply of irrigation water and lack of technical input for integrated pest management. The farmers mentioned their need for participation in capacity building programme.

Farmers were sensitized about the benefits of using improved seeds, balanced fertilizers, integrated pest management and crop diversification through low water requiring crops. Farmers were also sensitized to stop crop residue burning in their fields.



Farmers were advised to bring the soil samples to the centre for testing for appropriate remedial measures in their agricultural fields. Farmers were sensitized to use vermicompost in the field. The importance of introduction of organic farming practices in the fields was also told to the farmers along with various strategies for efficient and effective use of organic wastes to enhance sustainable systems of agriculture. The beneficial effects of organic wastes on soil physical properties such as increased water infiltration, water-holding capacity, water content, aeration and permeability, soil aggregation and rooting depth, and recycling of organic wastes were also informed in detail. The cultivation techniques of different locally grown vegetable crops and their scientific management were discussed in details. The farmers of Mandhala and Sukhomajri village were advised to make more efficient use of water by diversifying cropping system. More emphasis should be given on growing vegetables, pulses, horticultural crops in combination with grasses or crops. Farmers mobile numbers were registered to provide them free weather based agro-advisory to plan and execute appropriate crop operations.

At ICAR-IISWC Research Centre, Koraput a one-day field interaction visit was conducted on April 24, 2015 at Malipungar, Tentuliguda and Kokuriguda tribal villages. The farmers expressed their need based requirement for the community related to scarcity of water for drinking and farming, soil health, productivity of crops, horticulture plantation, orchard maintenance, animal husbandry and issues related to overall development of community. The scientists and technical staff provided knowledge regarding soil and water conservation, animal husbandry, improvement of degraded land, water harvesting structures, vermi-composting etc. The farmers were satisfied with the suggestions and were assured by the centre to provide some incentives for soil and water conservation measures under different programmes. It was decided that repair work of old underground pipe at Malipungar will be done by the community and required PVC pipes will be provided by the centre. After successful installation of the pipe lines, underground pipes for another site will be looked into. The community demanded lift irrigation systems to lift



water from jhola land. During interaction, the centre's team formulated a road map for conducting activities from next visit and prepared a check list to access the performance of the suggested measures. In another programme organized on June 21, 2015 at village Mukhibidai (Post Office Rajput, District Koraput, Odisha), a power tiller was handed over to a user group comprising of 10 tribal farmers of the same village. Shri Susant Kumar Behera, Tehsildar, Semiliguda graced the occasion as Chief Guest. The user group was urged to utilize the services of power tiller as and when needed by paying hourly rent fixed for its services.

Swachh Bharat Abhiyan Continued

The Hon'ble Prime Minister's Swachh Bharat Abhiyan was pursued by ICAR-IISWC at its HQ at Dehradun, and Research Centres at Agra, Kota and Udhagamandalam. On July 21, 2015, the importance of Swachh Bharat Abhiyan to maintain



cleanliness of the premises for the benefit of environment and health were briefed to the farming community of village Pavwala Soda and nearby villages. On August 7, 2015 community members of village Dungakhet, Tehsil Vikasnagar, District Dehradun (Uttarakhand) were educated about the benefits of cleanliness and its impacts on health. The villagers actively participated in the cleanliness drive and showed their willingness as well as assured to keep their houses, roads and themselves clean. On August 27, 2015 community members of village Kalsi-Johad, Kalsi, District Dehradun (Uttarakhand) were introduced to the programme and importance of cleanliness was impressed upon them. They were also imparted knowledge of converting waste material into compost to be used for cultivation. Women folk were also told how to maintain their homes clean. Also, at village Pasauli under Vikasnagar block, Dehradun initiatives were undertaken for cleaning of School premises with participation of school students. During one-day interface meetings organized by Chandigarh centre, on June 25, at village Mallah (Panchkula district, Haryana), July 30 at village Sukhomajri (Panchkula district, Haryana), August 27 at village Mandhala (Solan district, Himachal Pradesh) and September 29, 2015 in village Janouli (Panchkula district, Haryana) awareness about Swachh Bharat Abhiyan was generated. Since school children were also present, they were told that children can play a very important role in achieving a Swachh Bharat by becoming ambassadors of cleanliness and motivate others to keep their homes, schools, and surroundings clean. At Agra centre, on April 6, 10, 17, 20, 24, and 27 the Centre's all premises were cleaned. Also on April 1 and 18, visiting 242 students of colleges were impressed to maintain cleanliness of their surroundings. They vowed to do so. The centre also fixed Monday and Friday of each week as days for undertaking cleaning activities. At Kota centre, oath for cleanliness was administered to the scientists and staff of the centre on October 2, 2015. Residents of Dadhwara locality were provided knowledge to convert kitchen waste into compost. The scientists and staff of the

centre then undertook cleaning of the locality. A similar activity was undertaken on June 12, 2015 for village Kanihera, tehsil Keshavraipatan, district Bundi (Rajasthan). Mondays and Saturday (9-10 am) were fixed for weekly cleaning of their immediate place of work and surroundings, respectively by the centre's scientists and staff. The Udhagamandalam centre observed Cleanliness Drive Week during August 7-13, 2015 at the centre. Cleaning of area surrounding the office building, parking place, pathways, quarters, etc. was done. Action was initiated to dump degradable and non-degradable waste separately from residential areas for solid waste management.



माननीय केन्द्रीय कृषि मंत्री, भारत सरकार, श्री राधा मोहन सिंह ने भारतीय मृदा एवं जल संरक्षण संस्थान देहरादून द्वारा उत्तराखण्ड राज्य के जनजातीय क्षेत्र में जल संसाधन प्रबन्धन हेतु विकसित किये गये माडल में रुचि दिखाई

माननीय केन्द्रीय कृषि मंत्री, भारत सरकार, श्री राधामोहन सिंह ने दिनांक 14 जून 2015 को देहरादून का भ्रमण किया। इसके दौरान भारतीय मृदा एवं जल संरक्षण संस्थान के निदेशक डा. पी.के. मिश्रा ने माननीय मंत्री महोदय से भेंट की तथा संस्थान द्वारा उत्तराखण्ड राज्य के देहरादून जनपद के जन-जातीय क्षेत्र में कृषि सिंचाई हेतु जन-सहभागिता आधारित विकसित किये गये जल संसाधन कार्य के बारे में विस्तृत जानकारी दी। माननीय मंत्री महोदय ने संस्थान द्वारा किये गये इस कार्य की सहाराहना की तथा उन्होंने निकट भविष्य में इस परियोजना क्षेत्र में अपने भ्रमण की इच्छा जाहिर की क्योंकि वर्तमान केन्द्र सरकार की कार्य सूची में सिंचाई हेतु जल संसाधन विकास संबंधित कार्यों को प्राथमिकता दी गई है। इस विचार विमर्श के दौरान संस्थान के निदेशक महोदय एवं उक्त परियोजना के मुख्य अन्वेषक डा. डी.वी. सिंह ने पूर्ण किये गये कार्यों एवं इनके निष्पादन की सम्पूर्ण प्रक्रिया के फलस्वरूप क्षेत्र के कृषि विकास में दृष्टिगोचर हुई प्रगति के बारे में माननीय मंत्री महोदय को बताया। संस्थान द्वारा उक्त कार्य भारतीय कृषि अनुसंधान परिषद की जनजाति उप-योजना के अन्तर्गत स्थानीय लोगों की जन-सहभागिता के साथ किया जा रहा है।



सहायक कुशल श्रेणी कर्मचारियों के कौशल विकास हेतु प्रशिक्षण का आयोजन

भारतीय कृषि अनुसंधान परिषद, नई दिल्ली के निर्देशों की अनुपालना में भारतीय मृदा एवं जल संरक्षण संस्थान, देहरादून द्वारा तैयार की गई वार्षिक प्रशिक्षण योजना के अन्तर्गत 30 सहायक कुशल श्रेणी कर्मचारियों हेतु एक कौशल विकास प्रशिक्षण कार्यक्रम का आयोजन दिनांक 29-30 सितम्बर 2015 को किया गया। इस दो दिवसीय कार्यक्रम में डाक प्राप्ति व प्रेषण, प्राप्ति पंजीकरण, पत्रावली वितरण, पत्रावली संख्या लगाने का तरीका, बिल रजिस्टर में संख्या लिखना, फाइलिंग, तिथि अनुसार बिलों का संकलन, भंडार संबंधित मांग पत्र एवं आपूर्ति कंप्यूटर व प्रिन्टर्स का रख-रखाव, फैक्स मशीन, फोन व फोटोस्टेट मशीनों का संचालन,



नर्सरी प्रबंधन, आंकड़े एकत्र करने की विधियां व प्रमाणन, प्रक्षेत्र प्रबन्धन प्रक्रियाएं एवं कार्यालय संबंधित कुशल व्यवहार से संबंधित विभिन्न विषयों को सम्मिलित करते हुये प्रतिभागियों के कौशल विकास के प्रयास किये गये। प्रशिक्षण के समापन समारोह में प्रतिभागियों द्वारा आयोजित किये गये प्रशिक्षण कार्यक्रम को काफी लाभप्रद एवं प्रभावी बताया गया।

प्रशिक्षण कार्यक्रम का संयोजन संस्थान के मानव संसाधन विकास विभाग के विभागाध्यक्ष डा. लाखन सिंह तथा संस्थान के मुख्य प्रशासनिक अधिकारी श्री अनिल कुमार सिंह द्वारा किया गया। प्रशिक्षण के सफल आयोजन में संस्थान के मुख्य तकनीकी अधिकारी श्री सुरेश कुमार एवं सहायक प्रशासनिक अधिकारी श्रीमती सरोज सेमवाल का विशिष्ट योगदान रहा। कार्यक्रम को सफल बनाने हेतु मानव संसाधन विकास विभाग के प्रधान वैज्ञानिक डा. बांके बिहारी एवं संस्थान के अधिकारियों श्री रूपक टंडन, श्री डी.के. तोमर, श्री अमित चौहान, श्री एस.एन. गुप्ता एवं श्री एम.पी. जुयाल के प्रयास भी सराहनीय रहे।

भूमि एवं जल संरक्षण हेतु पंजाब कृषकों का तीन दिवसीय प्रशिक्षण सम्पन्न

भारतीय मृदा एवं जल संरक्षण संस्थान देहरादून द्वारा, पंजाब राज्य के होशियारपुर जिले से आये 20 कृषकों के लिए "मृदा एवं जल संरक्षण विधियाँ" विषय पर तीन दिवसीय प्रशिक्षण एवं भ्रमण कार्यक्रम का आयोजन दिनांक 7 से 9 जुलाई 2015 तक किया गया। प्रशिक्षण कार्यक्रम का उद्घाटन संस्थान के निदेशक डा. प्रशान्त कुमार मिश्रा



द्वारा किया गया। अपने उद्घाटन भाषण में डा. मिश्रा द्वारा पंजाब राज्य के होशियारपुर जनपद की शिवालिक पहाड़ियों में मृदा अपरदन एवं सिंचाई जल की कमी से संबन्धित विभिन्न समस्याओं की गंभीरता, उनके कारणों एवं निवारणों के बारे में विस्तृत चर्चा की तथा इन समस्याओं के समाधान हेतु जलागम प्रबन्धन पद्धति की उपयोगिता को बताया। उन्होंने कहा कि जलागम पानी का घर है तथा भूमिगत जल एक जल बैंक है। इस अवसर पर मानव संसाधन विकास विभाग के विभागाध्यक्ष डा. लाखन सिंह द्वारा प्रतिभागियों को दिये गये अपने सम्बोधन में जलागम पद्धति की सफलता हेतु जन सहभागिता, स्वयं सहायता, उपभोक्ता समूहों के गठन व संचालन हेतु आवश्यक बिंदुओं पर प्रकाश डाला गया। उन्होंने खेल खिलाकर समूह में कार्य करने की प्रवृत्ति एवं आन्तरिक शक्ति को जागृत करने हेतु प्रेरित किया। तीन दिवसीय प्रशिक्षण कार्यक्रम में प्राकृतिक संसाधन हेतु जल समेट प्रबन्ध, जनसहभागी जलागम प्रबन्धन, वानस्पतिक उपायों द्वारा संसाधन संरक्षण, भू-योग्यता वर्गीकरण एवं आदर्श भू-उपयोग तथा खेती में उचित एवं संतुलित जल उपयोग तकनीकी से संबन्धित व्याख्यानों को शामिल किया गया।

प्रशिक्षण कार्यक्रम में कक्ष प्रशिक्षण के अतिरिक्त संस्थान के अनुसंधान प्रक्षेत्र सेलाकुई, जन सहभागी सिंचाई जल प्रबन्धन परियोजना कालीमाटी तथा खनन क्षेत्र पुनर्स्थापन परियोजना सहस्त्रधारा जैसे प्रायोगिक क्षेत्रों के भ्रमण भी आयोजित किये गये जिसमें प्रतिभागियों ने मृदा एवं जल संरक्षण कार्यों का प्रत्यक्ष भ्रमण कर ज्ञानार्जन किया। कालीमाटी परियोजना के भ्रमण के दौरान प्रतिभागियों ने बारानी क्षेत्रों में फल वृक्ष बागीचों की स्थापना हेतु अति उपयोगी इन-सीटू ग्राफिटिंग तकनीक की सफलताओं को देखा तथा स्थानीय कृषकों के साथ चर्चा कर उनके अनुभव ग्रहण किये।

प्रशिक्षण कार्यक्रम का समापन संस्थान के डा. एन.के. शर्मा, विभागाध्यक्ष (मृदा विज्ञान एवं सस्य विज्ञान) द्वारा प्रतिभागियों को प्रमाणपत्र वितरित कर किया गया। अपने समापन सम्बोधन में डा. शर्मा ने सभी प्रतिभागियों से अनुरोध किया कि वे इस प्रशिक्षण में सीखी गई जानकारी का अपने खेतों में अवश्य उपयोग करें तथा क्षेत्र के अन्य कृषकों के साथ भी सीखा गया ज्ञान साझा करें। इस अवसर पर आयोजित किये गये प्रशिक्षण के समन्वयक डा. बांके बिहारी द्वारा समस्त प्रशिक्षणार्थियों को संस्थान द्वारा उनके क्षेत्र हेतु विकसित की गई तकनीकों से सम्बन्धित प्रकाशित सामग्री वितरित की गई तथा साथ ही उनके

द्वारा प्रशिक्षण कार्यक्रम के सफल आयोजन हेतु संस्थान की समस्त वैज्ञानिकों तथा तकनीकी एवं प्रशासनिक अधिकारियों द्वारा दिये गये सहयोग हेतु धन्यवाद दिया गया। इस अवसर पर पंजाब राज्य के प्रशिक्षणार्थियों के टीम लीडर डा. राजेन्द्र सिंह कार्यक्रम के सफल आयोजन हेतु संस्थान के प्रयासों की सराहना की तथा बताया कि प्रशिक्षण में सीखी गई जानकारीयों उनके क्षेत्र के कृषकों हेतु अति उपयोगी सिद्ध होगी। इसके अतिरिक्त डा. सिंह द्वारा संस्थान के निदेशक डा. पी.के. मिश्रा, प्रशिक्षण संभाग के विभागाध्यक्ष डा. लाखन सिंह, प्रशिक्षण समन्वयक डा. बाँके बिहारी, तकनीकी समन्वयक श्री रूपक टंडन तथा संस्थान के मुख्य तकनीकी अधिकारियों श्री सुरेश कुमार, श्री विमल कुमार द्विवेदी एवं श्री आर.के. आर्य का प्रशिक्षण के सफल आयोजन में उनके द्वारा किये गये प्रयासों हेतु आभार व्यक्त किया।

भारतीय मृदा एवं जल संरक्षण संस्थान देहरादून द्वारा उत्तरकाशी जनपद में चिन्याडीसौड़ स्थित कृषि विज्ञान केन्द्र पर आयोजित किसान मेले एवं कृषक संगोष्ठी में विकसित तकनीकों का प्रदर्शन

दिनांक 22.06.2015 को उत्तरकाशी जनपद में चिन्याडीसौड़ स्थित कृषि विज्ञान केन्द्र पर आयोजित किसान मेले एवं कृषक संगोष्ठी में भारतीय मृदा एवं जल संरक्षण संस्थान देहरादून संस्थान द्वारा विकसित तकनीकों का प्रदर्शन किया गया जिसका आयोजन विवेकानन्द पर्वतीय अनुसंधान संस्थान अल्मोड़ा, उत्तराखण्ड के अधीनस्थ कार्यरत कृषि विज्ञान केन्द्र चिन्याडीसौड़, उत्तरकाशी द्वारा किया गया। कार्यक्रम का उद्घाटन टिहरी गढ़वाल संसदीय क्षेत्र की सांसद माननीय श्रीमती विजय लक्ष्मी शाह द्वारा किया गया। किसान मेले में प्रदेश में कार्यरत लगभग 15 संस्थाओं ने भाग लिया। आयोजित किये गये इस मेले में भारतीय मृदा एवं जल संरक्षण संस्थान, देहरादून द्वारा भी अपनी प्रदर्शनी लगाई तथा अपनी स्टाल पर संस्थान द्वारा विकसित की गई तकनीकों को पोस्टर के माध्यम से प्रदर्शित किया गया तथा मेले में आये कृषकों के बीच प्रचार-प्रसार सामग्री का वितरण किया। मेले में आये समस्त कृषकों द्वारा संस्थान की स्टाल का भ्रमण कर मृदा एवं जल संरक्षण तथा बंजर भूमि उपयोग से संबंधित जानकारी में रूचि ली गई।

किसान मेले के दौरान आयोजित की गई कृषक-संगोष्ठी में संस्थान के प्रधान वैज्ञानिक डा. चरण सिंह द्वारा भी संस्थान द्वारा चलाई जा रही गतिविधियों के बारे में उपस्थित कृषक गणों को संबोधित किया तथा उनसे मृदा एवं जल संरक्षण के विभिन्न पहलुओं पर संवाद करते हुये उनकी शंकाओं के निवारण किये। संस्थान की स्टाल पर भी मुख्य तकनीकी अधिकारियों श्री विमल कुमार द्विवेदी एवं श्री सुरेश कुमार ने आगन्तुक कृषकों को मृदा एवं जल संरक्षण के विषय में जानकारी देते हुये प्रचार-प्रसार सामग्री का वितरण किया। कार्यक्रम के उद्घाटन के समय क्षेत्रीय सांसद महोदया द्वारा भी स्टाल का भ्रमण कर संस्थान द्वारा किये जा रहे प्रयासों की सराहना की तथा संस्थान द्वारा उनके संसदीय क्षेत्र में आयोजित किये गये कृषि मेले में भाग लेने हेतु आभार व्यक्त किया।

अनुसंधान केन्द्र, आगरा द्वारा हिन्दी कार्यशाला कार्यवृत्तों का आयोजन

भारतीय मृदा एवं जल संरक्षण संस्थान के आगरा केन्द्र पर हिन्दी कार्यशाला का आयोजन दिनांक 30-06-2015 को किया गया। कार्यक्रम के मुख्य अतिथि श्री क्षेत्रपाल शर्मा, पूर्व संयुक्त निदेशक (राजभाषा), सचिवालय, दिल्ली तथा श्री शीलेन्द्र वशिष्ठ, साहित्यकार, आगरा थे। मुख्य अतिथि ने कार्यक्रम का शुभारंभ माँ सरस्वती के चित्र पर माल्यार्पण व दीप प्रज्ज्वलित कर किया। केन्द्र के केन्द्राध्यक्ष डा. एस.के. दुबे ने कार्यशाला के मुख्य अतिथि श्री क्षेत्रपाल शर्मा, का शॉल भेंट कर स्वागत किया। डा. ए.के. सिंह, प्रभारी अधिकारी (राजभाषा) ने श्री शीलेन्द्र वशिष्ठ, साहित्यकार का शॉल भेंट कर स्वागत किया। अपने स्वागतीय भाषण में डा. एस.के. दुबे ने निदेशालय से प्राप्त निर्देशानुसार कार्यशाला का आयोजन किया। उन्होंने मुख्य अतिथि को नराकास (राजभाषा) में गतिशीलता तथा केन्द्र पर हिन्दी में प्रचार-प्रसार में हो रहे कार्य को विस्तार से सराहा। श्री क्षेत्रपाल शर्मा ने तकनीकी प्रशिक्षण से संबंधित कम्प्यूटर पर हिन्दी में वैज्ञानिक कार्य करने संबंधी जानकारी प्रदान की। उन्होंने हिन्दी की सारभौमिकता पर जोर दिया तथा बताया कि हिन्दी को संसार में दूसरे नंबर की भाषा का दर्जा प्राप्त हो गया है। उन्होंने अपने कार्य को कम्प्यूटर में पासवर्ड डालकर सुरक्षित रखने की सलाह भी दी। अन्त में डा. एस.के. दुबे, केन्द्राध्यक्ष ने हिन्दी में हो रहे कार्य की

सराहना की तथा प्रभारी अधिकारी (राजभाषा) ने धन्यवाद ज्ञापन प्रस्तुत कर कार्यशाला का समापन हुआ।

अनुसंधान केन्द्र, आगरा द्वारा एक अन्य हिन्दी कार्यशाला का आयोजन दिनांक 28-09-2015 को भी किया गया, जिसके मुख्य अतिथि डा. संजय पचौरी, प्रभारी राजभाषा अधिकारी, एडीईआरडीई, आगरा थे। मुख्य अतिथि ने कार्यक्रम का शुभारंभ माँ सरस्वती के चित्र पर माल्यार्पण व दीप प्रज्ज्वलित कर किया। डा. एस.के. दुबे, केन्द्राध्यक्ष ने कार्यशाला में हिन्दी में कार्य करने हेतु सभी अधिकारियों एवं कर्मचारियों से आग्रह किया और कहा कि चेतना मास के दौरान ही नहीं बल्कि हमें वर्ष भर हिन्दी में कार्य करते रहना है। हिन्दी में कार्य करने से वैज्ञानिक तकनीकियों को आसानी से किसानों तथा आम आदमी को समझाया जा सकता है और यह भी बताया कि हिन्दी में प्राप्त पत्रों का जबाब हिन्दी में देना अनिवार्य है क्योंकि आगरा 'क' क्षेत्र के अन्तर्गत आता है। डा. ए.के. सिंह, राजभाषा प्रभारी ने केन्द्र पर चेतना मास के अन्तर्गत हो रहे कार्यों का विवरण विस्तार से दिया तथा भारतीय कृषि अनुसंधान परिषद के महानिदेशक, डा. एस. अय्यप्पन के सन्देश को पढ़ कर सुनाया। इस अवसर पर मुख्य अतिथि, डा. संजय पचौरी ने केन्द्र कम्प्यूटरों में यूनिकोड पद्धति को स्थापित किया तथा कम्प्यूटर पर हिन्दी में कार्य करने के बारे में विस्तार से जानकारी प्रदान की तथा संबंधित कठिनाइयों का निवारण किया और कहा कि यूनिकोड में अंग्रेजी में टाइप करने से सीधे हिन्दी में परिवर्तित हो जाता है। अन्त में डा. एस.के. दुबे, केन्द्राध्यक्ष ने हिन्दी में हो रहे कार्य की सराहना की तथा श्री भगवती प्रसाद, सचिव (राजभाषा) ने धन्यवाद ज्ञापन प्रस्तुत किया।

हिन्दी दिवस / हिंदी सप्ताह / पखवाड़ा / चेतनामास का आयोजन

भा.कृ.अनु.प.-भा.मृ.ज.सं.सं., मुख्यालय देहरादून में दिनांक 14-19 सितम्बर, 2015 तक हिंदी सप्ताह का आयोजन सफलतापूर्वक किया गया। कार्यक्रम का संचालन डा. (श्रीमती) संगीता एन. शर्मा, मुख्य तकनीकी अधिकारी एवं प्रभारी (राजभाषा) ने किया। इस दौरान संस्थान में हिंदी के प्रयोग को बढ़ावा देने के लिए शब्दावली, अनुवाद, निबन्ध एवं श्रुतिलेख की प्रतियोगिताएं आयोजित की गयी थी, जिसमें वैज्ञानिकों, अधिकारियों एवं कर्मचारियों ने भाग लिया। समापन समारोह के अवसर पर मुख्य अतिथि श्री जी.पी. जोशी, प्रशिक्षण अधिकारी, केन्द्रीय अकादमी राज्य वन सेवा, देहरादून उपस्थित थे। इस अवसर पर किसानों के लिए कृषि संबंधी एक कैलेण्डर का विमोचन किया गया। इस अवसर पर संस्थान के प्रभारी निदेशक डा. एन.के. शर्मा, श्री अनिल कुमार सिंह, मुख्य प्रशासनिक अधिकारी एवं हिंदी अधिकारी ने संस्थान में हिंदी के प्रयोग को बढ़ावा देने के लिए अपने विचार रखे। मुख्य अतिथि ने राजभाषा के नियमों से अवगत कराते हुए एक पावर प्वाइंट प्रस्तुति दी। इस अवसर पर संस्थान की दो महिला कवियत्रियों श्रीमती मुन्नी देवी मंगगाई एवं श्रीमती सरोज सेमवाल ने स्वरचित कविताओं का पाठ किया। कार्यक्रम के समापन पर सभी प्रतिभागियों को पुरुस्कार प्रदान किए गए। इस अवसर पर संस्थान के सभी प्रभागाध्यक्ष, अधिकारी एवं कर्मचारी उपस्थित थे।



भा.कृ.अनु.प.-भा.मृ.ज.सं. संस्थान, अनुसंधान केन्द्र, बेल्लारी (कर्नाटक) हिन्दी दिवस का आयोजन किया। समारोह की मुख्य अतिथि श्री रामदास एम. समर्थ (सेवानिवृत्त, प्रक्षेत्र अधीक्षक) थे मुख्य अतिथि ने आज के समय में हिन्दी के महत्व तथा इसका संपर्क भाषा के रूप में योगदान की सराहना की हिन्दी का अधिक से अधिक उपयोग करने पर जोर दिया और इसका प्रयोग बढ़ाने के लिये सुझाव दिये। केंद्राध्यक्ष डा.



ए. रायजादा ने हिन्दी दिवस समारोह के अवसर पर हिन्दी के प्रयोग को प्रशासनिक एवं अनुसंधान के क्षेत्र में ओर बढ़ाने का आवाह किया। इस अवसर पर “हिन्दी प्रतियोगिता” का भी आयोजन किया गया, जिसमें केंद्र के वैज्ञानिक, तकनीकी अधिकारी, प्रशासनिक अधिकारी एवं अन्य कर्मचारियों ने उत्साहपूर्वक भाग लिया। मूल्यांकन के आधार पर श्री अमृत मोरदे (वैज्ञानिक, फल विज्ञान), श्री बी. एन. शेषाद्री (तकनीकी अधिकारी) तथा श्री बी.एस. नायक (वैज्ञानिक, अभियांत्रिकी) ने क्रमशः पहला, दूसरा तथा तीसरा स्थान प्राप्त किया। समारोह के मुख्य अतिथि तथा केंद्राध्यक्ष ने प्रतियोगिता के विजेताओं और भाग लेने वाले सभी प्रतिभागियों का उत्साहवर्धन किया तथा बधाईयां दी। जिन प्रतिभागियों का प्रदर्शन संतोषजनक नहीं था, उन्हें ओर ज्यादा प्रयास करने की सलाह दी। हिन्दी दिवस के अवसर पर राजभाषा विभाग, गृह मंत्रालय, भारत सरकार द्वारा जारी गीतकार डा. ब्रदुला सिन्हा (राज्यपाल, गोवा) की प्रस्तुति हिन्दी भारत की बिंदी भी गायन किया गया। समारोह के अंत में कार्यालय से सम्बन्धित सर्वाधिक बुनियादी शब्दावली की पुस्तिका भी कर्मचारियों को प्रदान की गयी ताकि हिन्दी का उपयोग बढ़ाया जा सके।

अनुसंधान केन्द्र, चंडीगढ़ पर हिन्दी पखवाड़ा (16-30 सितम्बर) के समापन समारोह के अन्तर्गत दिनांक 30.9.2015 को हिन्दी दिवस का आयोजन किया गया। इस अवसर पर केन्द्र पर कार्यरत वैज्ञानिक, तकनीकी अधिकारी/कर्मचारी एवं सभी प्रशासनिक अनुभाग के कर्मचारियों ने बढ़ चढ़ कर भाग लिया। प्रतियोगिताओं में प्रथम, द्वितीय एवं तृतीय स्थान पर आये प्रतियोगितयों को केन्द्राध्यक्ष द्वारा पुरस्कृत किया गया। इसके अतिरिक्त केन्द्र कार्यालय एवं अनुसंधान प्रक्षेत्र पर अधिकाधिक हिन्दी में कार्य करने वाले कर्मचारी को भी केन्द्राध्यक्ष महोदय द्वारा सम्मानित किया गया। इसके साथ ही गत वर्ष में जिन वैज्ञानिकों/तकनीकी अधिकारियों के हिन्दी में शोध पत्र पत्रिकाओं में प्रकाशित हुए हैं उन वैज्ञानिकों एवं तकनीकी अधिकारियों को भी इस मौके पर सम्मानित किया गया। इस अवसर पर डा. ए.के. तिवारी, केन्द्राध्यक्ष ने केन्द्र पर कार्यरत सभी अधिकारियों एवं कर्मचारियों से अपेक्षा की कि वह न सिर्फ हिन्दी पखवाड़ा में बल्कि पूरे वर्ष अधिक से अधिक कार्य हिन्दी में ही करें क्योंकि हिन्दी ही एक ऐसी भाषा है जिसे सभी वर्ग के अधिकारी एवं कर्मचारी लिख एवं बोल सकते हैं। केन्द्राध्यक्ष महोदय ने कहा क्योंकि वैज्ञानिकों एवं तकनीकी अधिकारियों का मुख्य कार्यक्षेत्र गांव में किसानों के लिए कार्य करना है, अन्त में डा. ए.के. तिवारी प्रधान वैज्ञानिक एवं केन्द्राध्यक्ष महोदय ने सभी प्रतियोगियों को इस कार्यक्रम को सफल बनाने में योगदान दिये जाने पर धन्यवाद दिया।

अनुसंधान केन्द्र, दतिया पर हिन्दी पखवाड़े का आयोजन दिनांक 14-30 सितम्बर 2015 के बीच विभिन्न प्रतियोगिताओं (हिन्दी निबन्ध, पत्र लेखन, कविता पाठ, प्रश्नोत्तरी एवं समूह प्रतियोगिताओं) का आयोजन पखवाड़े के दौरान किया गया जिसमें केन्द्र के सभी वर्ग के कर्मियों ने बढ़-चढ़ कर भाग लिया। श्रीमती साधना शर्मा, प्रिंसिपल, केन्द्रीय विद्यालय, दतिया द्वारा विभिन्न प्रतियोगिता विजेताओं को 30.9.2015 को पखवाड़ा आयोजन के समापन कार्यक्रम के दौरान पुरस्कार प्रदान किये गये।



अनुसंधान केन्द्र, कोरापुट के केन्द्राध्यक्ष ने अपने संबोधन में कहा कि हिन्दी भाषा राष्ट्र को एकजुट रखने में सक्षम है। मुख्य वक्ता ने हिन्दी भाषा की वर्तमान स्थिति, हिन्दी की आवश्यकता एवं जीवन के हर क्षेत्र में उसके प्रयोग को बढ़ाने के लिए सहयोग देने को कहा। डा. एस. पाटिल ने अपने संबोधन में यह सुझाया कि हिन्दी भाषा का विश्व भर में प्रसार करने के लिए हमें प्रयत्न करने की आवश्यकता है। इस अवसर पर जनजातिय उप-योजना (TSP) के अंतर्गत



अंगीकृत गाँव के किसानों ने खेती में उनके द्वारा किए जा रहे विभिन्न क्रिया-कलापों के विषय में जानकारी दी। इस अवसर पर उपस्थित सभी ने हिन्दी भाषा को बढ़ावा देने, उसे लोकप्रिय बनाने पर अपने विचार साझा किए। विजेता प्रतिभागियों का मनोबल बढ़ाने के लिए उन्हें पुरस्कृत किया गया। इस शपथ के साथ कि हम न केवल हिंदी में बोलेंगे अपितु हम हिंदी को बढ़ावा देने के लिए एक मशाल वाहक की भाँति कार्य करेंगे, कार्यक्रम समाप्त हुआ।

अनुसंधान केन्द्र, सूनाबेड़ा, कोरापुट पर वार्षिक हिन्दी दिवस का आयोजन 14 सितम्बर 2015 की विभिन्न हिन्दी आधारित आकर्षक एवं सार्थक प्रतियोगिताओं, जैसे निबन्ध लेखन, हिंदी अनुवाद, हिन्दी शब्दार्थ, हिन्दी श्रुतिलेख एवं हिन्दी अक्षरज्ञान आदि के साथ आरम्भ किया गया जिसमें केन्द्र के कर्मियों, कृषक व केन्द्र के कर्मियों के बच्चों ने बढ़चढ़ कर भाग लिया। समापन कार्यक्रम डा0 एस. पाटिल, निदेशक (केन्द्रीय मवेशी प्रजनन फार्म) मुख्य अतिथि एवं श्री ओंकार दास मानिकपुरी, वरिष्ठ मैनेजर (मानव संसाधन विकास), हिन्दुस्तान एरोनॉटिक लिमिटेड, सूनाबेड़ा ने पुमुख वक्ता उपस्थिति थे। इस अवसर पर डा. एम. मधु, केन्द्राध्यक्ष ने स्वागत संबोधन करते हुए दैनिक कार्यालय कार्यकलाप में हिन्दी का अधिकतम प्रयोग करने हेतु जोर दिया।

अनुसंधान केन्द्र, कोटा पर दिनांक 14 सितम्बर, 2015 को हिन्दी दिवस मनाकर हिन्दी चेतना मास का शुभारम्भ किया। कार्यक्रम की विधिवत शुरुआत केन्द्राध्यक्ष डा. आर. के. सिंह जी ने मां सरस्वती के सम्मुख दीप प्रज्वलित करके की एवं श्री कमलेश कुमार चौधरी ने मां सरस्वती की वन्दना प्रस्तुत की तथा सभी कर्मचारियों का स्वागत किया। केन्द्र के हिन्दी अधिकारी डा. बी.एल. मीना ने अनुसंधान केन्द्र पर पिछले एक वर्ष के दौरान हिन्दी के उपयोग के प्रयासों का ब्यौरा प्रस्तुत किया एवं हिन्दी की वर्तमान स्थिति से अवगत कराया। डा. अशोक कुमार, प्रधान वैज्ञानिक ने संविधान में हिन्दी के विकास के लिये संवैधानिक व्यवस्था से परिचय कराया तथा हिन्दी के प्रसिद्ध कवि भारतेन्दु हरिश्चन्द्र के हिन्दी के क्षेत्र में उल्लेखनीय योगदान के विषय में चर्चा की। इसी क्रम में डा. कुलदीप कुमार, डा. एस. कला, श्री एन. के. मीणा, श्री विक्रम चौहान, श्री कमलेश चौधरी, श्री हरि ओम आर्य ने हिन्दी की दैनिक जीवन में उपयोगिता एवं हिन्दी के अधिकाधिक प्रयोग के लिये अपने सुझाव दिये। केन्द्राध्यक्ष डा. आर. के. सिंह ने माननीय कृषि मन्त्री, भारत सरकार के हिन्दी दिवस पर दिये गये संदेश को पढ़कर सुनाया। उन्होंने बताया कि हिन्दी भाषा का हमारी संस्कृति से गहरा नाता है, इसलिये हिन्दी को बढ़ावा देकर हम अपनी संस्कृति को और अधिक समृद्ध बनाते हैं। उन्होंने आगे बताया कि हिन्दी भाषा अपने आप में बहुत ही सरल एवं समृद्ध भाषा है जो कि हमारे जीवन की हर अभिव्यक्ति को सही मायनों में दूसरे व्यक्ति के साथ आदान प्रदान करने में पूर्ण रूप से सक्षम है तथा यह किसी दूसरी भाषा से प्रतिस्पर्धा में नहीं होकर अपने आप में निष्पक्ष रूप से अपना मुकाम हासिल करने की क्षमता रखती है।

उधमगण्डलम् केन्द्र पर 14 सितम्बर, 2015 से 13 अक्टूबर, 2015 की अवधि में मनाये गये। हिन्दी चेतना मास का उद्घाटन समारोह दिनांक 15-09-2015 को केन्द्राध्यक्ष, डा. ओ.पी.एस. खोला की अध्यक्षता में केन्द्र के सभागार में संपन्न हुआ। इस अवसर पर केन्द्र के सभी अधिकारी एवं कर्मचारियों उपस्थित थे। समारोह के प्रारंभ में श्री वी.ए. पद्मनाभा, प्रभारी राजभाषा ने सभागार में उपस्थित सभी अधिकारियों एवं कर्मचारियों का स्वागत किया। तत्पश्चात् केन्द्र के केन्द्राध्यक्ष, डा. ओ.पी.एस. खोला ने 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। सभी अधिकारियों एवं कर्मचारियों से विचार विमर्श के पश्चात् इस दौरान चार प्रतियोगिताएं आयोजित करने का निश्चय किया। चेतना मास के समापन समारोह के अवसर पर 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 तथा श्री वी.ए. पद्मनाभा, प्रभारी राजभाषा द्वारा सभी अधिकारियों एवं कर्मचारियों को कार्यक्रम में भाग लेने हेतु घन्यवाद देते हुए जल-पान हेतु आमन्त्रित किया। इसी के साथ समारोह को समाप्त घोषित किया गया।



ICAR NEWS/WEBSITE REPORTING

- Soil and Water Conservation and Watershed Management Certificate Course. ICAR Mail. April 2015. 6 (2): 2.
- Soil and Water Conservation Training for Odisha Officer. ICAR website. April 2015.
- Participatory Integrated Watershed Management Training. ICAR website. May 23, 2015.
- Capacity Building Training-cum-Exposure Visit Programme on 'Soil & Water Conservation Techniques' Organized. ICAR website. June 1, 2015.
- Skill Development Programme for Agriculture Engineer. ICAR website. June 1, 2015.
- Training course for All India Service Officers inaugurated at ICAR-IISWC. ICAR website. September 21, 2015.
- *Mera Gaon Mera Gaurav*. IISWC. ICAR Mail. July 2015. 6 (5): 1.
- Valedictory function on Soil and Water Conservation and Watershed Management Course. ICAR Mail. August 2015. 6 (6): 2.

AWARDS AND RECOGNITIONS

- Dr. P.K. Mishra, Director: Selected as an expert member in Land Degradation and Restoration (LDR) Assessment for the period of 2016-18 by Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), IUCN, Bonn, Germany..
- Research Centre Agra awarded II prize for its work in promoting Rajbhasha Hindi by NARAKAS, Agra.
- Dr. A.K. Tiwari, Principal Scientist and Head: Member of National Mission on Sustainable Agriculture in Haryana State.
- Dr. N.K. Sharma, Head, SS&A: Nominated as member of Institute Management Committee (IMC) for ICAR-IISWC, Dehradun and ICAR-DWR, Jabalpur.
- Er. S. Patra awarded Netaji Subhash ICAR International Fellowship for doing Ph.D. in Vienna, Austria.
- Dr. A.C. Rathore Sr. Scientist (Horticulture) nominated as committee member for accreditation and rating of fruit nurseries in Uttarakhand State.
- Dr. Rajesh Kaushal, Sr. Scientist (Forestry) and Dr. Raman Jeet Singh, Scientist (Agronomy): Nominated in advisory committee for finalization of message to be sent to the farmers through SMS by mKisan SMS Portal of Regional Sericulture Research Station (RSRS), Sahaspur, Dehradun.
- Dr. N.M. Alam, Scientist (Agril. Statistics): First prize in *Hindi Sulekh Pratiyogita* in Hindi Saptaha during September 14-19, 2015.
- Sh. Suresh Kumar, ACTO: First prize in Hindi/English translation and Sabdawali Pratiyogita competition held during Hindi Saptaha celebration on September 20, 2015.
- Sh. S.K. Sinha, Sr. Tech. Officer: Second prize for '*Bilingual Anuvad Pratiyogita*' and third prize for '*Shabdawali Pratiyogita*' in Hindi Saptaha during September 14-19, 2015.
- Sh. Prem Singh Rawat, SSS: First prize for '*Nibandh Pratiyogita*' in Hindi Saptaha during September 14-19, 2015.

IMPORTANT PUBLICATIONS

Research Papers

Akram Ahmed, Tomar JMS, Mehta H, Alam NM and Chaturvedi OP (2015). Influence of canopy architecture on stemflow in agroforestry trees in Western Himalayas. *Current Science*, 109(4): 759-764.

- Ali Shakir and Ghosh NC (2015). A methodology for estimation of wetting front length and potential recharge under variable depth of ponding. *Journal of Irrigation and Drainage Engineering*, ASCE, DOI: 10.1061/(ASCE)IR.1943-4774.0000921.
- Ali Shakir, Ghosh NC, Mishra PK and Singh RK (2015). A holistic water depth simulation model for small ponds. *Journal of Hydrology*, doi.org/10.1016/j.jhydrol. 2015.08.035.
- Ali Shakir, Singh RK and Sethy BK (2015). Field application of a dynamic potential groundwater recharge simulation model for small recharge ponds. *Applied Engineering in Agriculture*, ASAE, 31(2): 267-279.
- Ch. Jyotiprava Dash, Sarangi A, Singh DK, Singh AK and Partha Pratim Adhikary (2015). Prediction of root zone water and nitrogen balance in an irrigated rice field using a simulation model. *Paddy and Water Environment*, 13(3): 281-293.
- Ghosh BN, Khola OPS, Bhattacharyya Ranjan, Dadhwal KS and Mishra PK (2015). Effect of potassium on soil conservation and productivity of Maize (*Zea mays* L.)/ Cowpea (*Vigna sinensis* L.) based crop rotations in the north-west Indian Himalayas. *Journal of Mountain Science* DOI: 10.1007/s11629-013-2885-0.
- Ghosh BN, Meena VS, Alam NM, Dogra Pradeep, Bhattacharyya Ranjan, Sharma NK and Mishra PK (2015). Impact of conservation practices on soil aggregation and the Carbon Management Index after seven years of maize-wheat cropping system in the Indian Himalayas. *Agriculture Ecosystem and Environment*, 216:247-257. DOI.org/10.1016/j.agee.2015.09.038.
- Mahanta D, Bhattacharyya R, Sahoo DC, Tuti MD, Gopinath KA, Arunkumar R, Mina BL, Pandey BM, Bisht JK, Srivastava AK and Bhatt JC (2015). Optimization of farmyard manure to substitute mineral fertilizer for sustainable productivity and higher carbon sequestration potential and profitability under gardenpea-french bean cropping system in the Indian Himalayas. *Journal of Plant Nutrition*, 38:1709-1733.
- Mondal B, Singh A, Sekar J, Sinha MK, Kumar S and Ramajayam D (2015). Institutional arrangement for watershed development programmes in Bundelkhand region of Madhya Pradesh, India: an explorative study. *International Journal of Water Resource Development*, DOI: 10.1080/07900627.2015.1060195.
- Partha Pratim Adhikary, Chandrasekharan H, Dubey SK, Trivedi SM and Ch. Jyotiprava Dash (2015). Electrical resistivity tomography for assessment of groundwater salinity in west Delhi, India. *Arab J Geosci*, 8:2687-2698.
- Partha Pratim Adhikary, Madhu M, Ch. Jyotiprava Dash, Sahoo DC, Jakhar P, Naik BS, Hombe Gowda HC, Naik GB and Benukantha D (2015). Prioritization of traditional tribal field crops based on RWUE in Koraput district of Odisha. *Indian Journal of Traditional Knowledge*, 16(1): 88-95.
- Patil SL, Mishra PK, Loganandhan N, Math SKN, Manikatti SM and Seshadri BN (2015). Suitable chickpea cultivars for rainfed situations in black soils of South India. *Legume Research*, 38(2): 229-234.
- Patra S, Mandal D, Mishra PK, Ojasvi PR, Mishra PK, Patra JP, Kumar G, Kaushal R and Alam NM (2015). Watershed scale runoff-erosion-carbon flux dynamics: Current scope and future direction of research. Article no. 6933-13941-1-RV, *Current Science* (Accepted)
- Patra S, Mishra PK, Mandal D, Ojasvi PR, Jana C and Alam NM (2015). Comments on "Modelling soil organic carbon storage with RothC in irrigated Vertisols under cotton cropping systems in the subtropics *Soil and Tillage Research* DOI: 10.1016/j.still.2015.04.012.



- Rajeev Ranjan, Sahoo RN, Chopra UK, Monalisha Pramanik, Singh AK and Pradhan S (2015). Assessment of water status in wheat (*Triticum aestivum* L.) using ground based hyper spectral reflectance. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, DOI: 10.1007/s40011-015-0618-6.
- Sahoo DC, Madhu M, Muralidharan P and Sikka AK (2015). Land Management Practices for Resource Conservation under Vegetable Cultivation in Nilgiris Hills Ecosystem. *Journal of Environmental Biology*, 36:1039-1044.
- Singh AK, Kala S, Dubey SK, Pande VC, Rao BK, Sharma KK and Mahapatra KP (2015). Technology for rehabilitation of Yamuna ravines cost-effective practices to conserve natural resources through bamboo plantation. *Current Science*, 108(8):1526-1533
- Singh Raman Jeet and Ahlawat IPS (2015). Energy budgeting and carbon footprint of transgenic cotton-wheat production system through peanut intercropping and FYM addition. *Environmental Monitoring and Assessment*, 187(5):1-16. DOI: 10.1007/s10661-015-4516-4.
- Singh Raman Jeet, Alam NM and Kumar Suresh (2015). Bt Cotton-groundnut intercropping system: A pragmatic approach for increasing edible oilseeds production in India. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, DOI: 10.1007/s40011-015-0643-5.
- Singh Raman Jeet; Ahlawat IPS and Sharma NK (2015). Resource use efficiency of transgenic cotton and peanut intercropping system using modified fertilization technique. *International Journal of Plant Production*, 9(4):523-540.
- Singh Raman Jeet, Ghosh BN, Sharma NK, Patra Sridhar, Dadhwal KS and Mishra PK (2015). Energy budgeting and energy synthesis of rainfed maize-wheat rotation system with different soil amendment applications in Indian sub- Himalayas. *Ecological Indicator* DOI: 10.1016/j.ecolind.2015.10.026.
- Yadav RP, Pankaj P, Swarn Lata Arya and Mishra PK (2015). Revisit of Shivalik Region in Different States of Northwestern India. *Journal of Geological Society of India*, 86 (3): 351-360.

Books

- Dhyani BL, Bihari Bankey, Kumar Ambrish, Mandal Debashis, Singh Charan and Muruganandan M (2015). *Natural Resource Management for Livelihood Security: Project Planning, Monitoring and Impact Analysis*, ICAR-IISWC, Dehradun (Uttarakhand) India, p.175.
- Rajan K, Dinesh D and Kasthuri V (2015). *Integrated Plant Nutrient System for Maize (Zea mays L.) with Reference to Phosphorous Nutrition*. Lambert Academic Publishing, Germany. ISBN.No.978-3-659-71208-1.

Technical Bulletin/ Training Manual

- Kannan K and Kholra OPS (2015). Training manual on *Integrated Watershed Management* for PIA/WDT members from Cuddalore Sponsored by District Watershed Development Agency (DWDA), Cuddalore district in Tamil Nadu from May 4-8.
- Mishra PK, Ojasvi PR and Kumar A (2015). Training Manual for All India Service Officers on Pradhan Mantri Krishi Sinchai Yojna (PMKSY): p179.
- Pande VC, Bagdi GL and Sena DR (2015). Status of Community Based Water Storage Structures in Gujarat. ICAR-IISWC Research Centre, Vasad (Gujarat) : pp38.
- Singh AK, Kala S, Dubey SK, Rao BK and Mishra PR (2015). Bamboo based resource conservation a viable technology for reclamation of Yamuna ravines. *Technical Bulletin No.T-67/A-01:pp 18*.

- Singh Charan, Bihari Bankey, Kumar Suresh, Muruganandam M, Mandal D, Madhu M, Kumar Ambrish, Kumar Ashok, Kumar Rakesh, Sharma SK, Dwivedi VK and Dhyani BL (2015). *Shankar Napier- Uttar Paschim Himalaya Kshetra Mein Chara Utpadan Evam Sansadhan Sanrakhan Hetu Ek Upyukt Vikalp*. Published by ICAR-IISWC, Dehradun.

Technical Reports/ Brochures

- ICAR-IISWC, Research Centre, Vasad : An Introduction.
- Bihari Bankey, Singh Lakhan and Kumar Suresh (2015). *WDP Digdarshika*. ICAR-IISWC, Dehradun.
- Bihari Bankey, Singh Lakhan and Kumar Suresh (2015). *PIA Digdarshika*. ICAR-IISWC, Dehradun.
- Bihari Bankey, Singh Lakhan and Kumar Suresh (2015). *Policy Planners Digdarshika* ICAR-IISWC, Dehradun.
- Bihari Bankey, Singh Lakhan, Singh C and Kumar Suresh (2015). 'Varsha Adharit Kschetron Mein Jal Sanrankshan - Krishal Digdarshika'. ICAR-IISWC, Dehradun.
- 5th monitoring report on "Monitoring of Jute Geotextiles (JGT) Application Sites" Submitted to Chief Consultant National Jute Board.
- Draft report on "Impact Evaluation Study of Projects for Conservation of Irrigation Water" executed under Rashtriya Krishi Vikas Yojna (RKVY)" in Punjab.
- Project Completion Report on 'Prototype Study on Efficacy of Jute Geo-Textiles for Hill Slope Stabilisation Using Tea Plants". RC Udhagamandalam.
- Singh Charan, Raizada A and Alan NM (2015). Fodder and Firewood Production from a Managed Silvopastoral System Raised on Old Riverbed Lands in the North-West Himalayas. ICAR-IISWC, Dehradun : pp8.
- Sharma SK and Maurya UK (2015). *Water Management System at Indian Veterinary Research Institute, Mukteswar, Uttarakhand*. IISWC, Dehradun.

PATENT

- Sarkar B, Maurya UK, Brahmane MP, Krishnani KK and Minhas PS. Process for one step synthesis of bactericidal silver nanoparticles from tissue extracts of *Labeo rohita*. Patent Office Journal, Publication Date: 25.07.2014, Issue No. 30/2014.

TELEVISION/RADIO TALKS

- Dr. R.K. Singh gave scientific advice and answers to farmers of Hadoti region through phone in programme "Deep summer ploughing and soil testing" at All India Radio, Kota on April 29, 2015.
- Dr. Harsh Mehta delivered radio talk on "Girata Hua Bhoo Jal Star Evam Samadhan" at All India Radio Najibabad on May 8, 2015.
- Dr. G.L. Meena delivered radio talk on "Mrida Ki Urvarta Banaye-Mrida Swastha Badhaye" at All India Radio, Kota on May 25, 2015.
- Sh. G.B. Naik delivered radio talk on "Jalabibhajika Re Maccho Chasa Pain Pokhari Prastuty ebong Janla Ro Surakshya" at All India Radio, Jeypore on June 2, 2015.
- Dr. Ashok Kumar delivered radio talk on "Bhumi avam Jal Sarakshan Ke Upai" at All India Radio, Kota on June 8, 2015.
- Dr. S. Manivannan delivered radio talk on "Soil, Water and Environmental Issues in the Nilgiris" on June 9, 2015.
- Dr. D.C. Sahoo delivered radio talk on "Khrusi Bhittika Jamire Mrutika O Jala Samrakhayana Ra Upaya " at All India Radio, Jeypore on June 22, 2015.



- Sh. G.W. Barla delivered radio talk on “*Mrutika O Jala Sanrakhyana Vitika Udyana Krushi*” on All India Radio, Jeypore on July 7, 2015.
- Dr. H.R. Meena attended radio talk on “*Bagicha Lagane Ke Vaigyanic Tarike*” at All India Radio, Kota on July 22, 2015.
- Dr. B.L.Mina, delivered radio talk on “*Khadi Fasalo me Poshak Tatva Prabandhan Avam Sashay Kriyaye*” at All India Radio, Kota on July 27, 2015.
- Dr. D.C. Sahoo delivered radio talk on “*Dongara Jami Re Mrutika Samrakhyana*” on All India Radio, Jeypore on August 25, 2015.
- Sh. G.B. Naik delivered radio talk on “*Amo Anchalare Labho Janaka Machho Chasha Ra Sujogo*” at All India Radio, Jeypore on August 31, 2015.
- Dr. Harsh Mehta delivered radio talk on “*Toria ki kheti*” at All India Radio Najibabad on September 9, 2015.
- Dr. Dev Narayan delivered radio talk at AIR Gwalior on Sept. 15, 2015.
- Dr. K. Rajan, Sr. Scientist delivered four talks on Services of Central Laboratory - instruments and equipments for soil analysis, Soil fertility and crop production, Soil sampling for soil testing and Services of Central Laboratory About central lab and its activities of the Centre at Podigai TV Channel (Doordharshan, Tamil) on September 8, 15, 18 and 22, 2015.
- Dr. K. Kannan, Principal Scientist delivered three talks on IISWC activities in Iduhati Model Watershed under HADP, Biological bench terraces and Water resource management in the hilly regions in Podigai TV Channel on September 18, 24 and 25, 2015.
- Dr. O.P.S. Khola, Principal Scientist & Head delivered a talk on “Background of IISWC, Udhagamandalam” in Podigai TV Channel on September 21, 2015.
- Dr. P. Sundarambal, Sr. Scientist delivered two talks on Extension services of IISWC, Udhagamandalam and Capacity building programmes in Iduhatti watershed under Hill Area Development Programme (HADP) in Podigai TV Channel on Sept. 21 and 28, 2015.
- Dr. S. Manivannan, Principal Scientist delivered a talk on “Rainwater harvesting and its multiple use” in Podigai TV Channel on September 22, 2015.
- Dr. D. Dinesh, Scientist delivered a two talks on Soil fertility management in Nilgiris and On- going research activities of Indian Institute of Soil and Water Conservation on in Podigai TV Channel on September 25 and 29, 2015.

DISTINGUISHED VISITORS

Dehradun: Dr. Mangla Rai, Vice Chancellor, GBPUAT, Pantnagar; Dr. J.S. Bali, Ex. Professor, IIT, Kharagpur; Dr. Sandeep Dave, IAS, Joint Secretary, Dept. of Land Resources, Ministry of Rural Development, Govt. of India; Shri S. Ramasamy, Principal Secretary (Agriculture and Higher Education), Government of Uttarakhand; Dr. Sanjeev Chopra, Joint Secretary (Agriculture Cooperation) and Mission Director, PMKSY, New Delhi; Shri L.K. Palata Singh, Team Leader and R.K. Nayak, Deputy Director, IMAGE, Bhubaneswar; Er. K. Murugesan, Team Leader, Agriculture Engineering Department, Chennai, Tamil Nadu.

Agra: Dr. A.K. Sikka, DDG (NRM) ICAR New Delhi; Dr. C.L. Acharya Former Director IISS, Bhopal.

Bellary: Mr. M.C. Muthaiyan, Ex Senior Scientific Assistant, Retired Deputy Director, Dept of PPQS, Min of Agri, GOI; Er. Parasappa Kanannavar, Asst. Prof; Er. Virupangouda, Project Engineer; Agricultural Engineering College, Raichur.

Chandigarh: Dr. J.S. Samra, Former CEO, NRAA, New Delhi; Dr. Gurbachan Singh, Chairman, ASRB, N. Delhi; Dr. Manmohanjeet Singh, Director, PAU Regional Station, Balwal Sukhri, Punjab.

Datia: Dr. A.K. Srivastava, Ex-Director ICAR-VPKAS, Almora (UP); Dr. V.S. Katiyar, Ex-Head of the ICAR-IISWC RC Datia; Mr. G.C. Sharma, RAEO, Block Morena (MP); Mr. Avlok Kushwaha, Team Leader IWMP-4 Karahal Distt Sheopur (MP); Mr. R.D. Prajapati, RAEO, Block Palera Distt-Tikamgarh (MP); Mr. Indrajeet Dohare, RAEO, Block Bhind Distt-Bhind (MP); Mr. R.S. Bhadauria, RAEO Block Karahal Distt Sheopur (MP); Mr. Sanjay Gupta, Team Leader IWMP-2 Vijaypur Distt-Sheopur (MP); Dr. P.R. Rajput, Guest Professor (Agronomy) RSKVV Gwalior; Mr. R.L. Dhanokia, RAEO, Block Sabalgarh Distt Morena; Sh. Bhaskar Lakshakar, IAS, Collector, Distt Datia (MP); Mr. S.K. Verma, RAEO, Distt Morena; Mr. Sandip Chauhan, SMS, KVK Sehore (MP); Mr. R.K. Mishra, PGT (Chemistry), Navoday Vidyalay, Beeker, Datia; Smt Sadhana Sharma, Principal, Kendriya Vidyalaya Datia (MP).

Kota: Dr. Umesh Dimri, Head, IVRI, Izzatnagar; Dr. R.S. Negi, Head, HBN, Garwal University; Dr. T. Mohan, DFO, Udaipur; Dr. Jagdish Grover, Associate Director, KVK, Avikanagar; Dr. A. Sahoo, Head, CSWRI, Avikanagar; Dr. S.N. Prasad, Ex head, CSWCRTI, Kota; Dr. Arun Kumar, Head, CSWRI, Avikanagar; Dr. Devendra Kumar, Sr. scientist, CSWRI, Avikanagar; Dr. Pankaj Kumar, Asst. professor, BAU, Bihar; Dr. S.N. Singh, Ret. Professor, RAU, Pusa Bihar; Dr. Hema Kumar, Associate Professor, CAE, ANGRAU, Bapatla (AP); Dr. N.N. Pathak, Former Director, IVRI, Izzatnagar; Dr. Niraj Kulshreshth, Head, SBI, RC Karnal; Dr. Rajkumar, Scientist, RS Anapalli ANGRAU; Mr. U.C. Prasad, CAO&FAO Institute of Nano Tech., Mohali.

Koraput: Sh. Lucas Pradhan, BDO Semiliguda; Sh. B.S. Kallo, PD (Watershed), Koraput; Sh. Madhab Khosla Vice- Chairman Zilla Parishad Koraput; Sh. Sukant Behera, Tahasildar Semiliguda, Koraput; Dr. R. Sahoo, Scientist-D, RSRS, Koraput.

Udhagamandalam: Sh. K. Dhamodhar, Krishnagiri, Tamil Nadu; Sh. R. Yogandandham, WDT/Agri. Cuddalore; Er. R. Jayakumar, DWDA, Cuddalore; Sh. N.M. Basheer Panchayat President Nilambur, Kerala; Dr. S. Pazhannivelan, Professor, TNAU, Coimbatore; Panchayat President, Arakonam, Kerala; Dr. K. Nagarajan, Water Technology Centre, TNAU, Coimbatore; Dr. Nranjana Murthy, AICR, UAS, Bangalore; Sh. Sheethala Prasad Jayaswal, SHIATS, Allahabad; Sh. Nagesh Rao Dept. of Horticulture Gundelpet, Karnataka; Sh. Prasad, Institute of Technology, Andhra Pradesh WDT Member, Krishnagiri.

Vasad: Er. R.C. Salunke, Assistant Professor, College of Agril. Engg. & Technology, Anand Agriculture University Anand; Executive from Decision Support Centre, Ahmedabad.

FOREIGN VISITS

- Dr. P.K. Mishra attended the first meeting of Land Degradation and Restoration (LDR) assessment as a lead author to Chapter 8 of IPBES deliverables from September, 20-24, 2015 at Bonn, Germany.

WORKSHOPS/TRAININGS/VISITS/DAYS/WEEKS/MEETS ORGANIZED

- RC Agra celebrated Institute Formation Day on April 1, 2015.
- RC Agra organized exposure visit for B. Tech students from ACE College of Engg. & Management, Etmadpur on April 1, 2015.
- HRD&SS Division organized Training-cum-Exposure Visit on Integrated Watershed Management sponsored by Institute on management of Agricultural Extension (IMAGE), Siripur, Bhubneswar, Odisha from April 6-10, 2015.



- HRD&SS Division exhibited various Natural Resource Conservation and Improved Agricultural Production Technologies during *Kisan Mela* organized by ICAR-VPKAS, Almora on April 8, 2015.
- RC Kota coordinated and conducted the 20th ICAR all India entrance examination for the admission to undergraduate programme at eight examination centre in Kota city on April 11, 2015.
- HRD&SS Division organized Training-cum-Exposure Visit on Integrated Watershed Management sponsored by Institute on management of Agricultural Extension (IMAGE), Siripur, Bhubneswar, Odisha from April 13-17, 2015.
- RC Agra organized exposure visit for B.Sc. Agric. III year RAWE (Rural Agricultural Work Experience) programme of R.B.S. College Bitchpuri Agra on April 18, 2015.
- Inter Institutional North Zone Staff Sports meet was organized at IISWC, Dehradun from April 18-21, 2015.
- HRD&SS Division organized Certificate Course on Soil & Water Conservation & Watershed Management from April 22-Aug. 21, 2015.
- RC Koraput organized one day Interaction Workshop on "*Jhola Land Utilization*" on April 22, 2015.
- Dr. U.K. Maurya, Senior Scientist (Soils) coordinated meeting of technical presentation on "TOC Analyser" and "UV-VIS Spectrophotometer" on April 23 and June 19, 2015 at IISWC, Dehradun.
- RC Udhagamandalam organized one Short Course on Integrated Water shed Management for WDTs/ PIAs sponsored by DWDA, Cuddalore from May 4-8, 2015.
- HRD&SS Division organized Training-cum-Exposure Visit on Capacity Building under Integrated Watershed Management sponsored by Institute on management of Agricultural Extension (IMAGE), Siripur, Bhubneswar, Odisha from May 19-23, 2015.
- HRD&SS Division organized Training-cum-Exposure Visit Programme on Soil and Water Conservation Techniques from May 27 - June 1, 2015.
- Research Centre, Chandigarh, participated in Govt. of India's Mega Exhibition on May 28, 2015.
- RC Koraput organized Training Programme on Skill Development Programme on Land and Water Management under IWMP sponsored by Odisha Watershed Development Mission (OWDM), Bhubaneswar, Govt. of Odisha from May 28- June 1, 2015.
- HRD&SS Division organized one month In-plant Training Programme for M. Tech students of OUAT, Bhubneshwar and BHU, Banaras from June 1-30, 2015.
- RC Agra organized one month training programme on Soil and Water Conservation Engineering for B. Tech students from June 1-30, 2015.
- RC Bellary organized one month training programme on Soil and Water Conservation Engineering for B. Tech and M. Tech students from June 1-30, 2015.
- RC Bellary organized four months training programme on Soil and Water Conservation Engineering for B. Tech students from June 1-September 30, 2015.
- RC Chandigarh organized Summer Practical Training for B.tech (Ag. Engg.) students during June-July 2015.
- RC Datia organized one month Summer Practical Training for B.Tech. (Agril. Engg.) students on Soil and Water Conservation and Watershed Management from June 1-30, 2015.
- RC Kota organized Summer Practical Training on Watershed Management for B.Tech (Ag. Engg.) students from June 1-30, 2015.
- RC Koraput organized two trainings on Soil and Water Conservation and Watershed Management for students from OUAT, Bhubaneshwar (2 months) and BCKV, Mohanpur (1 month).
- RC Udhagamandalam organized Institutional Training on Soil and Water Conservation for B. Tech Students from June 1-30, 2015.
- RC Udhagamandalam organized Training Programme on Soil and Water Conservation and Watershed Management for B. Tech (Ag. Engg.) students from June 1-September 30, 2015.
- RC Vasad organized four months in-plant training on soil and water conservation for B tech students.
- Dr. N.K. Sharma, Head co-ordinated NMSHE workshop as a theme leader for pilot studies for revalidation, provided a brief background of the project and highlighted its significance in the current context of climate change at ICAR-Directorate of Coldwater Fisheries Research (DCFR), Bhimtal, Nainital from June 3-5, 2015.
- HRD&SS Division organized Training-cum-Exposure Visit Programme on Soil and Water Conservation Techniques sponsored by River Valley Project, Dharmapuri, Tamil Nadu from June 4-9, 2015.
- HRD&SS Division organized Training programme for Innovative Technologies of Soil and Water Conservation sponsored by IMTI, Tamil Nadu from June 16-21, 2015.
- RC Udhagamandalam organized a seminar on "Concept of Sustainable Intensification and Climate Change with Respect to High Temperature Stress on Crop Production" by Dr. P.V. Varaprasad, Professor and Director, Sustainable Intensification Lab, Kansas State University, USA on June 19, 2015.
- RC Agra celebrated International Yoga Diwas on June 21, 2015.
- HRD&SS Division exhibited various Natural Resource Conservation and Improved Agricultural Production Technologies in the *Kisan Mela* organized by KVK, Chinyalisod, District Uttarkashi under ICAR-VPKAS, Almora on June 22, 2015.
- RC Udhagamandalam organized Hindi Quarterly Meeting on June 23, 2015.
- RC Agra organized Hindi *Karysala* on June 30, 2015.
- RC Udhagamandalam organized Hindi Workshop on *Karyalaya Tippini* on June 25, 2015.
- HRD&SS Division organized Training cum Exposure Visit Programme on Soil and Water Conservation Technique sponsored by Soil and Water Conservation, Sub-Division, Garhshankar, Hoshiarpur, Punjab from July 7-9, 2015.
- RC Udhagamandalam organized Exposure Visit to Iduhatty Watershed for B. Tech. students from Sam Higginbottom Institute of Agriculture, Technology and Sciences, Allahabad on July 10, 2015.
- RC Udhagamandalam organized one month institutional training programme for M. Tech students from July 15 - August 25, 2015.
- RC Kota organized one day sensitization training on Integrated Watershed Management Programme for public representatives and officers of Zila parishad Kota on July 29, 2015.
- RC Vasad organized World Nature Conservation Day August 3, 2015.
- RC Udhagamandalam organized Exposure visit for Scientists of Summer School on Multi-Pronged Extension Management Strategies for Dry Land Agricultural Development with Special Reference to Promoting Climate Resilient Agriculture organized by Dept. Agril. Extn. and Rural Sociology, TNAU, Coimbatore on August 8, 2015.



- RC Koraput organized Training-cum-Exposure Visit of TSP beneficiaries on August 20, 2015.
- RC Kota organized Agricultural Technology Week from Aug. 24-29, 2015.
- RC Udhagamandalam organized exposure Visit for Officer Trainees from CASFAS, Coimbatore on August 28, 2015.
- Himalayan Day was organized on September 9, 2015.
- RC Udhagamandalam organized field day at Village Thiruchigadi, The Nilgiris, on September 11, 2015.
- RC Kota organized Hindi Diwas on September 14, 2015.
- RC Koraput organized Hindi Diwas on September 14, 2015.
- RC Datia organized Hindi Pakhvada from September 14-30, 2015.
- RC Datia organized Essay Competition on "स्वस्थ जीवन हेतु मृदा एवं जल संरक्षण" on September 15, 2015.
- RC Udhagamandalam organized Hindi *Chetna Mas* Celebration on September 15, 2015.
- RC Datia organized Centre's Foundation Day and Field Day-cum-Sensitization Workshop on September 18, 2015.
- HRD&SS Division organized Training Programme for All India Service Officers on PMKSY at IGNFA, Dehradun from Sept. 21-24, 2015.
- RC Udhagamandalam organized Hindi Workshop on *Dhakshin Bharath me Hindi ka Sthan aur Mahatwa* on September 26, 2015.
- HRD Division organized Training on Skill Development' for Skilled Supporting Staff of IISWC from September 29-30, 2015.

WORKSHOPS/ MEETINGS/TRAININGS ATTENDED

- Selection Committee Meeting at ASRB on April 7, 2015 at New Delhi: Dr. P.K. Mishra.
- *Kisan Ghosti* for sensitizing farmers on Potential and Technologies of Soil and Water Conservation and Fish Farming on April 8, 2015 at ICAR-VPKAS at Almora: Dr(s). N.K. Sharma, M. Muruganandam and Sh. R.K. Arya.
- Workshop on Making Engineering Scientists Contribution More Meaningful to Stake Holders and the Nation on April 13-14, 2015 at New Delhi: Dr(s). P.K. Mishra, S. Manivannan, Shakir Ali.
- 1st Consultation meeting for the State of Uttarakhand on Project on DPR presentation of forestry interventions for Ganges on April 16, 2015 at FRI, Dehradun: Dr. P.K. Mishra.
- Scientific Advisory Committee meeting of KVK Datia on April 20, 2015 at Datia (MP): Dr. S.P. Tiwari.
- Training on Designing and Analysis of Experiments from April 20-25, 2015 at IASRI, New Delhi: Shri V.K. Jain.
- *Chhamahi Nagar Rajbhasha Karyawayan Samit* meeting on April 22, 2015 at Kota: Dr. Shakir Ali.
- Meeting for Strengthening the Linkages within ICAR Institutes, KVK and NGOs located in vicinity on May 1, 2015 at ICAR-IGFRI-Jhansi: Dr(s). S.P. Tiwari and Dev Narayan.
- Three months attachment training programme at *Central Institute for Sub-tropical Horticulture, Lucknow*, from May 11-August 10, 2015: Dr. Karma Veer.
- Divisional Directors Meeting of NRM and Directors Conference on May 14-16, 2015 at NASC, Pusa, New Delhi: Dr. P.K. Mishra.
- Scientific Advisory Workshop on May 20, 2015 organized for the farmers by State Department of Forest at Datia: Dr. S.P. Tiwari.
- State Level Joint Meeting of ICAR Regional Committee No. 1 on May 22, 2015 at CSKHPKV, Palampur: Dr. P.K. Mishra.
- Training programme organized by Project Directorate ATMA for *Krishak Mitras* on May 22, 2015 at ICAR- IISWC, RC, Datia: Dr(s). S.P. Tiwari, Dev Narayan and Om Prakash.
- Workshop on National Mission for Clean Ganga: DPR preparation for Forestry Intervention for Ganga from May 25-26, 2015 at FRI, Dehradun: Dr J.M.S. Tomar.
- Research Advisory Council meeting as RAC member from May 26-27, 2015 at Central Silk Board, Pampore, J&K: Dr. B.N. Ghosh.
- *Krishak Sangosthi and Krishi Mahovtsav* 2015 on May 27, 2015 organized by State Department of Agriculture and Farmers Welfare at Datia: Dr(s). S.P. Tiwari and Om Prakash.
- Training on Sickle Cell Anemia and Water Bodies on May 31, 2015 at Administrative Training Institute, Mysore: Dr. V. Kasthuri Thilagam.
- State Level Joint Meeting of ICAR Regional Committee No. 1 on June 3, 2015 at GBPUA&T, Pantnagar: Dr. P.K. Mishra.
- World Biodiversity Day on June 3, 2015 organized by District Administration Datia: Dr(s). S.P. Tiwari, Dev Narayan and Dr. Om Prakash.
- Launch workshop of NMSHE Project on June 4, 2015 at ICAR-DCFR, Bhimtal: Dr. P.K. Mishra.
- *Krishi Mahotsav* on June 4 and 12, 2015 organized by State Agriculture Department Datia: Dr(s). S.P. Tiwari, Dev Narayan and Om Prakash.
- Presentation on "Ravine reclamation for Productive utilization in Rajasthan A proposal for model ravine area development" on June 4, 2015 at Pant Krishi Bhawan, Jaipur: Dr. R.K. Singh.
- *Jal Kranti Abhiyaan* on June 5, 2015. organized by Central Water Commission, MOWR, Govt of India, New Delhi at Bundelkhand University Jhansi: Dr(s). S.P. Tiwari, Dev Narayan and Om Prakash.
- Seminar entitled "Seven Million Dream - One Nation" on June 5, 2015 organized by Institution of Engineers (Sunabeda Chapter): Dr(s). M. Madhu D.C. Sahoo P.P. Adhikary, Ch. J. Dash and M.K. Meena.
- Interface meeting on Enhancing the Preparedness of Agricultural Contingencies in *Kharif*, 2015 for Rajasthan at Pant Krishi Bhawan Jaipur on June 5, 2015: Dr. R.K. Singh.
- 81st Scientific Workers Conference on June 12, 2015 at TNAU, Coimbatore: Dr(s). O.P.S. Kholia, Dr. K. Kannan.
- Keynote Lecture delivered on Participatory Sustainable Water Resource Management for Irrigation in Himalayan Foot Hills in All India Seminar on Advances in Engineering and Technology for Sustainable Development (AETSD-2015) on June 13, 2015 organized by Institution of Engineers (India) at GBPUAT Pantnagar: Dr. Ambrish Kumar.
- National Seminar on Climate change and Smart Agricultural Technologies from June 13-14, 2015 at RVSKVV, Gwalior: Er. Monalisha Pramanik.
- Research Coordination Committee Meeting of Command Area Development on June 16, 2015 at CAD, Kota: Dr. Kuldeep Kumar.
- Management Development Programme on Leadership Development (for pre-RMP cadre) from June 16-27, 2015 at NAARM: Dr(s). Lakhn Singh and P.R. Bhatnagar.
- Regional RAC meeting of RSRS, Koraput on June 19, 2015 at Koraput: Dr(s). M. Madhu and P.P. Adhikary.
- Short course on Digital Soil Mapping through Geostatistical Approaches Using QGIS and R from June 24 - July 3, 2015 at ICAR-CAZRI: Dr. G.L. Meena.
- Meeting with Joint Secretary (Agriculture), Ministry of Agriculture and ADG (Soils) on Training for All India Service



- Officers on Pradhan Mantri Krishi Sichayee Yojana (PMKSY) District Irrigation Plan under PKKSY on June 25, 2015 at Krishi Bhavan, New Delhi: Dr. P.K. Mishra.
- Review meeting for Centrally Sponsored Scheme Soil Health Card on June 26, 2015 at Directorate of Agriculture, Dehradun: Dr(s). N.K. Sharma and D.V. Singh.
 - Sensitization meeting with fishermen and farmers on ill-impacts of traditional fishing festivals on June 28 and July 16, 2015 at Aglar River and Bathrigad respectively near Nehnbagh, Tehri District, Uttarakhand: Dr. M. Muruganandam and Shri Rakesh Kumar.
 - *Kharif* interface meeting of farmers and *Krishak-Mitras* on June 29, 2015 organized by ATMA at KVK, Datia: Dr. S.P. Tiwari.
 - Discussion with Joint Parliamentary Committee on Land Acquisition in Parliament House on June 30, 2015 at New Delhi: Dr. P.K. Mishra.
 - Meeting on Forestry Intervention for Ganga from July 2-3, 2015 at FRI, Dehradun: Dr. J.M.S. Tomar.
 - State Level Joint Review Meeting on July 3, 2015 at SKUAST, Jammu: Dr. P.K. Mishra.
 - National Workshop on Curriculum Development for All India Service Officers on PMKSP on July 6, 2015 at NIRD&PR, Hyderabad: Dr. Ambrish Kumar.
 - 397th meeting of the Academic Council on July 9, 2015 at IARI, New Delhi: Dr. P.K. Mishra.
 - Lecture entitled "Soil degradation - Issues and Strategies under Climate Change Scenario on Agricultural Productivity" in "Soils and Organic Agriculture" delivered in workshop organized by Uttarakhand Organic Board from July 12 -13, 2015 at Nainital: Dr. B.N. Ghosh.
 - State Level Meet on R&D Fund of NABARD on July 13, 2015 at Dehradun: Dr(s). P.K. Mishra and N.K. Sharma.
 - 1st Mango exhibition on July 13, 2015 organized by Directorate of Horticulture Uttarkhand at Dehradun: Dr(s). J.M.S. Tomar and A.C. Rathore.
 - 9th Refresher Course on Agricultural Research Management from July 13-25, 2015 at NAARM, Hyderabad: Dr(s). U.K. Maurya and Lekh Chand.
 - Lecture delivered on Soil and Water Conservation Practice for Sandy and Degraded Land on July 14, 2015 at State Institute of Agriculture Management (SIAM), Kota: Dr. Shakir Ali.
 - Meeting of Training Curriculum Development for All India Service Officers on PMKSY on July 16, 2015 at NASC Complex, Pusa, New Delhi: Dr. P.K. Mishra.
 - AGRI INTEX 2015 - India's Prime Agricultural Trade Fair from July 17-20, 2015 organized at CODISSIA Trade Fair Complex, Coimbatore, Tamil Nadu: Dr(s). O.P.S. Khola, S. Manivannan and V. Kasthuri Thilagam.
 - Visit to ICAR-Central Sheep and Wool Research Institute (CSWRI) for preparation of a Development Plan for Soil and Water Conservation for Research Farm, CSWRI, Avikanagar (Rajasthan) on July 22, 2015: Dr(s). R.K. Singh, A.K. Singh Shakir Ali.
 - Meeting on Ravine reclamation project with Director, Soil Conservation and Watershed Development, Jaipur, Rajasthan on July 23, 2015: Dr(s). R.K. Singh, A.K. Singh Shakir Ali.
 - Workshop on Sustainability Education Programme in South India for teachers on July 25, 2015 at Udthagamandalam: Dr. S. Manivannan.
 - ICAR Foundation Day and National Conference of Krishi Vigyan Kendras (KVKs) on July 25-26, 2015 at Patna: Dr. P.K. Mishra.
 - Workshop on Multi-Stakeholder Himalayan Sustainable Development Forum on August 4, 2015 at Dehradun: Dr. P.K. Mishra.
 - Hindi Raj Bhasa meeting on August 4, 2015 at NALCO: Dr(s). M. Madhu and D.C. Sahoo.
 - Training on Study about the Institutional Work on Waste Management, Composting and Vermicomposting, Soil Test Kit and Suitable Equipment and Tools for Hill Region at IISS and CIAF, Bhopal during August 4-6, 2015: Dr. Lekh Chand.
 - NRDMS (DST) sponsored Training Programme on Geospatial Technologies in Mapping, Monitoring and Management of Natural Resources from August 5-25, 2015 at ICAR-NBSSLUP, Nagpur: Dr. Rajeev Ranjan and Mr. Ramesha, M.N.
 - National Conference on Conservation and Management of Soil and Water in Western Ghat and Coastal area of Karnataka on August 7, 2015 at Vivekananda College of Engineering & Technology, Puttur, Karnataka: Dr(s) O.P.S. Khola & S. Manivannan.
 - Nineteenth Annual Convention and National Conference on Application of Clay Science in Agriculture, Environment and Industry from August 7-8, 2015 at Kolkata: Dr U.K. Maurya.
 - State Level IWMP review meeting with Chief Secretary, Uttarakhand Govt. on August 12, 2015: Dr(s). Lakhan Singh and Bankey Bihari.
 - National Symposium on "Sustaining Agricultural Productivity in Arid Eco System- Challenges and Opportunities (SAPECO-2015) at CAZRI RRS, Leh (J&K) from August 19-22, 2015: Dr(s). P.K. Mishra and R.S. Kurothe.
 - Workshop on Integrated Soil Health Management for Improvement of Green Fodder and Farm Animal Productivity on August 24, 2015 organized by Tamil Nadu State Planning Commission State Land Use Research Board at Sheep Breeding Research Station (SBRS), TANUVAS, Sandynalla, The Nilgiris: Dr. D. Dinesh.
 - International Workshop on Disaster Risk Reduction and World Natural Heritage Sites in Asia and the Pacific Region organized by UNESCO Category 2 Centre (C2C) from August 24-25, 2015 at Wildlife Institute of India, Dehradun: Dr M. Muruganandam.
 - Selection Committee Meeting at ASRB, Divisional Committee Meeting for Monitoring and Reviewing the Progress of Foreign Aided Projects and discussion with DDG (NRM) on August 27-28, 2015 at New Delhi: Dr. P.K. Mishra.
 - Farmers interaction meeting on August 27, 2015 at Central Institute of Agricultural Engineering, Regional Centre, Coimbatore: Dr. S. Manivannan.
 - Training Programme on Strengthening Gender Perspective in Agricultural Research and Extension from September 1-10, 2015 at ICAR-CIWA, Bhubaneswar: Dr. Ch. J. Dash.
 - SAC meeting of KVK, Haridwar (GBPUAT) on September 2, 2015: Dr. Raman Jeet Singh.
 - Training programme on Geospatial Analysis of NRM using Statistical Tools from September 2-11, 2015 at NAARM, Hyderabad: Dr(s). M. Madhu, Rajeev Ranjan and Er. Monalisha Pramanik.
 - Scientific Advisory Committee meeting at KVK, Dehradun on September 3, 2015: Dr. Lakhan Singh.

- Apple Day organized by State Horticulture Department on September 9, 2015 at Kisan Bhawan, Dehradun: Dr(s). A.C. Rathore and D.M. Kadam.
- CAFT Horticulture (Fruits) Training Programme on Pre and Post Harvest Management for Enhanced productivity from September 9-29, 2015 at Mahatma Phule Krishi Vidyapeeth, Rahuri, Distt.-Ahmadnagar: Sh. Shailendra Kumar Yadav.
- Inspected fruit nurseries in Tehri district for accrediting/rating from September 11-12, 2015: Dr. A.C. Rathore.
- Expert member for the selection of Assistant Professor from September 13-14, 2015 at G.B. Pant University of Agriculture & Technology, Pantnagar, Uttarakhand: Dr. D. Mandal.
- Meeting with the Director-General, UCOST, Dehradun on September 14, 2015 at Dehradun: Dr. P.K. Mishra.
- Farmer's Training Programme cum Field Day on September 16, 2015 organized by ATMA at KVK Datia: Dr. S.P. Tiwari.
- National Conference on Status of Land Resources-Challenges and Solutions with special reference to UP on September. 16, 2015 at Bareilly College, Bareilly: Mr. Anand Gupta.
- Mid-Term Review of Action Taken on the Recommendation of XXII Meeting of ICAR Regional Committee-II on September 19, 2015 at Barrackpore: Dr. M. Madhu.
- Training programmes for Farmers under National food Security Mission on September 17, 19 and 21, 2015 organized by Dy. Director Agriculture, Datia: Dr(s). S.P. Tiwari, Dev Narayan and Om Prakash.
- Launching function of *Mera Gaon Mera Gaurav* September 19, 2015 at ICAR-IGFRI, Jhansi: Dr. S.P. Tiwari.
- Workshop on 'Climate Resilient Practices on September 26, 2015 at ICAR-CAFRI, Jhansi: Dr. S.P. Tiwari.
- Review meeting of RSRS, Koraput on September 29, 2015 at Koraput: Dr. M. Madhu.
- Training for All India Service Officers under *Pradhan Mantri Krishi Sinchai Yojana* (PMKSY) at Pune, Shillong and Hyderabad: Dr. P.R. Ojasvi.

PERSONALIA

Appointments

- Dr. Karma Beer, Scientist (Fruit science) joined RC Koraput.
- Dr. Vijay D. Kakade, Scientist (Horticulture) joined RC Vasad.
- Dr. Pankaj Srivastava, RA joined SSA Division, Dehradun.
- Ms. Nishita Giri, Senior Research Fellow joined SSA Division, Dehradun.
- Mr. Maneesh Yadav, Senior Research Fellow joined RC Datia.

Promotions

- Dr. K. Kannan promoted to Principal Scientist (Agronomy) at RC Udhagamandalam.
- Dr. S. Manivannan promoted to Principal Scientist (SWCE) at RC Udhagamandalam.
- Dr. J.M.S. Tomar promoted to Principal Scientist (Forestry) at D.Dun.
- Sh. Surat Singh Panwar promoted to AAO at Dehradun.
- Smt. M. Sivajayalakshmi promoted to Assistant at RC Bellary.
- Sh. K.K. Lalwani promoted to Assistant at RC Kota.
- Smt. Anrapurna Nayak promoted to UDC at RC Koraput.
- Sh. R. Sivaprasad promoted to UDC at RC Koraput.
- Sh. Chander Pal, TSCL regularized as Skilled Supporting Staff at D.Dun.
- Sh. Munna Lal, TSCL regularized as Skilled Supporting Staff at RC Chandigarh.

Transfers

- Dr. A.K. Parandiyal, Principal Scientist (Forestry) transferred from RC Kota to RC Agra.
- Dr. G.L. Bagdi, Principal Scientist (Agril. Extn.) transferred from RC Vasad to ICAR-Central Sheep & Wool Research Institute, Avikanagar.
- Dr. (Mrs) Vibha Singhal, Senior Scientist (Forestry) transferred from ICAR-IINRG, Ranchi to Division of HRD&SS, Dehradun.
- Dr. (Mrs) Indu Rawat, Scientist transferred from ICAR-CIPHET, Ludhiana Ranchi to Division of HRD&SS, Dehradun.
- Sh. B.S. Naik, Scientist (SWC Engg.) transferred from RC Koraput to RC Bellary.
- Dr. S. Kala, Scientist (Forestry) transferred from RC Agra to RC Kota.
- Sh. Morade Amrut Sanjay, Scientist (Fruit Science) transferred from HQ Dehradun to RC Bellary.
- Sh. A.K. Nitant, STO, transferred from RC Chandigarh to RC Agra.
- Mr. Mohd. Irfan, JAO transferred from RC Kota to Dehradun.
- Sh. N.P. Sharma, Private Secretary transferred from RC Udhagamandalam to RC Agra.
- Mr. Lallan Mishra, Assistant transferred from RC, Datia to HQ Dehradun.
- Sh. Munna Lal, SSS joined RC Chandigarh.

Retirements

Bellary: Dr. R.M. Samarth, CTO; Sh. K.K. Reddy, ACTO; Sh. V. Channappa, SSS.

Chandigarh: Sh. Prem Singh, CTO; Sh. Rammoothy, ACTO; Sh. Rashpal Kanwar, AAO; Mrs. Veena Gossain, Assistant; Sh. Jagira, SSS.

Dehradun: Sh. D.K. Tomar, ACTO; Sh. Roop Chand, STA (T-5); Sh. K.P.S. Chauhan, Assistant, Sh. Saligram, SSS; Sh. Ramesh, SSS.

Kota: Mrs Bhanwari Bai, SSS.

Koraput: Sh. Ram Pal, SSS.

Udhagamandalam: Sh. D. Rajan, SSS.

Obituary

Sh. Deepak Kumar, SSS.

ICAR-IISWC expresses heartfelt condolence to the bereaved family.

In News





TECHNOLOGY

Recharge Filter: A Cost Effective Technology for Augmenting Groundwater

Recharge activities in arable lands are almost absent or if available have been done in unscientific manner leading to introduction of sediment laden water to the aquifer and rendering the life of aquifer unusable. The low cost recharge filter for arable land (Type-I) has been designed to divert storm runoff and remove suspended impurity through a three tier porous filter that delivers a substantial quantum of sediment free water to abandoned open or tube wells through a buried pipe line to rejuvenate groundwater aquifer. It is useful for arid and semi-arid regions. The design is useful for small farmers having contributing runoff area less than 4.5 ha. Agricultural field bunds and check dams reinforcement is essential to ensure longer recharge opportunity time. The recharge filter consists of a pit of design dimensions of depth 1 m dug into the soil and lined with LDPE (250 micron thickness) sheet. The base is graded towards middle where lies a perforated pipe leading to the recharge well. A wire mesh (2 cm x 2 cm opening) box casing filled with suitably graded stones/ geo-textiles is fixed around the collecting pipe to ensure dirt and sediment free water. The graded filter materials are laid in layers of 30 cm each, with the bottom layer consisting of pebbles/gravels of size 40 mm preceded by the middle layer having size of pebble/grits of size 20 mm. The upper layer is

Cost¹ of construction of recharge pit of 1 m depth (Type-I)

| Size of filter (m x m) | Arable land (Type-I) (₹) |
|------------------------|--------------------------|
| 2.9 x 2.9 (1.0 ha) | 16,250 |
| 4.0 x 4.0 (2.0 ha) | 28,200 |
| 4.9 x 4.9 (3.0 ha) | 40,450 |
| 5.6 x 5.6 (4.0 ha) | 51,550 |

¹Cost (2008 prices) includes laying of three layers of filter material of depth 30 cm each such as coarse sand at top layer, graded stones/grits (20 mm size) the middle layer and graded stone/metals (40 mm size) as the bottom layer. (b) Laying of pipe (160 mm diameter and 6 kg/cm²) along with excavation @ ₹ 332 per 1 m of running length should be extra to the cost.

coarse sand (clean) of grain size a little higher than 2 mm. The maximum size of graded stones laid in the bottom layer should not exceed 40 mm to avoid damage due to punctures in LDPE sheet. The top of the recharge filter is covered with agro-net/geojute (0.25 mm opening) to stop sediments to clog the sand surface.

The recommended domain of the technology is arid and semi arid climate of Gujarat and Rajasthan with moderate to heavy soil especially in the district of Dahod (Gujarat) & Ajmer, Jalore, Dungarpur, Hanumangarh, Sikar (Rajasthan).

Size of recharge filter surface area for various catchment area (Type-I)

| Area of field (ha) | Size of filter (m x m) | Interceptor bund height (m) at the filter point | Volume of recharge (m ³) | Height of waste weir (m) | Length of waste weir (m) |
|--------------------|------------------------|---|--------------------------------------|--------------------------|--------------------------|
| 1.0 | 2.9 x 2.9 | 0.95 | 425 | 0.24 | 2.0 |
| 2.0 | 4.0 x 4.0 | 1.24 | 943 | 0.29 | 2.0 |
| 3.0 | 4.9 x 4.9 | 1.43 | 1495 | 0.34 | 2.0 |
| 4.0 | 5.6 x 5.6 | 1.67 | 2061 | 0.38 | 2.0 |



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 Editorial Board : Pradeep Dogra, Principal Scientist
 Rajesh Kaushal, Senior Scientist
 Nirmal Kumar, Chief Technical Officer
 Design & Photographs : L.K. Sharma, Asstt. Chief Tech. Officer



ICAR-INDIAN INSTITUTE OF SOIL & WATER CONSERVATION
 218, Kaulagarh Road, Dehradun - 248 195, Uttarakhand
 Ph: +91 135 2758564 (O), +91 135 2754968 (R)
 Fax : +91 135 2754213 & 2755386
 Email : director@cswcrtiddn.org & directorsoilcons@gmail.com,
 Website : www.cswcrtiweb.org