



IISWC News



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Cost Effective Plastic Check Dams for Water Harvesting in Rainfed Regions

We heartily thank Dr. T. Mohapatra, Secretary (DARE) & DG (ICAR) for releasing this Newsletter (on 07th April, 2017) on the occasion of Institute's Annual Day

From The Director's Desk



Watershed management has emerged as a natural development unit for planning, developing and managing land, water and biomass resources with a focus on social and institutional aspects following a participatory bottom up approach. In the present context of PMKSY, it got the significance for popularising the concept of "Har Khet Ko Pani" in rainfed areas by conserving water in temporal and spatial domain. The long association of ICAR-IISWC in institutionalising the watershed program in the country has identified some important missing links in planning, implementation and evaluation processes to make the program robust and sustainable.

While planning, the basic purpose of restoration of water, soil and vegetation resources are often neither properly planned, nor documented. As a result, the outcomes of watershed project are not well assessed. Most of the time while preparing DPRs, critical area in a watershed requiring restoration measures is not identified for treatment and focus is on easy to do social interventions as compared to primary technical aspects of resource conservation. Geospatial data base of basic resources at micro-scale are not readily available in usable spatial (GIS) format in public domain for planning purpose. Also the required specialists in Remote Sensing and GIS and Engineering are not attracted to serve the program in the present service format.

During the implementation phase, target fixation and execution of watershed plan should be truly practical for asset creation vis-a-vis their response to natural biophysical processes considering the limited trained manpower available with the executing agencies (State Departments). Many times, it is observed that manpower available at supervisory level is insufficient since the area allocated to a PIA for treatment is very large consisting of large number of watersheds. The staff engaged in watershed programme of States is of temporary nature which dilutes the commitment of the engaged staff. Complete package of practices of NRM interventions are not planned and implemented. Furthermore, capacity building is not giving the desired outputs that are required for skill development. Required inputs (particularly planting material of good quality) are often not available for watershed development and at proper time.

Monitoring and evaluation is mostly orthodox in nature in which short term benefits (community participation, group meetings and melas, backyard poultry, etc.) are highlighted rather than long term tangible and intangible impacts. During periodic evaluation, there is a constant stress on achievement of financial and physical targets, rather than on qualitative and quantitative outputs on ground. After certain period of closure of a project, there is no provision for revisiting the area to assess the functioning of the assets created, since natural resource management is not a "dead end process". In case of non-functioning of the assets, the process of linkage and convergences should be strengthened to nurture and energise the natural resource environments for making the system productive with contemporary technologies and ideas.

The entire process of natural resource management in a watershed mode is cyclic in nature without a definite physical completion as such. It requires periodic revisit for restoration due to natural degradation and climate change effects for maintaining ecosystem services. Hence, we need a permanent body to maintain and sustain such important program in the country.

P.K. Mishra



NEW INITIATIVES

Six District Irrigation Plans Developed under PMKSY

The ICAR-IISWC Research Centre, Koraput has prepared District Irrigation Plans (DIP) for six districts of Odisha namely Koraput, Malkangiri, Nabarangpur, Kalahandi, Raygada and Gajapati. The Plans were prepared to address the inequality in irrigation development in the district. For this purpose the blocks have been taken as unit of



development. Every Block in the district has been prioritized into high and low priority blocks for irrigation development under PMKSY based on NSA, percent of NSA under irrigation, ST/SC population, and percent of wastelands and stage of GWD etc. The strategic approach is planned to bring 40% of the net sown area of high priority blocks under irrigation. To achieve the desired objectives, PMKSY will strategize by focusing on end-to-end solution in irrigation supply chain. The total estimated budget of the consultancy project is Rs.24 lakh.

Farmer FIRST Project Launched by ICAR-IISWC Dehradun

Farmer FIRST Program on 'Farmer Participatory Technology Application for Sustainable Resource Management and Livelihood Security in North-Western Himalaya' sanctioned by Agricultural Extension Division, ICAR, New Delhi under component of KVK scheme was launched in Raipur Block, Dehradun on November 17, 2016 by Dr. P.K. Mishra, Director. Under this project in all 617 farm families from 23 village of the block will be benefitted through different technological modules and interventions. Seeds of HS 507 and VL 892 improved varieties of wheat and PL 8 cultivar of lentil were distributed among farmers. Under the programme, two Kishan Goshties were held during December 27-28, 2016 for fruitful interaction between farmers



and scientists. In these events, around 140 farmers including 30 farm women participated. Saplings of plum and peach were distributed for including in nutritional garden. Wheat (HS-507 and VL-892) and lentil (Pant-8) demonstrated at farmers fields were visited and necessary suggestions were given for weed control and inter culture operations.

First ICAR Flexi Dam (Rubber Check Dam) Installed

In collaboration with ICAR-IISWC Research Centre, Udhagamandalam, first Rubber Check Dam in South India has been installed at Sillahalla Watershed, Udhagamandalam, on January 25, 2017 by ICAR – Indian Institute of Water Management (Bhubneswar) who has developed the technology being demonstrated across the country. A rubber dam or flexible check dam is an inflatable structure build across a stream used for water conservation, flood control and regulating flow of water in the stream. When it is inflated, it serves as a check dam / weir and when it is deflated it functions as a flood mitigation device and sediment flushing. Rubber check dam installed will be used to demonstrate the farmers, NGOs and line department officers of Tamil Nadu, Kerala and Karnataka States and Pondicheery Union Territory. The installed dam was inaugurated by Dr. S. Bhaskar, Assistant Director General (AAF & CC), NRM on March 2, 2017.



Tribal Herbal Medicinal Product Unit Inaugurated Under TSP

A women self help group (SHG) named Queen of Hills Herbal Product comprising 17 members as executives and farmers from 64 villages has been formed in collaboration with NAWA for Rejuvenating Tribal Traditional Herbal Medicinal Product (RTTHMP). For large scale production and commercialization of herbal medicinal products, this unit was upgraded by ICAR-IISWC Research Centre, Udhagamandalam by providing pulverising machines, boiling unit, drying facilities and packaging machines and materials. The unit was inaugurated by Dr. P.K. Mishra, Director on November 20, 2016 at Kolikarai village, The Nilgiris district. In addition to medicinal products, this unit will also serve as hub for marketing tribal agricultural produces like pepper powder, coffee, hand-made green tea, honey and spices like cinnamon, clove etc.



On Site Evaluation of Ongoing Projects Initiated at ICAR-IISWC

Project monitoring and evaluation is an important activity to ensure that implementation of technical programme of a research project is as per plan and that the objectives of the research project are achieved. On site evaluation of Plant Science Division (Dehradun), Soil Science & Agronomy Division (Dehradun) and Research Centre, Chandigarh have been carried out during November 22-23 (2016), November 25-26 (2016) and March 16-18 (2017), respectively. An Evaluation Committee consisting of OIC, PME Cell



(Chairman), Head of Centre/Division being evaluated, Head of another Research Centre/Division as an external evaluator, and Assistant Chief Technical Officer, PME Cell (Member-Secretary) was constituted by the Director. All projects were evaluated critically on 32 points and observations were recorded on-site by the committee.

Broadcast Slot Approved

A ten second slot for awareness creation on Soil & Water Conservation has been approved for relay/broadcast twice a week in Krishi Jagat Program of All India Radio, Nazibabad. The initiative has been undertaken under a ICAR-Extramural Project of IISWC for benefiting farming community.

MoU Signed

A triparty MoU was signed among ICAR-IISWC, International Network on Bamboo and Rattan, and Uttarakhand State Forest Department to undertake research project entitled “Upscaling research on assessment of productivity, hydrological behaviour, resource conservation and intangible benefits of selected commercial bamboo species in Uttarakhand”.

Dr M Shankar received Letter of support from the University of Exeter for collaborative project to support technical and analysis of Caeisum-137 with their cost.

IMPORTANT EVENTS

ICAR-IISWC Centre Honoured with Nilgiri Conservation Award 2016

ICAR-IISWC Research Centre, Udhagamandalam was honored with ‘Nilgiri Conservation Award’ by the Nilgiri Documentation Centre on February 3, 2017 at Udhagamandalam for the Centre’s achievements in research, development and capacity building activities in soil and water conservation in Nilgiris.



Hon’ ble Member of Parliament Sh. A.K. Selvaraj Visited TSP villages

Sh. A.K. Selvaraj, Hon’ble Member of Parliament, Rajya Sabha was the Chief Guest of a Farmers Fair and Training Programme on ‘Agricultural Mechanisation and Marketing’ organised by ICAR-IISWC Research Centre, Udhagamandalam on December 4, 2016 at Senguttaiyur village, Coimbatore, Tamil Nadu under Tribal Sub Plan. He distributed a power sprayer and a mini tractor to two groups of villagers of Senguttaiyur and Seenguli villages for custom hiring purpose among the farmers. The agricultural inputs, viz.

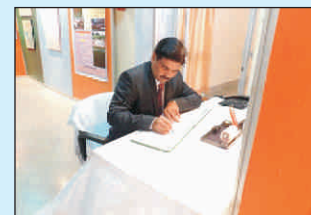


high yielding variety of pulse seeds, manures and fertilisers for integrated nutrient management, vermicomposting bags and polyfilms for drying agricultural products were also distributed. In his address, he appealed to all farmers to utilize the inputs issued under various schemes for improving their livelihood security and socio economic status. He stated that rainwater harvesting and artificial recharge is very important in the region to mitigate climate impact and

changes in rainfall pattern. Both central and state governments are very keen to increase productivity and farm income and various schemes have been initiated to achieve the target. The Rajya Sabha Member appreciated the efforts of ICAR-IISWC Research Centre for taking up various activities under TSP in the region.

Shri Chhabilendra Roul, IAS Visited ICAR-IISWC Dehradun

Shri Chhabilendra Roul, IAS, Additional Secretary, DARE, Ministry of Agriculture and Farmers Welfare, Govt. of India & Secretary, ICAR, New Delhi visited ICAR-IISWC, Dehradun on October 14, 2016. Dr. P.K. Mishra, Director, ICAR-IISWC, Dehradun briefed the activities of the Institute. Shri Roul visited experimental fields at Research Farm, Selakui where he was briefed about the landuse and infrastructure at the farm. He discussed about the initiative being taken by ICAR-IISWC for Swachhta Pakhwada and appreciated the work on composting initiated at Research Farm. He also advised the officials to observe Swachhta Pakhwada from October 16-31, 2016 as per guidelines of ICAR. He said that the role of NRM institutes like IISWC is very important in backdrop of climate change scenario. He took keen interest in research activities and interacted with PIs of the respective on-going projects, and advised the scientists to go for techno-economic and commercial analysis of technologies for developing agri-business module. He stressed upon proper landuses and climate smart agriculture for helping small and marginal farmers. He appreciated the innovation of soil loss measurement device being developed by the Institute. He also visited the Library, AKMU Cell, Hydrology Laboratory and Museum at the headquarters, and appreciated the depiction of technologies and work done by the Institute. He also interacted with trainees of four-months regular course from different states of India.



Ex-Vice Chancellor Visited Datia Centre

Dr. L.N. Harsh, Ex-Vice Chancellor, Agriculture University, Jodhpur visited ICAR-IISWC Research Centre, Datia on November 11, 2016. He was impressed with the research works carried out at the Centre. He congratulated scientists and staff of the Centre for the excellent work.



Director, ICAR-IISWC Visited Research Farm, Datia

Dr. P.K. Mishra, Director, ICAR-IISWC, Dehradun visited the research farm of ICAR-IISWC Research Centre, Datia and interacted with scientists and staff of the Centre on January 6, 2017. Dr. P.K. Mishra appreciated the well maintained field experiments. He suggested to work out economics of aonla alongwith intercrop in aonla based agroforestry experiment, and to assess effect of different water harvesting structures on ground water recharge in lower region and wells, if possible, maintained in TBOs experiment. He also visited ongoing construction work site of





two ponds for harvesting rainfall. He encouraged scientists to study and critically analyse various components of Bundelkhand packages and think to develop a policy paper for emphasizing solution to different problems in Bundelkhand region. While interacting with Centre's staff, he emphasized the need to work upon ERP by creating necessary requirements to run ERP at the Centre.

Director, ICAR-IIWM Visited NMSA Project Site

Dr. S.K. Ambast, Director, ICAR-IIWM, Bhubaneswar visited on November 19, 2016 the innovative water harvesting structure constructed near Harshauli village on Harshauli drain by ICAR-IISWC, Dehradun. Dr. S.K. Ambast appreciated the endeavours made for recharging the depleted groundwater in dark blocks of Muzaffarnagar. Also, Dr. S.K. Ambast participated in a Kisan Goshti organized at village Rasulpur Jatan, District Muzaffarnagar adopted under the NMSA project.



Conference on Farmers FIRST for Conserving Soil and Water Resources in North Eastern Region Inaugurated by Chief Minister of Assam

Hon'ble Chief Minister of Assam, Shri Sarbananda Sonowal inaugurated the Conference on Farmers First for Conserving Soil and Water Resources in North Eastern Region organised by Indian Association of Soil and Water Conservationists (IASWC), Dehradun on February 9, 2017 at Guwahati. In his inaugural address, he said that soil is our soul and water is life. Without Krishi, it is not possible to create Rishi. He emphasised on enhancing productivity and farmers' income, particularly rural youth, without adverse impact on natural resources. Researchers should guide farmers and policy makers for developing right policies. He initiated the Chief Minister Gram Samradhi Yojana and Village Tourism. Attracting the youths in agriculture was also one of the concern of the Chief Guest. Farmers should be respected at every step. Dr. A.K Singh, DDG (Agril Extension), ICAR, New Delhi highlighted the philosophy and approach of Farmer FIRST Program. Dr. KM Bujarbaruah, Vice Chancellor, Assam Agricultural University, Jorhat delivered Dr KG Tejwani Memorial Lecture on 'Towards Meeting Soil-Man-Soil Expectation'. About 80 farmers from the NEH states participated to share their experience with researchers and extension workers. Earlier, Dr. P.K. Mishra, Director, ICAR-IISWC, Dehradun and President (IASWC) welcomed the Chief Guest and other dignitaries. He said that it is unique type of conference where farmers speak and scientists and professionals listen. On this occasion, IASWC Lifetime Achievement Award was given to Dr. K.K. Satpathy, Ex-Director, NIRJAF; IASWC Fellow Award to Dr. Balrasm Panigrahi and Dr Vinod Kumar Bhatt; Dr. KG Tejwani Award to Dr. Kalikinkar Bandyopadhyay and Dr Anup Das; IASWC Gold Medal Award to Dr Lakhan Singh (Researcher), Er. RK Arya (Field Functionary) and Mr Suresh Kumar (Technical Professional); and IASWC Young Soil Conservationist Award to Dr. Sharmistha Pal and Dr N.M. Alam. Dr. D. Mandal, Organising Secretary proposed the vote of thanks.



Four Months Regular Training Course Concluded

ICAR-IISWC, Dehradun organized a 4 Months Certificate Course on 'Soil & Water Conservation and Watershed Management' during October 8, 2016 to February 7, 2017. In the course, 24 officer trainees from 10 states (Punjab-4, Chhattisgarh-3, Nagaland-5, Uttar Pradesh-4, Madhya Pradesh-2, Uttarakhand-1, Maharashtra-2, Odisha-1, Tamil Nadu-1 and Gujarat-1) participated, including 5 women officers. In valedictory session, Shri Kapil Lal, IFS and Project Director, Watershed Management Directorate, Dehradun as the Chief Guest expressed concern about watershed development in integrated way for livelihood security. Agriculture Department should take pro-active role in PMKSY scheme. He urged the officer trainees to utilise their experience and knowledge gained during this training in the field situation. People should be part of the watershed projects for their sustainable development in changing climatic scenario. Adapting and mitigating measures should be adopted during varied weather and climate change. Springshed development proposals may be submitted for funding under Green fund. There is need to focus on converting rainfed area in to irrigated area, so that we can have surplus, and think about market access. The course completion certificates were distributed to all the officer trainees by the Chief Guest. In addition, based on outstanding performance, 8 merit certificates were also awarded to the participants. The overall merit certificate for the training program was bagged by Sh. Changdev Govind Gaikewad from Maharashtra for his excellent performance. The function was presided over by Dr. P.K. Mishra, Director. He said that all the passing out officer trainees are our ambassadors in their working areas for promoting soil and water conservation technologies.



Workshop on Shifting Cultivation in Odisha Organized

In order to assess prevailing shifting cultivation scenario and chalk out probable/ feasible alternatives, and income generating activities which leads to restricting/ reducing shifting cultivation in Odisha, one day workshop was conducted on 'Shifting cultivation in Odisha – Status and Issues' by ICAR- IISWC, RC, Sunabeda on November 10, 2016. Eminent personalities comprising of wide spectrum i.e researchers & research scholar, members/stakeholders in policy formulation, Govt. sponsored developmental schemes implementing agencies, NGOs working in this field, and farmers doing shifting cultivation engaged in healthy discussion. Representatives of different organizations, including M.S. Swamynathan Research Foundation, Jeypore; Central University, Koraput; ITDA- Koraput, Govt. Soil testing laboratory; Forest Department of Koraput & Malkangiri; and NGOs namely Pragati, Dhan Foundation, Pradan were present. From the discussion it emerged out that this age old practice in not doing good, hence needs to be discouraged. In order to restrict further escalation, the need of the hour is creation of awareness among masses, land which are abandoned after podu cultivation needs to be rehabilitated, introduction of suitable alternate land management practice, feasible/viable/profitable income generating activities. The house is of the view that as every organization is having its own mandate working unitarily, the time has come for such more such workshop where views

can be shared and policies can be formulated. Furthermore, this will create an avenue for co-operative action and convergence of activities among various departments which will help in restricting the menace of shifting cultivation.

Winter School on Watershed Hydrology to Mitigate Climate Change Impact Organized

The ICAR-IISWC Research Centre, Udhagamandalam organized a ICAR sponsored 21 days Winter School on 'Advanced technologies in watershed hydrology to mitigate climate change impact on soil and water resources' during November 1-21, 2016. Dr. B.J. Pandian, Director, Water Technology Centre, TNAU, Coimbatore inaugurated the training and deliver the inaugural address. In his address, he stressed the need to go for system of rice intensification for reduces the emission of green house gases which can further reduce the climate change impact. Dr. D. K. Singh, Professor, IARI, New Delhi stated in his Special address that the models plays the major role in prediction of climate change impact and hydrological behavior of watersheds. On completion of the winter school, Dr. P.K. Mishra, Director distributed the certificates to the participants and delivered the valedictory address. In his address, he stressed the need of climate resilience agriculture in India and highlighted the role of various centrally sponsored schemes in mitigating climate change impact. He stated that the training would help the participants to initiate the studies on climate change impact in their respective states. Dr. O. P. S. Khola, Head of the Centre presided over both functions. A total of 23 Scientists / Assistant / Associate Professors from 10 states, namely Tamil Nadu, Kerala, Karnataka, Andhrapradesh, Goa, Maharashtra, Gujarat, Punjab, Odisha and Megalaya participated.



Training on Soil Sampling and Health Management Organized Under TSP

An awareness and training programme was organized on 'Soil Sampling Technique and Soil Health Management' at Kozhikarai tribal village in the Nilgiris under Tribal Sub Plan on December 16, 2016. Thirty tribal farmers participated in the programme from Kozhikarai, Melkoopu, Kozhithurai villages consisted of Irula and Kotha tribes. Mr. Balasubramaian, Field Coordinator, Nilgiris Adivasi Welfare Association, Kothagiri talked about soil health-human health relationships and role of ICAR-IISWC, RC, Udhagamandalam in tribal welfare. The farmers were informed by IISWC scientists about soil related constraints for crop growth, erosion problems, soil conservation measures, water harvesting, soil nutrients in relation to crop growth and yield, need of liming for acid soils, nutrient availability problems in acid soils and necessity for testing soil and obtaining soil health card. Dr. O.P.S. Khola, Head distributed soil health cards to 14 farmers, and he emphasised in his presidential address the importance of soil, crop production constraints in the Nilgiris, and possible helps from the Centre. Soil samples were collected and were got analysed for obtaining soil health card from Soil Testing Laboratory, Ooty. Along with soil health card, pamphlets on



'Importance of soil testing and soil sampling techniques' and 'Soil health management for hill crops in the Nilgiris' were also distributed. An interaction meeting was conducted between scientist and farmers. The queries raised by the tribal farmers on soil related problems were explained. Swatchh Bharath Abhyan was also highlighted and the farmers were asked to keep their premises clean to run a healthy life. Field demonstrations on soil sampling technique for field and plantation crops was arranged involving the farmers, and components of soil health card were explained to the farmers. On this occasion, the centre distributed equipments such as hot gun, sealing machine and polythene covers to pack medicinal products to the tribal self help group at Kozhikari.

Republic Day Celebrated at Dehradun

The ICAR-IISWC, Dehradun celebrated Republic Day on January 26, 2017. Floral tributes were offered to the father of Nation Mahatma Gandhi, and his teachings were remembered during the celebrations. Hoisting the National Flag, Dr. P.K. Mishra, Director highlighted the achievements of the Institute, the needs of continued services for the management of natural resources, and role of IISWC. He inspired the staff members and children to be responsible for nationally interested activities and actively contribute for the national development through one's own respective roles in a productive manner. On the occasion, a quiz programme highlighting the national history and importance of Independence and Republic Days to create awareness amongst children was organised. Children and staffs of the Institute actively participated in various events of the celebrations.



Farmers' Day Celebrated at IISWC Centres

Farmer's Day was celebrated at ICAR-IISWC Research Centres – Koraput, Datia and Vasad - on November 24-25, 2016; January 7, 2017; and February 28, 2017, respectively. At **Koraput**, Prof. Sachithananda Mohanty, Vice-Chancellor, Central University of Odisha, Koraput; Shri Prafulla Kumar Pangi, MLA, Pottangi, Koraput; and Dr. P.K.Mishra, Director inaugurated the Farmers Day-cum-Exhibition. Chief Guest, Prof. Sachithananda Mohanty the importance and role of farming community in meeting the food security of the country and stressed upon that various programmes and schemes must reach to the unreached farming community in order to achieve the desired developmental goal. In the exhibition, various development agencies viz., KVK, Semiliguda, MSSRF, Jeypore, ATMA, Jeypore, Soil Testing Laboratory, Semiliguda, Avantha, Jeypore, J.K. Paper, Rayagada, Pragathi, Koraput, TATA implements LTD., Semiliguda, RSRS, Koraput, Ekalavya Residential Model Public School, Pungar, etc participated. Scientists-Departments-Farmers interaction meeting was held on November 25, 2016 for removing various doubts of the farming community. Importance of soil health and soil health card was explained. In the closing session, Smt Malati Mahaji, President, ZP, Koraput awarded 25 farmers for their achievements in different sectors of agriculture including resource conservation measures.





About 400 farmers participated in the two days mega event.

At **Datia**, Dr. Narottam Mishra, Cabinet Minister for Water Resources, Parliamentary Affairs and Public Relations, Govt. of Madhya Pradesh as Chief Guest felicitated and addressed the gathering of Farmers Day cum Exhibition and emphasized adoption of new agro-techniques of farm production and switching over to crops as per new trends in market for getting higher income. Prof. Arvind Kumar, Vice Chancellor, Rani Laxmi Bai Central Agricultural University, Jhansi was Special Guest and Dr. O.P. Chaturvedi, Director, ICAR-CAFRI, Jhansi was Guest of Honour. The Chief Guest also released two Hindi calendars - 'Agronomic measures for soil and water conservation in the Bundelkhand region' and 'Engineering measures for soil and water conservation in the Bundelkhand region'. Earlier in the day, Dr. P.K. Mishra, Director inaugurated the exhibition of various technologies/products displayed by ICAR-IGFRI, Jhansi; ICAR-CAFRI, Jhansi; KVK, Datia; RARI, Jhansi; Development Alternative, District Horticulture Office, Jhansi and ICAR-IISWC RC, Datia. Farmers took keen interest in the technologies/products displayed in the exhibition. More than 450 farmers from Datia and nearby district participated in the one day event.

At **Vasad**, more than 100 farmers from different villages from Anand, participated Panchmahal, Vadodara, Chhota Udepur and Kheda districts in celebration of Farmers' Day. Five farmers were awarded for various innovative and remunerative farming system adoption as well as motivating other farmers which leads to overall development in agriculture and allied activities. Prof. R. K. Jain, Principal, A D Patel Institute of Technology, Vallabh Vidyanagar as the Chief Guest motivated the farmers to learn modern techniques of production, balanced fertilization, resource conservation and marketing including storage for fetching better price for their own benefit. Dr R Subbaiah, Principal, College of Engineering and Technology, Godhra, was Guest of Honour. In the beginning, Dr P.R. Bhatnagar, Head briefed the participants about Centre's background The farmers also shared their experiences about the efforts to gain new knowledge and their application in field. The progressive farmer-cum entrepreneur Sh. Prafulbhai gave demonstration of his innovation - mulch laying machines - in the field.

Farmers' Fair and 63rd Foundation Day Celebrated at Udhagamandalam

ICAR-IISWC Research Centre, Udhagamandalam celebrated 63rd Foundation Day and Farmers Fair on October 20, 2016. About 375 participants participated, including 300 farmers. Dr. P. Sankar, IAS, District Collector, The Nilgiris as the Chief Guest stressed the importance of soil and water resources for human survival and highlighted the importance of IISWC in Western Ghats region and the work done on Bench Terraces, Hydrological Studies and application of jute geotextiles for slope stabilization and wished the centre and scientists to develop more technologies for managing natural resources. Sh. S. Kalanithi, IFS, District Forest Officer, The Nilgiris (North); Dr. Sekar, Director, Pasteur Institute of India; and Dr. S.J.K. Annamali, Head, CIAE Regional Centre, Coimbatore were Guests of Honours. Dr. O.P.S. Khola, Head highlighted the importance of managing natural resources and



that the importance will increase in nearby future. Best farmers award was given to four farmers for adopting scientific and innovative soil and water conservation technologies in their farm. Three of the Staff members of centre namely Dr K. Kannan, Principal Scientist, Sh. V.A. Padmanabha, AAO and Sh. R. Srinivasan, SSS also been given prize for maintaining surroundings of their residential quarters periodically. Farmers – Scientists – Extension functionaries interactive meeting was organized and representatives from Agricultural Engineering Department, Department of Horticulture, Department of Animal Husbandry, District Rural Development Agency, Scientists from ICAR Regional Centres and Tamil Nadu agricultural university and programme coordinators of KVKs participated in the interaction meeting and clarified the queries raised by farmers. On part of the farmers fair, an exhibition was organized wherein 9 institutions participated. Various technologies developed by the centre were demonstrated to farmers during the occasion.

Agriculture Education Day Celebrated at IISWC

The Agriculture Education Day was celebrated on December 3, 2016 at ICAR-IISWC, Dehradun and Research Centre, Vasad to commemorate the birthday of Dr. Rajendra Prasad, the first Indian President of Independent India and Union Minister of Agriculture in India. On this occasion,



at **Dehradun**, two groups of students visited the Institute Museum and were exposed to different soil and water conservation activities and watershed management programme going on in the institute. The first group was from ICAR-Indian Agricultural Research Institute, New Delhi comprising of 28 students from discipline of Soil Science and Agricultural Chemistry who showed keen interest to know about the research programme in the Institute and how land degradation could be mapped accurately and also prevented at small scales through different technologies given by the institute. The second group of 110 students from Maya Devi College of Agriculture, Dehradun were B.Sc. first year students from agriculture discipline. The students interacted with the scientists and gave their views on how natural resource management could be made more effective by using Digital Soil Mapping techniques. On this occasion, Dr. M.C. Nautiyal, former Dean, GBPUAT, Ranichauri Campus, Tehrigarhwal and Er. Gaurav Tomar, Additional Director, Maya Group of Colleges, Dehradun urged the students to spread the message for conserving natural resources, increasing water use efficiency and utilizing soil as per its capability. At Vasad, around 85 students from two schools: HAS Grasswala High School, Anand (35 students of Class X) and Sardar Patel Vinay High School, Vasad (50 students of VII and IX) participated alongwith four teachers.

World Soil Day Celebrated at ICAR-IISWC

In December 2013, the 68th UN General Assembly declared 5th of December as World Soil Day. December 5, 2016 was celebrated as World Soil Day at ICAR-IISWC, Dehradun and its Centres at Bellary, Chandigarh, Datia, Koraput and Udhagamandalam. At Dehradun, the celebration started with an oath ceremony on 'Save Soil Campaign' where about 12 farmers, 50 agricultural students, 30 scientists, 20 technical, 40 administrative and other staff of the Institute

participated. Visit of students to the Institute's museum and of farmers to the soil laboratory was conducted. All participants had an interaction meeting with scientists. Importance of soil to support life on the Earth, National Soil Health Mission, and process of Soil Health Cards generation for each farmer's land holding in the country were explained. Mr. Arjun Singh Pundir, a progressive farmer, shared his practical experience on profitable land husbandry which he had adopted on his small land holding near Dehradun.



In the function at Bellary, Soil Health Cards were distributed to 45 farmers on the occasion. The farmers were explained about the aim of the distribution of soil health cards. They were urged to apply fertilizers based on crop needs and were explained the benefits of application of micronutrients and biofertilizer in terms of direct impact and saving of money by applying fertilizers actually needed to enhance crop yields. Also, reasons behind the deficiency were explained along with preventive measures.

The Research Centre Chandigarh participated in World Soil Day celebration organized by Department of Agriculture, Panchkula, at Raipur Rani. Around 400 farmers from Panchkula district participated in the event. A lecture on 'Importance of soil testing and utility of soil health card for farmers' was delivered. Officials from agriculture and allied departments enlightened the farmers about different ongoing schemes related to irrigation, protected cultivation, organic farming etc.

A similar approach was adopted by Research Centre Datia by participating in World Soil Day celebration organized by Raj Mate Scindia Krishi Vishwavidyala at Datia. The farmers were informed about growing problems of soil health and means to handle them. Also technique of taking a soil sample was explained.

The Research Centre Koraput participated in celebration of World Soils Day conducted in association with Soil Testing Laboratory, Agricultural Department, Koraput. About 200 farmers from different blocks of Koraput district participated in this event. The programme was inaugurated by Smt. Malati Majhi, Chairman, Zilla Parisad, Koraput District in presence of Sh. H. Giri, Water Management (Specialist), Govt. of Odisha; Sh. Kalicharan Biswas, Deputy Director of Agriculture, Jeypore; Dr. Kokila Benerji, Associate Professor, Central University of Odisha, Koraput; Sh. Subrot Rath, District Agriculture Officer, Koraput; and, Sh. GVS Reddy, Soil Chemist, Mixed Farm, Semiliguida. The Chairman ZP Koraput congratulated the departments for collective effort in organizing this important event and urged various department for effective implementation of various schemes / programmes launched by the Government to protect the precious soils and improve the soil health which helps in improving productivity of crops, thereby increasing their income. Dr M. Madhu, Head highlighted the need and benefit of soil and water conservation. The Research Centre displayed exhibits indicating soil formation process, soil function, soil degradation and management practices to conserve soil and maintaining soil health to feed the growing population. Soil health card prepared were distributed to the farmers.

The Research Centre Udhagamandalam celebrated World Soil Day at

Melkowhatti Village (a MGMG Village), the Nilgiris. Chief Guest of function was the renowned soil scientist, Dr. A. Rajarajan, Dean, Faculty of Agriculture, Rama Krishna Mission Vivekanada University, Coimbatore. Guest of honour was renowned soil scientist Dr. K. K. Mathan, former Head, Department of Soil Science and Agricultural Chemistry, TNAU, Coimbatore. Scientist from ICAR-IISWC Research Centre, Udhagamandalam; ICAR-IARI, Regional Station, Wellington, CPRS, Muthurai; and, farmers from Melkowhatti, Kuruthukuli, Basavakkal and Kilkavatty participated in the programme. The farmers were explained about the importance soil and reason for celebrating World Soil Day. Dr O.P.S. Khola, Head in his presidential address reiterated that soil is equal to our mother. He said the soil has to be treated according to its problem and managed properly for getting good crop and sustainable yields for the present as well as for future generations. Dr. A Rajarajan, the Chief Guest, explained about the history of World Soil Day. He also told that about one third of the soil is subjected to nine kinds of problems such as salinity, alkalinity, salt affected soils, erosion etc. He also said that about 17 ha of land / minute is subjected to problem of soil sealing due to usage of plastics, non-degradable wastes, pollution etc., and about 20-30 billion tonnes of soil is eroded due to water. Hence, he advised the farmers to adopt suitable soil and water conservation technologies developed by the ICAR-IISWC, Research Centre, Udhagamandalam and utilize the various government schemes properly. Dr. K. K. Mathan discussed elaborately about various problems related to soil of the Nilgiris and the management strategies to overcome the same. Mr. Mehendran and Mr. Ragu, the beneficiaries of IISWC technologies from Melkavatty village; Mr. J. Nandi, Village President, Melkowhatti; and, Dr. Sivasamy, Principal Scientist & Head, IARI, Regional Station, Wellington addressed on the occasion. An exhibition was organized during the function for the benefit of farmers.



Release of pamphlet on "Soil management"

National Youth Day Celebrated at Dehradun

An interactive session on the occasion of National Youth Day was held at ICAR-IISWC, Dehradun on January 12, 2017. The theme of the interactive session was Digital Payment. The Director apprised all the participants and student trainees about the policy of Govt. of India against corruption and initiation of digital payment and desired that all should support it to eradicate corruption. Sh. Chandna, Manager, State Bank of India, Soil Conservation Branch, Dehradun also delivered a lecture on the above occasion and apprised the participants about importance of digital payment through online banking, debit cards, credit cards, SBI Buddy and other modes of payments. All the staff, trainees (youth) from different States attended the programme.

National Unity Day Celebrated at Datia and Koraput

On October 31, 2016, ICAR-IISWC Research Centres, Datia and Koraput observed National Unity Day to commemorate the Birth Anniversary of Sardar Ballabh Bhai Patel. At Datia, Dr. R.S. Yadav, Head . administered 'National Unity Day' pledge and asked the scientists, technical's and officials to inculcate and follow the ideals of Sardar Patel for all round development of the institute and country. He broadened the scope of 'National Unity Day' by making pledge to national unity for



swachhhta, national unity for vigilance, national unity for duties before rights, national unity for accountability, national unity for green environment. At Koraput, Dr. M. Madhu, Head administered the pledge to all scientists, and technical, non-technical and supporting staff. Brief information related to Sardar Vallabh Bhai Patel life was given about the unification of India.

Vigilance Awareness Week Observed at ICAR-IISWC Centres

For bringing awareness and committing to corruption free society, Vigilance Week was observed at ICAR-IISWC Centres, Datia, Koraput, Kota and Vasad during October 31 to November 5, 2016. The celebration of the week was initiated with taking pledge by all staff members of the Centres for participation in promoting integrity and eradicating corruption. At Datia, the staff members participated in awareness drive for 'Fight Against Corruption' among the general public through pamphlets. The pamphlets were pasted at various places such as Banks, Pitambarapeeth and Railway station, District Collectorate, Datia etc. for spreading the message of vigilance awareness week among the people. At Koraput, information on corruption, organizational accountability, ethics and morality was shared among the staff members. At Kota, the staff was advised that being a research organization, being corruption free is important for delivering outputs that are truly useful to the society in every aspect. At Vasad, the staff members were called upon to strictly follow the procedures which do not harm the interest of the government, society and nation.



Constitution Day Celebrated at IISWC Centres

The Constitution Day celebrated for the constitution of our country, was observed on November 26, 2016 at IISWC Research Centres, Udhagamandalam and Vasad. On this day the Preamble of India was read and importance about the occasion was informed.

From Waste to Profits through Reduce, Recycle and Reuse - National Productivity Week Observed

ICAR-IISWC, Dehradun and its eight research centres observed National Productivity Week during February 12-18, 2017. Before celebrating the national productivity week, a meeting was organised by Dr. P.K. Mishra, Director and a tentative activity schedule was prepared. The major focus was given on the theme 'From Waste to Profits through Reduce, Recycle and Reuse'. The activity schedule was sent to all the Heads of Centres/Divisions of the Institute. At Dehradun, scientists made presentations on cited theme on different platforms. Lectures on 'From Waste to Profit Through Reduce, Recycle and Reuse' and 'Problems Faced by Agriculture Sector on Production Front' were delivered by the scientists on February 13 and 17, 2017 respectively. Refusal of non recyclable waste generating items and their possible alternates reuse of use and through type items, in house composting energy generation and recycle models of metro cities were widely explained. Inculcation of reduce, reuse and recycle in the habit of society through awareness and education for achieving clean air, clean water and garbage free ecosystem were the major foci of discussion. An Essay Competition was conducted on February 14, 2017 where students from Kendriya Vidyalaya, Dehradun participated in the event. A round table discussion was organized on the topic 'How to Improve

Agricultural Productivity in North-West Himalayan Region' on February 17, 2017 where major emphasis was given on timely availability of agriculture inputs particularly location specific high yielding varieties, irrigation water management (in-situ as well as ex-situ) particularly in post rainy season months to increase the cropping intensity of NWHR, development of mega-watersheds based on integrated farming system modules, development of site-specific soil test crop response equations for target yields of major crops, development of seed villages particularly for pulses and oil-seeds, and involvement of progressive farmers in the Institute's research programmes, particularly during initiation of research project proposal. One day training programme on 'Soil Health and Improved Crop Production Technologies' was organized at village Badasi, Raipur, Dehradun on February 18, 2017. During the training demonstrations on use of Paddled and Knapsack Sprayers were conducted.

At Agra, a lecture on the theme 'From Waste to Profits through Reduce, Recycle and Reuse' was organised and the scientists interacted on the theme. A round table discussion was held on this topic on February 14, 2017. On February 15, 2017, students from four schools of Agra were invited to participate in an essay competition on the above theme. Students also visited centre's laboratory and took a pledge under Swatchh Bharat Mission.

At Chandigarh, a series of events, viz., invited lectures, preparations of pit for NADEP compost, Kisan Gosthies, and Essay Writings and Paintings Competitions were conducted during the week.

At Datia, the Centre organized two 'Kishan gosthies' in the MGMG villages Sitapur and Bajni of District Datia (MP) on February 14 and 17, 2016, respectively. On the occasion, farmers were sensitized towards the problems arising in agricultural production and related issues and were motivated to adopt the improved SWC technologies which are climate resilient and may cope up with monsoon vagaries being experienced in the Bundelkhand region. They were explained a number of technologies, viz., agro-forestry measures, water harvesting and recycling, soil health management, integrated nutrient management, improved agronomical practices and organic farming. In addition, a group of 64 farmers and 24 women farmers from District Shivpuri (MP) visited the research farm on February 13 and 18, 2017. They were sensitized towards objectives of National Productivity Week and exposed to various SWC models at the research farm.



At Vasad, different activities - brain storming session on 'From waste to productive use of mulching and compost/vermi-compost in agriculture', training programme on 'Compositng and vermi-culture' and field exposure-cum-demonstration on compost making were organised. About 150 farmers participated in the different events organized by the Centre.

Mera Gaon Mera Gaurav

Dehradun: Two one day training programmes were held at villages Jhasou/Bhakru and Pata, Block Kalsi, Dehradun on February 21 and March 09, 2017, respectively. Information about water use efficient technologies to be adopted in terrace farming system and terrace

renovation package containing shoulder bunding, cross terrace bunding, stone riser and drainage arrangement on terrace in order to minimize soil erosion and promote in-situ rain water conservation in rainfed agriculture system; post harvest processing and value addition; indigenous methods like using Neem tree leaves, salt, red chilli, garlic etc. that can be used for better storage of grains and other farm produce; and use of appropriate quantity and time of pesticides / insecticides / fertilizers was given. Farmers doubts for better crop, weed & solid waste as well as soil health management using latest technology were clarified. Crop Management Calendar was also distributed to the farmers. About 51 farmers of two villages namely Jhasou and Bhakru, including women, adolescent girls and large number of farmers of Pata and Ichhla villages, including students of local school participated.



Agra: Two two-days training programmes were held at village Surehra and Nangla / Gangaram, Block Etmadpur, Agra on February 20-21 and 22-23, 2017, respectively. Information about all agriculture related subjects, including vegetables and fruit trees, along with animal related problems were discussed. Special lecture on horticulture and animal health were delivered by specialists Dr Subhash Chandra, KVK Firojabad and Dr Navin Kumar, Deputy Chief Vet Officer, respectively. Lively discussion with farmers on composting, use of alkali waters in agriculture, water conservation through rain water harvesting and use of pond was made. More than 35 farmers at village Surehra and large number of farmers of Pata and Ichhla villages including students of local school participated.



Chandigarh: Two two-days training cum awareness programmes on rainwater harvesting and input distribution were held at village Sukhomajri, Haryana and village Mandhala, District Solan, Himachal Pradesh on October 25-26, 2016 on January 23-24, 2017, respectively. Information about use of soil health card and its advantages; need for diversification of agriculture for more income and climate change risk reduction; benefits of organic manure for higher yields in vegetable crops; increasing irrigation efficiency and also preventing loss of water from different pipeline system; planting of horticultural plants guava and mango between crops to assure sustainable income on small land holdings; planting fodder grasses on bunds to increase stability, and provide fodder; new varieties of crops and pesticides and harm from excessive/frequent use of pesticides and insecticides to crops and soils; and ongoing schemes in the state/central level for support to farmers to improve soil health, irrigation facility and improved crop production. A demonstration was provided to show technology for preparing good quality compost from farm and kitchen waste. To motivate the farmers' to grow rabi crops, seeds of berseem and mustard were distributed along with literature on crop management, crop protection, soil health management for updating knowledge in scientific farming and obtaining sustained income. Spraying was done to control flies and mosquitoes in the villages and solutions related

with weed, insect and pest management were provided. Farmers were distributed 50 number of spades as per their needs. About 44 farmers, including 22 farm women actively participated at Sukhomajri, and about 54 and 57 farm women and men participated at Mandhala, on the first and second day respectively.

Datia: Five one-day training programmes were organized during March 6-10, 2017 for farmer groups of 25 from 9 villages – Sitapur, Naya Gaon, Maheba, Murera, Dang-Karera, Chopra, Imliya, Tewaarpura, and Jigna totalling 125 farmers. Information for awareness about improved agricultural technologies in the field of soil and water conservation, role of farmers in soil and water conservation, testing of soil nutrients and soil health, agro-forestry improved techniques, and solution for effects of climate change was imparted.

Koraput: Eight one-day training programmes on topics - crop management practices for improving productivity; integrated farming systems; rainwater conservation techniques for enhancing crop productivity; indigenous soil and water conservation measures in tribal areas and its benefits; efficient use of water through micro-irrigation system; alternative income generating activities for tribal women; soil and water conservation measures for increasing crop yield; and agroforestry techniques for risk minimization - were held. The programme on rainwater conservation techniques for enhancing crop productivity was held at Rajput village in Semiliguda Block of Koraput District, whereas the rest were held on campus. The trainings were held during January 19, February 4/18/9 and March 1/3/15/7, 2017, respectively. In these training programmes, about 40 representative farmers from different adopted villages; about 60 farmers, women SHG group members, Sarpanch, Ward members, school member' and children's; about 50 farmers including women from different villages; about 50 farmers, women from different villages of Semiliguda block; about 40 farmers from different tribal villages of Semiliguda Block; about 60 women from different villages of Semiliguda block; about 50 farmers, from different villages; and about 40 farmers participated in the programme, respectively. Through these programmes a large amount of information was provided to the tribal farmers such as benefits of different SWC measures and its impact on their livelihood; a variety of soil and water conservation measures adopted by diverse tribes; various techniques of rainwater conservation through extension aids and experts; how to conserve water through micro (pitcher) irrigation system; how crop productivity can be enhanced by adopting the micro-irrigation system; some techniques to enhance water use efficiency by using drip and sprinkler irrigation system; cultivation techniques of different crops grown in tribal regions and its productivity; different agroforestry systems like agri-silviculture and silvipasture systems prevailing in the Eastern Ghats region with their benefits and mode of execution; having trees in agricultural field and livestock's around the house to minimize the risk; economic return obtained from recommended Jhola kundi technology and recommended agroforestry systems; significance of IFS enterprise and its impact on their livelihood; role of pisciculture and its nutrition importance in IFS; fish farming and its benefit in





farming; and IFS models existing and adopted (success stories) by the tribal farmers for getting additional profit. Guest lecture taken by Sh. Nilanchal Mishra, explained about importance of cover crops/green manure, mulching, drip irrigation and conservation tillage. He also briefed about different package of practice, farmer friendly materials, agro met advisory and extension activities carried by state Govt. and its impact on farmers field. Invited speaker Dr. Sethy (veterinary and poultry specialist) briefed about different livestock breeds and backyard poultry, and precaution to be taken during their rearing. Mr Hari Pangri, mushroom spawn production unit beneficiary under TSP explained and demonstrated the cultivation of mushroom. Mushroom spawn was distributed to SHGs. Various e learning tools and ICT based programmes (audio-visual aids) were used to demonstrate a variety of income generating activities (fish farming / kitchen garden / Japanese quail / mushroom production) adopted by tribal women and supported by Government and other collaborative departments.

Udhagamandalam: Two programmes - Farmer's Grievance Redressal Day Programme organized by Revenue Department of Nilgiris District and Awareness Camp on Importance of Soil Sampling and Soil Health Card in collaboration with NAWA (NGO) – were held at Kolikarai village, Kotagiri Taluk, The Nilgiris during November 9 and 11, 2016. The programmes were attended by farmers from Sedikal, Selarai, Kurukundha villages which were adopted under MGMG and Kolikarai, Kolithurai and Semmanarai villages adopted under TSP by ICAR-IISWC Research Centre, Udhagamandalam. In the first programme Information about various welfare schemes available with them for welfare of tribal people of Kotagiri region was given by district officials from horticulture, forestry, social welfare, women and child development, education and revenue department, Nilgiri Adivasi Welfare Association, and DRDA Scientists. In the second programme importance of soil health and soil sampling techniques were explained to the participants with demonstration on soil sampling in farmers' field in three villages.

Training under TSP - Productivity Enhancement through Watershed Management

Three days training programme under Tribal Sub-Plan Project at ICAR-IISWC, Dehradun on 'Productivity Enhancement through Watershed Management' was inaugurated by Dr. P.K. Mishra, Director on March 1, 2017. Twenty farmers from villages of Kalsi Block of District, Dehradun, including three Officers of Directorate of Watershed Management participated. Dr. P.K. Mishra emphasized on need of people's participation for success of any programme, especially watershed management. He described watershed management in a simple and effective way. He also told about effective water management by its storage and efficient use for cultivation both in watershed area and command area.



Japanese Quail Rearing Training to TSP Beneficiaries

In order to carry forward the income generating activity of rearing Japanese Quail on sustained basis, women SHG member of village Patraput were provided with chicks of Japanese Quail by ICAR-IISWC Research Centre, Koraput. A meeting was organized to discuss

modalities for sustenance of this initiative. In this programme, 20 participants of 2 women SHG representatives of TSP adopted village namely Patraput, participated and shared their views. The modalities of rearing Japanese Quail on revolving basis were discussed in detail. The representatives were satisfied with the interaction and hope that this year's activities of rearing Japanese Quail will be stepping stone for continuation of such activities. In the meeting it was agreed that initial seed money will be provided by the Centre and sale proceeds thus obtained will be utilized to carry forward this activity on rotation basis. Till date, 3 rotations of rearing have been completed successfully and the group fund is increasing.



Diesel Pump Set Distributed to TSP Beneficiaries

In a programme organized on November 12, 2016 at village Rosaiput, PO Rajput, District Koraput, Odisha, a diesel pump set was handed over to the user group comprising of 10 tribal farmers of the village by ICAR-IISWC Research Centre, Koraput scientific team who urged farmers for mechanization of cultivation by utilizing the service of improved agricultural tools and enthusiastic participation in TSP works in the years to come. About 20 farmers, including 3 women SHG representatives of same village, participated and shared their views. The group members and villagers thanked IISWC for this help and committed to fulfill the desire of the Centre.



NMSHE Farmers Sensitized about Climate Change

Three-days training programme for sensitization of farmers of NMSHE selected village Kotha, block Kalsi, District Dehradun was organized by ICAR-IISWC, Dehradun during December 15-17, 2016 under Tribal Sub-Plan Project of the Institute. Twenty farmers participated in the training programme. In the Valedictory Session, Dr. N.K. Sharma, Incharge Director and PI, NMSHE Project emphasized upon the need of people's participation. The success of any programme depends on activities conducted through people's participation. Issues related to climate change, its effects on agriculture and mitigation in production of agricultural produce in respect of changing scenario were enumerated. Training course content included effect of climate change on agronomical aspects, engineering measures for soil & water conservation, importance of millets under rainfed conditions, natural resource conservation through agro-forestry, soil fertility and its management, and a success story of participatory approach of Hattal village under TSP. In addition, field visits to the research farm Selakui, participatory water resource management project at Langha; and Sainji watershed near Mussoorie were also organized to enhance in-depth insight and exposure of participants in real field situations. The participants rated the training as excellent in respect of course content and faculty provided.



Farmers' Skill Developed for Nursery Raising

A three-days training programme on Nursery Raising, Grafting and Budding was conducted by ICAR-IISWC Research Centre, Koraput during September 28-30, 2016 with the objective of skilling farmers with scientific techniques of propagation and increasing income level with feasible/potential/profitable activities at village level. Stakeholders / farmers numbering 30 from TSP adopted villages namely Challanput, Padagad, Patroput, Rajbidai and Pujariput participated in this training programme. The training programme was inaugurated by Dr M. Madhu, Head who expressed his satisfaction of past years activities and urged for enthusiastic participation and learning of nursery raising and different propagation techniques which will be a source of earning by remaining in village itself. The trainees enthusiastically practiced what they were taught/explored i.e., filing of poly bags, grafting, layering, budding, pitting and planting during the training. Confident with what they learnt and assurance to carry forward these initiatives, farmers requested for kits.



Farmers' Skill Developed for Soil Testing and Soil Health Management

Two-days training programme on 'Soil Testing and Soil Health Management' for skill development of farmers of MGMC village Rajupura, Anand District was organized by ICAR-IISWC Research Centre, Vasad during December 5-6, 2016. About twenty five farmers participated in the training program. The trainees were explained about importance of soil health with lecture on 'Soil health management for sustainable farm productivity'. Soil sampling techniques were taught. Field demonstration on soil sampling was also done in farmers' fields during the training. In the valedictory session, Dr. P.R. Bhatnagar, Head emphasized on importance of Integrated Nutrient Management (INM) and urged participants try to utilize the learned skills on their own field for better use soil and water resources.



Swachhata Diwas Celebrated on October 2, 2016

Dehradun: The Diwas was celebrated on campus and was attended by Dr. SP Agrawal, Head (Water Resources), Indian Institute of Remote Sensing, Dehradun and his team including Dr. Bhashkar Nikam alongwith scientists, technical officials and others of ICAR-IISWC. At the occasion, Rastra Pita Mahatma Gandhi and former Prime Minister Lal Bahadur Shatri were remembered with their contributions for independence of India. Oath was taken by about 100 participants to join hands for making surroundings clean, changing their attitude and behaviour. A round on well identified track from IISWC through Kaulagarh and Garhi Cantt, Dehradun was taken and roads, streets and surroundings were cleaned.



Agra: All scientists and staff paid homage to the Father of the Nation, Mahatma Gandhi and former Prime Minister Lal Bahadur Shatri. A campaign of cleaning the office premises by the officers and staff of the Research Centre was done after taking oath to make best possible endeavors to keep the motherland India in a clean state.

Chandigarh: The celebrations were held On campus in the form of pledge taking ceremony and cleanliness drive at Research Farm premises and Scientist Home. At village Sukhomajri (Haryana), two days special drive was organized for cleanliness of the village alongwith the villagers of Sukhomajri. Lecture of Swachhta were delivered by the Scientists to the villagers. Malthine was sprayed in the village to kill the mosquitos to stop the spread out the Danguae & Chikengunia fevers in the village.

Datia: Held at village Sonagir, All scientists/staff brought awareness to the villagers and pilgrims from all corners of the country visiting the Sonagir temple about need for cleanliness in all aspects of life.

Koraput: Held at Ekalavya Model Residential School, Pungar, Pottangi Block, Koraput Distict which is exclusively for SC and ST community upto 12th standard with CBSE pattern of co-education, message was conveyed to students and teachers to come forward and involve in cleanliness. They were briefed about all disposal mechanism of daily use materials in a practical manner and motivated them to acts as a volunteer to make litter-free school campus. Motivational videos regarding Swachhta Abhiyan were shown to young students to propagate the message of the Swachh Bharat Mission. After taking oath all the students, teachers and staff involved in cleaning of school campus and surrounding area.



Vasad: All scientists and staff in collaboration with Vasad - Gram Panchayat many villagers and Gram sabha members completely cleaned the area heavily dirty area just near vegetable market in Vasad In due course of the act, several more villagers joined and it becomes a mass programme. Later on, the outside of our own campus was also cleaned by all staff.



Swachhata Pakhwada Celebrated during October 16-31, 2016

Dehradun: Shri Chhibalendra Roul, IAS, Addl. Secretary (DARE) & Secretary, ICAR, New Delhi was the Chief Guest on October 16, 2016 in the ceremony for celebration of the fortnight. The Chief Guest motivated the scientists and staff of the ICAR-IISWC for cleanliness with the words





that there is need of attitudinal change and change in mind set for transformation of self towards Swachhhta. Thereafter, cleanliness work was started in the Institute campus. The Chief Guest along with the Director led the whole group of scientists and staff to throw out dirty materials, residues, un-used waste materials, plastic bags lying at different places. He also inspected office building/departments/labs and residential complexes. He gave several suggestions to make the premises neat and clean. A quiz competition related to Swachh Bharat Mission and Extempore on the topic 'Clean India - A Dream or A Reality' were organized for students of Dolphin (PG) Institute of Biomedical and Natural Sciences, Dehradun on October 25, 2016. About 50 students took part in the competition.

Agra: During the fortnight, on October 27, 2016 the IISWC team interacted with the villagers of Manikpura village, Pinhat block, Agra selected under MGMG scheme and discussed various issue related to cleanliness in the village, and motivated the villagers on various measures of personal hygiene, use of toilets, issues related with judicious use of ground water. The team of scientists also visited the Primary school, Manikpura, Pinahat, Agra and interacted with the students of primary school, Manikpura to motivate the young students for keeping their premises and the village clean, avoid open defecation, avoid spilling of tube well water on roads, and maintain personal hygiene.

Chandigarh: All scientists and staff took a pledge regarding Swachhhta and all the staff members cleaned up the office premises and remove all the dead leaves as well as parthenium removed from the office campus. Same drive was also observed in Research Farm, Mansa Devi where all the staff member of office as well as working at Research Farm collectly removed all the dead materials which was filled up in a pit have been removed. Clean up drive was also observed at Research Farm residential premises upto Scientist Home.

Datia: In the celebrations conducted throughout the fortnight, on October 24, 2016, to the flower sellers near the Pitambrapith Temple Complex the message of cleanliness was given by telling about benefits of cleanliness. On October 25, 2016, cleanliness message was given to students of Maharani LaxmiBai Girls Intercollege, Datia, and business men of Najia Bazar. Oath of cleanliness was also administered to students and staff of Maharani LaxmiBai Girls Intercollege. On October 27, 2016, in the premises of village Richhari cleanliness message and cleaning of the area was done by villagers and team of IISWC. On October 31, 2016, the 'SwachhhtaPakhwara' concluded by devoting 45 minutes on the day by each scientist, technical and official of the centre by cleaning farm road.

Koraput: The campaign was initiated in tribal village Jogiput on October 16, 2016. by motivating villagers for keeping village neat and clean by putting efforts to clean dirty materials, residues, waste materials, polythene and other plastic stuffs. Instruction were given regarding proper use of toilets, cleaning of animals, maintenance of farm waste material and proper use of dustbins for collecting waste material lying at different places. They were also briefed about the Japanese encephalitis disease its effect and prevention. A cleaning cum awareness programme was organized. Also, all took oath to keep village and common place neat and clean. During this fortnight, special emphasis was put in office to weed out old and obsolete files, collection and segregation of waste and putting in appropriate

disposing sites, arranging and putting files/ documents/ papers as and where it should be, weeding and cleaning around office surrounding, maintenance of periphery and garden to augment the aesthetic value of office.



Kota: In the celebrations conducted throughout the fortnight, on October 17, 2016, on the occasion of Krishi Diwas, to students of Jawaharlal Rajkiya Uchh Madyamik Vidyalaya and Rajkiya Balika Uchh Madyamik Vidyalaya at Kota oath was administered and ways of making compost was informed. On the occasion of Foundation Day of the Research Centre on October 20, 2016, need for cleanliness was reiterated. On October 22, 2016 at village Lohali, District Bundi, a General Meeting was organized in which the Swachh Bharat Abhiyan was brought to the notice of the villagers. On the same day, in a General Meeting of the villagers, they were asked to construct toilets in their home for stopping open defecation. On October 27, 2016, weed gajar gass was uprooted from the premises of the campus by all.

Udhagamandalam: All scientists and staff cleaned the picnic spots in Ooty on October 22, 2016. To create awareness among local people, shop keepers and visiting tourists on cleanliness, the staff of the Research Centre organised an awareness camp from Boat house to bus stand, Ooty. During the camp, the staff took a procession from boat house to bus stand and raised slogans on cleanliness, avoiding plastics at picnic spots as emphasised by the prime minister of India. The staff also cleaned plastics, paper cups, plastic plates littered at various picnic spots during the procession.



Swachh Bharat Abhiyan

Datia: On November 24, 2016, All scientists and staff cleaned the campus. They were reminded of the pledge to devote 100 hours every year for cleanliness. On December 17, 2016 as similar activity was undertaken. On February 27, 2017, weed Parthenium (gajar gass) was uprooted from the Shankar Block.



Udhagamandalam: On January 26, 2017, all scientists, staffs, their children and students cleaned the plastics, polythenes and other waste materials with enthusiasm along the side of Theetukul – Melgaukatty road, to generate awareness of clean India among the public.

National Workshop of NMSHE (TF-3)

A National-workshop under National Mission for Sustaining the Himalayan Ecosystem (NMSHE-TF 3) project was organized by G.B. Pant National Institute of Himalayan Environment & Sustainable Development, Kosi-Katarmal, Almora, Uttarakhand during November 16-18, 2016. A scientific team from NMSHE-TF 6 project of the Institute participated in the workshop entitled 'Forest Resources and Plant Biodiversity'. The Chief Guest Dr. A. Pattanayak, Director, ICAR-VPKAS, Almora in his address focused on need for strengthening mountain

environment, hill agriculture, forest resources and finding out mechanism for sustaining Himalayan Ecology with biodiversity conservation to reduce the devastating impact of climate change. Participants and dignitaries from various educational and research institutes highlighted the facts, ideas for establishing connection between science, policy and practice to conservation of forest resources and plant biodiversity for sustainable Himalayan environment.



International Agronomy Congress

ICAR-IISWC, Dehradun showcased conservation technologies in 4th International Agronomy Congress (November 22-26, 2016) at Pusa, New Delhi. The congress was inaugurated by Prof. M.S. Swaminathan. Dr. Trilochan Mohapatra, Secretary (DARE) & Director General (ICAR), Dr. R.S. Paroda, former Secretary (DARE) & Director General (ICAR) were the Guests of Honour in the inaugural session. About 25 institutes participated in the exhibition organized during the congress. Both, foreign and Indian delegates showed interest in technologies developed by the Institute. They also collected relevant literature on different technologies. Four months regular training on soil & water conservation and watershed management was also a matter of interest for the foreign delegates, especially from Afghanistan, Nepal and South African countries. Overall effort of the institute in the area of Natural Resource Management was praised by all the delegates who visited our stall.



North Regional - Krishi Kumbh - 2016

For showcasing ICAR-IISWC, Dehradun technologies, the Institute participated in North Regional - Krishi Kumbh organized by ICAR-IIFSR at Muzaffarnagar (Uttar Pradesh) during November 28-30, 2016. The event was inaugurated by Dr Sanjeev Balyan, Hon'ble MoS, MoWR & GR. Dr. J.S. Sandhu, Deputy Director General (Crop Science), ICAR, New Delhi expressed that the Krishi Kumbh would certainly make accessibility of new agro-techniques developed by ICAR / SAUs / any other organization to farmers of this region. Dr. P.K. Mishra interacted with the farmers and listened to their NRM related problems, particularly the issue of depleting groundwater. He suggested to use efficient irrigation methods and precision farming techniques to minimize draft of groundwater. He further emphasized that leading farmers should create awareness among villagers during Gram Panchayat meetings about judicious use of water in agriculture. More than 60 ICAR Institutes, KVKs and private agro-based firms participated in the Krishi Kumbh. Over 1000 farmers, agricultural students and associated stakeholders visited the stall of IISWC and benefited from the exhibition of a number of resource conservation technologies developed by IISWC.



Agro-Tech 2016

ICAR-IISWC Research Centre, Chandigarh actively participated in Agro-Tech 2016, organized by Confederation of Indian Industries (CII) during November 19 to 22, 2016 at Chandigarh. The Agro-Tech, which is held every alternate year, was inaugurated by Hon'ble President of India, Shri Pranab Mukherji and H.E. Mr. Reuven Rivlin, President of Israel, who was the Guest of Honour. The major research activities pertaining to watershed management, water harvesting, rehabilitation of degraded lands along with scientific technologies were exhibited through digital posters. Visitors showed keen interest in watershed models, various horti-medical herbal plants suitable for degraded lands and vermicomposting. Farmers, orchardists and agro-entrepreneurs showed keen interest in aonla, bael, kadamb, peach, sharifa and other hardy fruit species, medicinal and herbal plants of the Shivalik region. Demonstrations were also made to emphasize the effect of soil erosion and excessive use of fertilizers and other agro-chemicals e.g. pesticides, herbicides and gradual decline of soil health and factors affecting productivity. Vermicomposting using earth worm species like *Eisenia foetida* were demonstrated to the visitors. Published materials were also distributed and the technologies were thoroughly discussed with the interested visitors. It was an international exhibition where Canada, Germany and Israel were main participants who exhibited their technologies. The Centre got wide publicity as a Government organization engaged in development of waste or degraded lands. Lot of queries regarding various agro-techniques on the establishment of various agro-forestry models were answered on the spot. African and Canadian delegates also visited our stall at Hall No. 1 and were very impressed to see the model of watershed management and excellent display of fruits and medicinal and herbal plants prominent in the degraded Shivaliks. A large number of school students also visited the stall.



PARAB-2016

The annual event PARAB (Gana Parab and Lok Mahotsav) was organized during December 2-4, 2016 at Koraput with objectives of searching hidden talent among rural masses and opportunities for organizations (Govt./ PSU/ NGO/ SHG/ Educational Institution/ Private organization) to exhibit their technologies/ achievement/ thrust areas/product which have desired impact /bearings in social transformation, and bringing all the departments together under one roof where people have the opportunity to have the glimpses of multifarious works/initiatives/activities /services rendered by various departments in bring about holistic development of the district. ICAR-IISWC Research Centre, Udhagamandalam participated with exhibits pertaining to Meteorological Instruments/conservation need/location specific SWC measures adopted and replicated in fields of EGHL Zone of Odisha /other income generating activities tried and feasible in this region. Innumerable visitors from all walks of life visited the stall. The queries were explained/answered on the spot. To have lasting impact, pamphlets on various technological interventions were distributed to the visitors. The Exhibition was inaugurated by Sh. Jina Hikaka, Hon'ble Member of Parliament, Koraput in the Presence of Sh. Praful Kumar Pangri, MLA, Pattangi; Smt. Malati Majhi, Chairman, Zilla Parishad, Koraput; and, Sh. V. Jaykumar, District Collector.



National Science Day Exhibition

ICAR-Indian Institute of Soil & Water Conservation, Regional Centre, Udhagamandalam participated in the 'National Science day' celebration organized at Radio Astronomy Centre, Tata Institute of Fundamental Research, Ooty on February 28, 2017. A team of IISWC scientists participated in exhibition and displayed various technologies on soil and water conservation, models on watershed development and demonstration on application of jute geo-textiles for slope stabilization, various types of trenches, integrated nutrients management and types of soils in Nilgiris. The national science day function was inaugurated by Ms. Judith Carphan, Head, Space Meteorology Division, NASA and she along with Sh. Manoharan, Head, Radio Astronomy Centre visited the ICAR-IISWC stall and they were explained about the institute activities and soil and water conservation technologies. The efforts of Institute were appreciated by Smt. Judith Carphan, Head, Space Meteorology Division, NASA and other dignitaries. Overall, 1400 visitors from other scientific and research organisations including 50 educational institutions in and around Ooty visited our exhibits. School students also showed interest in watershed management, trenching and application of JGT for slope stabilization models displayed.



Vibrant Gujarat Global Trade Show 2017

ICAR-IISWC Research Centre, Vasad along with other ICAR Institutes and Centres in Gujarat participated in the Trade Show Exhibition held under the Vibrant Gujarat Global Trade Show at Gandhinagar during January 9 to 13, 2017. The Hon'ble Prime Minister of India, Shree Narendra Modi inaugurated the show along with Hon'ble Chief Minister of Gujarat State. In the Trade Show many international trade promoters such as England, Spain, Japan, Denmark, UAE, Egypt, Switzerland, etc. participated. ICAR-IISWC Research Centre, Vasad displayed its technologies through pamphlets / banners and published materials. A large number of visitors showed their interest in soil & water conservation technologies, especially recharge filter, drumstick cultivation and bamboo plantation.



Kisan Gosthi-Cum-Animal Health Camp Organized

A Kisan Gosthi-cum-Animal Health Camp was organized from March 09-11, 2017 under Farmers FIRST programme at ICAR-IISWC, Dehradun in collaboration with Uttarakhand Sheep and Wool Development Board at three locations, viz., Bhagwanpur, Koti Maychak and Badasi villages in Raipur block of district Dehradun. About 325 farmers participated in the programme. Advisory on various aspects of soil and water conservation, conservation agronomy, conservation horticulture and animal husbandry were given to the farmers. Different kinds of medicines to improve animal health and increase milk production were distributed to the farmers. Vegetable seeds of five summer vegetables were also distributed. Multidisciplinary team of scientists and Dr. Manish Patel, Joint CEO,

Uttarakhand Sheep and Wool Development Board contributed as resource persons to make the programme successful.

Pre-rabi Kissan Gosthis Organized

A Pre-rabi Kisan Gosthi was organized by ICAR-IISWC Research Centre, Agra at Mauja Surera of Etmadpur block and Bilpura village selected under 'Mera Gaon Mera Gaurav' Scheme on November 10 and 11, 2016, respectively. In the first Gosthi, invited speakers from KVK Firozabad, BTM and ATM of State Agricultural Department and Team of Veterinary Officers were welcomed by Dr S.K. Dubey, Head. After active participation of farmers of selected MGMG village, vaccination of animals was completed on same day. In the second gosthi, along with multi-disciplinary team of IISWC scientists, four experts from other organizations namely Dr. Vikash Sathe, Deputy CVO, Fatehabad; Sh. Ajit Singh, BTM, Fatehabad; Sh. Bhuvnesh Kumar and Sh. Kuldeep Sharma, ATM, Fatehabad also participated. Detailed information about animal health (treatments and measures of various diseases of animals, milk quality and productivity), benefits of using improved seeds, balanced fertilizers, integrated pest management and crop diversification different schemes of Central/State Govt, crop management practices based on weather, soil and water to increase the crop productivity; benefits of horticulture crops and trees along with the agriculture crops were provided to the farmers. They were also advised to make use of water in efficient manner based on weather. Soil health card prepared by the Centre were also distributed to the farmers. The team of scientists also discussed various issue related to cleanliness in the village, and motivated the villagers on various measures of personal hygiene, use of toilets, issues related with judicious use of ground water etc.



Meeting for Cleaning Vasad Gram Organised

Learning from past experience of dirty places near vegetable market cleaned on October 2, 2016 turning dirty again, a meeting of influential persons (including Anand Zila Parishad member, Sarpanch, owners of Dal mills, Principals of schools, Medical officer from CHC, and anganwadi workers) of the Vasad was organised on October 26, 2016 to give message of Swachchh Bharat Mission, highlight Centre's efforts in this direction under MGMG as well as other locations, and to prepare some strategies to get some success. Everybody expressed their happiness about raising the cleaning issue on this level and expressed their willingness to participate in this endeavour. Finally it was decided that Gram Panchayat will now lead in this aspect and organise some meeting, and also make arrangement of funds to provide enough facilities so that better environment can be created for the people of Vasad Gram. In the end, oath was taken by all for contributing in Cleanliness of Vasad.



Use of Hindi in Agriculture Science

On December 17, 2016 a meeting to use Hindi in Agriculture Science was organized at ICAR-IISWC Research Centre, Agra. Chief Guest Shri

R.S. Tiwari, Secretary, Nagar Raj Bhasha Karyanvayan Samiti, Agra with Special Guest Shri P.R. Rao, Director, Raj Bhasha, Krishi Vigyanik Chayan Aayog, New Delhi and Secretary NRAKAS North Delhi were welcomed by Dr. S.K. Dubey, Head. Dr A.K. Singh, Raj Bhasha Prabhari narrated the achievements of the Centre and work being done in Hindi. Sh. P.R. Rao to seriously do the daily official work in Hindi. He also asked to report it properly so that the highest Parliamentary Committee is satisfied. Dr R.S. Tiwari applauded the activities of Centre and it's position in over 100 central government offices in Agra. He asked to each one to use Hindi with heart and self will.

मृदा एवं जल संरक्षण तकनीकों के प्रचार हेतु मोबाईल आधारित परामर्श विषयक दो कृषक प्रशिक्षण कार्यक्रमों का आयोजन

भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, देहरादून द्वारा हिमालय क्षेत्रों में मृदा व जल संरक्षण तकनीकी प्रचार संबन्धित संचार सूचना प्रौद्योगिकी परियोजना (ICAR&Extramural) के अन्तर्गत दो-दो दिवसीय दो प्रशिक्षण कार्यक्रमों का आयोजन दिनांक 7 से 8 तथा 9 से 10 नवम्बर, 2016 के दौरान किया गया। प्रशिक्षण कार्यक्रम में देहरादून जनपद स्थित कालसी, विकासनगर एवं रायपुर विकासखण्डों के नौ गाँवों से 70 कृषकों ने भाग लिया। मृदा एवं जल संरक्षण विधियों, संसाधन संरक्षण हेतु सस्य उपाय, लाभप्रद बागवानी युक्त वैकल्पिक भू-उपयोग एवं कृषि तकनीक अंगीकरण हेतु मोबाईल उपयोग आदि विभिन्न विषयों पर कृषक-वैज्ञानिक संवाद, प्रशिक्षण कार्यक्रमों के दौरान आयोजित किये गये। संस्थान के मानव संसाधन विकास एवं सामाजिक विज्ञान विभाग के विभागाध्यक्ष एवं परियोजना के प्रधान अन्वेषक डा0 लाखन सिंह द्वारा आयोजित कार्यक्रमों में उपस्थित कृषकों को संबोधित किया गया जिसमें उन्होंने कृषि तकनीकी सूचना प्राप्त करने हेतु मोबाईल आधारित संचार प्रौद्योगिकी को अपनाये जाने हेतु बल दिया प्रशिक्षण कार्यक्रमों का समन्वय श्री राजेश बिश्नोई, वैज्ञानिक कृषि प्रसार तथा श्री सुरेश कुमार, सहायक मुख्य तकनीकी अधिकारी, कृषि प्रसार द्वारा किया गया। प्रशिक्षण कार्यक्रमों के सफल आयोजन में श्री के0आर0 जोशी, श्री अमित चौहान, श्री एस0एन0 गुप्ता, श्री एम0पी0 जुयाल एवं श्री अनिल कुमार मलिक की विशेष भूमिका रही।



संसदीय राजभाषा समिति द्वारा चंडीगढ़ में निरीक्षण

संसदीय राजभाषा समिति की दूसरी उप समिति ने दिनांक 27.12.2016 को चंडीगढ़ में केन्द्र सरकार के चार कार्यालयों में निरीक्षण किया, जिसका आयोजन एवं समन्वयन भाकृअनुप - केन्द्रीय मृदा एवं संरक्षण संस्थान, अनुसंधान केन्द्र, चंडीगढ़ ने किया। माननीय संसदीय समिति के सदस्य डा0 सतयनारायण जाटिया (एम0पी0 राज्यसभा) ने उपाध्यक्ष के रूप में, डा0 प्रसन्न कुमार पटसानी (एम0पी0 लोक सभा) ने संयोजक के रूप में, डा0 सुनील बलीराम गायकवाड ने समिति के सदस्य के रूप में कार्य किया। सुश्री अभिलाषा मिश्रा, हिन्दी अधिकारी; श्री निखिल अरोरा, वरिष्ठ अनुवादक एवं श्रीमति नीरजा, अनुसंधान सहायक उक्त समिति को अपनी सेवाएं प्रदान की।

भारतीय कृषि अनुसंधान परिषद, नई दिल्ली के महानिदेशक की और से डा0 एस0के0ध्यानी नामित; श्रीमति सीमा चोपड़ा, निदेशक, राजभाषा एवं श्री मनोज कुमार, राजभाषा अधिकारी, संस्थान मुख्यालय, देहरादून से डा0 पी0 के0मिश्रा, निदेशक; श्री ए0के0सिंह, मुख्य प्रशासनिक अधिकारी, डा0 श्रीमति संगीता शर्मा, हिन्दी अधिकारी, तथा संस्थान के अनुसंधान केन्द्र, चंडीगढ़ से डा0 ए0के0तिवारी, केन्द्राध्यक्ष; डा0 पवन शर्मा, प्रधान वैज्ञानिक; डा0 स्वर्ण लता आर्य, प्रधान वैज्ञानिक तथा हिन्दी अधिकारी एवं श्री सुरेन्द्र सिंह, प्रभारी सहायक प्रशासनिक अधिकारी ने बैठक में भाग लिया। बैठक में संस्थानों द्वारा राजभाषा हिन्दी में किये गये कार्यों का विस्तृत मूल्यांकन किया गया तथा इसके सम्बन्ध में भविष्य के लिए निर्देश दिए गये।



भाकृअनुप- भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केन्द्र, चंडीगढ़ पर त्रैमासिक हिन्दी कार्यशाला का आयोजन

भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केन्द्र, चंडीगढ़ में दिनांक 11 जनवरी, 2017 को अपराह्न 03.00 बजे हिन्दी को कार्यालय में प्रयोग तथा राजभाषा सम्बंधी नियमों एवं आदेशों के पालन हेतु त्रैमासिक हिन्दी कार्यशाला का आयोजन किया गया। बैठक में केन्द्र में उपस्थित सभी अधिकारियों एवं कर्मचारियों ने भाग लिया। इस



अवसर पर केन्द्राध्यक्ष डा0 अरुण कुमार तिवारी ने अपने सम्बोधन में कहा कि राजभाषा के प्रयोग को बढ़ावा देने हेतु सभी की भूमिका महत्वपूर्ण है। उन्होंने केन्द्र के सभी फायल पर दी जाने वाली टिप्पणी, प्रारूप तथा प्रस्ताव आदि हिन्दी में प्रस्तुत करने के लिए कहा। श्री जितेंद्र कुमार, हिन्दी अधिकारी, केंद्रीय भूजल बोर्ड एवं डॉ सुरेन्द्र कुमार, उप निदेशक नगर राजभाषा कार्यालय समिति, बैठक में उपस्थित थे। वक्ताओं ने अधिक से अधिक कार्य हिन्दी भाषा में करने पर जोर दिया। डॉ एस एल आर्य, प्रधान वैज्ञानिक एवं केंद्र की हिन्दी अधिकारी ने सभी का अभिनंदन करते हुए कार्यक्रम का संचालन किया।

भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केन्द्र, चण्डीगढ़ में हिन्दी कार्यशाला आयोजन

प्रभारी केन्द्राध्यक्ष डा. पवन शर्मा ने पहले सत्र की अतिथि वक्ता के रूप में श्रीमति कमल अरोड़ा, लेखा परीक्षा अधिकारी का स्वागत करते हुए एवं कार्यक्रम को आगे बढ़ाते हुए हिन्दी भाषा की सरलता और सहजता के विषय में बताया। उन्होंने कहा कि इस तरह की कार्यशालाएं हिन्दी में काम करने का माहौल तैयार करने और कर्मचारियों में हिन्दी के बारे में जागरूकता व प्रशासनिक कार्यों में हिन्दी के अधिकाधिक उपयोग करने में अहम भूमिका निभा रही है।

अतिथि वक्ता श्रीमति कमल अरोड़ा, ने कार्यालय टिप्पणी, परिपत्र, कार्यालय ज्ञापन, कार्यालय आदेश को लिखने में सरल, सुबोध एवं आसान शब्दों का प्रयोग करने पर जोर दिया। फाइलों पर लिखी जाने वाली टिप्पणियाँ, प्राप्त पत्रों के उत्तर देने का तरीका भी बारीकी से समझाया।



दूसरे सत्र की अतिथि वक्ता डा. नीरू, सीनियर हिन्दी अधिकारी ने कहा कि सभी केन्द्रीय कार्यालयों की कार्यशाला में एक सत्र राजभाषा नीति का होना चाहिए क्योंकि कार्यालयों में राजभाषा के बारे में बहुत भ्रमित बातें प्रचलन में हैं। राजभाषा नियम की प्रमुख बातों पर चर्चा करते हुए उन्होंने कहा कि हिन्दी के प्रयोग को तीव्र गति से आगे बढ़ाने के लिए हिन्दी के सरल, सहज, एवं लचीले शब्दों के प्रयोग को बढ़ावा देना चाहिए। कार्यक्रम का संचालन श्रीमति निर्मला सरहदी, हिन्दी अधिकारी ने किया।

भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केन्द्र, दतिया पर 'संविधान दिवस' का आयोजन

दिनांक 26.9.2016 को भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केंद्र, दतिया में 'संविधान दिवस' मनाया गया। डा. भीमराव अम्बेडकर द्वारा प्रस्तुत संविधान दिनांक 26.9.1948 को अपनाया गया था। इस उपलक्ष्य में 26 नवम्बर 2016 को संविधान दिवस के रूप में केंद्र पर मनाया गया जिसमें अनुसंधान केंद्र के सभी अधिकारियों व कर्मचारियों ने भाग लिया। 'भारत के संविधान' पर वाचन श्री नरेन्द्र कुमार शर्मा, तकनीकी अधिकारी ने किया।

भाकृअनुप- भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केन्द्र, दतिया पर त्रैमासिक हिन्दी बैठक का आयोजन

भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केन्द्र, दतिया में दिनांक 31.12.2016 को अपराह्न 04.00 बजे हिन्दी को वैज्ञानिक एवं कार्यालय में अधिकाधिक प्रयोग तथा राजभाषा सम्बंधी नियमों एवं आदेशों के अनुपालन हेतु त्रैमासिक बैठक का आयोजन किया गया। बैठक में वैज्ञानिकों, अधिकारियों एवं कर्मचारियों ने भाग लिया। इस अवसर पर केन्द्राध्यक्ष डा0 आर0 एस0 यादव ने कहा कि राजभाषा के प्रयोग को बढ़ावा देने हेतु सभी की भूमिका आवश्यक है। उन्होंने सुझाव दिया कि फायल पर दी जाने वाली टिप्पणी, प्रस्ताव आदि, हिन्दी में लिखें। राजभाषा कार्यान्वयन समिति के सदस्य सचिव श्री ए0 के0 अहिरवार द्वारा सभी का अभिनंदन करते हुए कार्यक्रम का संचालन किया। डा0 गोविन्द प्रसाद मुख्य तकनीकी अधिकारी एवं अन्य अधिकारी, कर्मचारी वक्ताओं ने अपना अधिक से अधिक कार्य हिन्दी भाषा में करने पर जोर दिया। बैठक के समापन पर श्री सन्तराज, मुख्य तकनीकी अधिकारी ने सभी को धन्यवाद ज्ञापित किया।

भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केन्द्र, दतिया पर राष्ट्रीय शिक्षा अभियान के अंतर्गत शैक्षणिक भ्रमण

'मृदा एवं जल संरक्षण' के प्रति छात्रों को जागरूक बनाने के उद्देश्य से, अनुसंधान केन्द्र दतिया पर दिनांक 23.12.16 को, राष्ट्रीय माध्यमिक शिक्षा अभियान के अंतर्गत, शासकीय उच्चतर माध्यमिक विद्यालय में आयोजित 7 दिवसीय विशेष शिक्षण शिविर में भाग ले रहे, जिले के ग्रामीण अंचल के 22 विद्यालयों से चयनित कक्षा 10 के 100 छात्रों के समूह को, उनके साथ आए मार्गदर्शक शिक्षण अधिकारियों, डॉ. अनीता शर्मा, सहायक जिला परियोजना समन्वयक, श्री प्रदीप जैन, नोडल अधिकारी तथा श्री संतोष अग्रवाल, वरिष्ठ प्रधानाचार्य के सान्निध्य में भ्रमण कराया गया।

इस अवसर पर प्रधान वैज्ञानिक एवं प्र.केंद्राध्यक्ष डॉ. एस.पी. तिवारी ने छात्रों को मृदा क्षरण के दूरगामी दुष्प्रभाव तथा मृदा स्वास्थ्य के संरक्षण एवं संवर्धन की उन्नत तकनीकों के बारे में सरल भाषा में संबोधन किया तथा इंजी. प्रमोद कुमार, तकनीकी अधिकारी ने केन्द्र की वैज्ञानिक गतिविधियों पर बनाई गई फिल्म के प्रदर्शन से केन्द्र द्वारा किए जा रहे अनुसंधान एवं विकास कार्यों के बारे में छात्रों को अवगत कराया।

डॉ. राजीव रंजन द्वारा मौसम वेधशाला के यंत्रों के बारे में सरल ढंग से रोचक जानकारी दी और



वैज्ञानिक मनीष कुमार द्वारा मौसम परिवर्तन के दौर में वृक्षों की महत्ता के बारे में जानकारी दी। वर्षा जल संग्रहण की वैज्ञानिक तकनीक अपनाकर उगाये गए आंवला वृक्षों पर लदे हुए फलों देखकर छात्रों ने आश्चर्यमिश्रित प्रशन्नता व्यक्त की।

छात्रों को केंद्र सरकार के स्वच्छता मिशन के संदर्भ में अपने घर एवं गाँव को स्वच्छ रखने तथा पर्यावरण को सुरक्षित बनाने हेतु फसलों में रसायनिक खादों व कीटनाशकों का प्रयोग कम से कम करने, गोबर की खाद का अधिकतम उपयोग करने एवं फसलों की नरबाई को जलाने से होने वाली क्षति की जानकारी दी। छात्रों के भ्रमण की व्यवस्था करने में तकनीकी अधिकारी श्री कृष्ण कुमार ने विशेष सहयोग प्रदान किया।

सुनहरा भविष्य है खेती की पढ़ाई में

भारतीय मृदा एवं जल संरक्षण संस्थान के अनुसंधान केंद्र, कोटा पर दिनांक 17 अक्टूबर 2016 को आयोजित कृषि शिक्षा दिवस पर जवाहर राजकीय उच्च माध्यमिक तथा राजकीय बालिका उच्च माध्यमिक विद्यालय कोटा के विज्ञान संकाय के छात्र/छात्राओं ने भाग लिया। इस अवसर पर छात्रों को खेती-बाड़ी के क्षेत्र में उच्च शिक्षा व उपलब्ध रोजगार के सुनहरे अवसरों के बारे में अवगत कराया गया।



केन्द्राध्यक्ष डा. आर. के. सिंह ने अपने सम्बोधन में कहा कि गला काट प्रतिस्पर्धा के युग में भी कृषि के क्षेत्र में शिक्षा पाकर आज का युवा अपना भविष्य स्वर्णिम बना सकता है तथा कृषि से शिक्षित युवा इस क्षेत्र में उपलब्ध स्वरोजगार के अवसरों के माध्यम से अन्य लोगों को भी काम दिला सकता है।

केन्द्र के प्रधान वैज्ञानिक डा. अशोक कुमार ने छात्रों को बताया कि आज हमारे देश के कृषि विश्वविद्यालयों के विषय में बताया। कृषि के क्षेत्र में शिक्षा हेतु भारतीय कृषि अनुसंधान परिषद मेधावी छात्रों को छात्रवृत्ति प्रदान करता है, जिससे छात्र कम से कम खर्च पर अपनी उच्च शिक्षा प्राप्त कर सकें। कार्यक्रम का संचालन कर रहे वैज्ञानिक डा. कुलदीप कुमार ने छात्रों को कृषि अनुसंधान व शिक्षा के भारतीय इतिहास से अवगत कराया। वरिष्ठ तकनीकी अधिकारी श्री कमलेश कुमार ने छात्रों को कृषि मौसमशाला व केन्द्र पर चल रही विभिन्न अनुसंधान परियोजनाओं की बारीकियों को समझाया।

भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केंद्र, आगरा में 'जय किसान जय विज्ञान' के अर्न्तगत एक दिवसीय किसान गोष्ठी का आयोजन।

दिनांक 29-12-2016 को भाकृअनुप-भारतीय मृदा एवं जल संरक्षण संस्थान, अनुसंधान केंद्र, आगरा में 'जय किसान जय विज्ञान' के अर्न्तगत एक दिवसीय किसान गोष्ठी का आयोजन किया गया। कार्यक्रम का शुभारम्भ मॉ सरस्वती के चित्र पर माल्यार्पण व दीप प्रज्ज्वलन मुख्य अतिथि माननीय सांसद श्री राम शंकर कठेरिया जी के कर कमलों द्वारा हुआ। मंच पर मुख्य अतिथि के साथ डा० घीरज कुमार निदेशक सरसों अनुसंधान केंद्र भरतपुर, डा० चौहान, निदेशक बकरी अनुसंधान केंद्र मथुरा व डा० एस०के०दुब,केन्द्राध्यक्ष अनुसंधान केंद्र, आगरा थे। के०वी०के० के फिरोजाबाद, आगरा, मथुरा के निदेशक प्रचारियों ने कृषि में आ रही परेशानियों के बारे में चर्चा की। कार्यक्रम में 'मेरा गाँव मेरा गौरव' में सम्मिलित 11 गाँवों के किसानों ने भाग लिया। इस कार्यक्रम में 11 कृषकों को वैज्ञानिक पद्धति से कृषि कार्य करने के लिए सम्मानित किया गया। माननीय सांसद जी ने पुरस्कार वितरण किये। अपने संभाषण में कृषि में रसायन के उपयोग पर उन्होंने व उससे हो रही परेशानियों का उल्लेख किया। कार्वनिक कृषि करने के लिए उन्होंने किसानों को प्रेरित किया। कार्यक्रम का संचालन डा० डी०सी०मीणा ने किया और धन्यवाद ज्ञापन डा० ए०के०परिन्ड्याल, प्र०वैज्ञा० ने किया।



भारतीय मृदा एवं जल संरक्षण संस्थान के अनुसंधान प्रक्षेत्र, सेलाकुई पर संस्थान के महिला क्लब व कर्मचारियों के परिवारों द्वारा स्वच्छता अभियान कार्यक्रम

स्वच्छता अभियान में स्वयं एवं अपने परिवारों को सम्बद्ध करने की पहल करते हुए दिनांक 23 अक्टूबर, 2016 को संस्थान, अनुसंधान प्रक्षेत्र, सेलाकुई, (देहरादून) पर संस्थान के निदेशक डा. पी.के. मिश्रा की अगुवाई में स्वच्छता कार्यक्रम का आयोजन किया गया। संस्थान के महिला क्लब ने इसमें अपना योगदान दिया। क्लब की चेयरपर्सन श्रीमती दीप्ती मिश्रा, अध्यक्ष श्रीमती अनिता शर्मा एवं सचिव श्रीमती नैना कौशल ने महिलाओं को सामुदायिक स्वच्छता के लिए प्रेरित किया। श्रीमती गिरिबाला जुयाल ने महिलाओं को पॉलीथीन व प्लास्टिक से वातावरण को बचाये रखने का अनुरोध किया। श्रीमती संघमित्रा सेना ने महिलाओं को पटाखों से बचने व मिट्टी के दीयों से दीपावली मनाने का आह्वान किया। डा. लेख चन्द, वरिष्ठ वैज्ञानिक व प्रभारी अधिकारी, अनुसंधान प्रक्षेत्र ने उपस्थित परिवारों को दैनिक जीवन में निकलने वाले अपशिष्ट पदार्थों के बारे में विस्तार से बताते हुए इनके वैज्ञानिक प्रबन्धन की विधियों समझाई तथा जैव विघटित होने वाले कूड़े से घरेलू व सामुदायिक स्तर पर कम्पोस्ट बनाने पर जोर दिया। डा. जे.पी. जुयाल ने अपने घर में अपनाये जाने वाले कचरा प्रबन्धन पर प्रकाश डाला। डा. एन.के. शर्मा, विभागाध्यक्ष, मृदा एवं सस्य विज्ञान विभाग ने उपस्थित परिवारों को संबोधित किया व स्वच्छता की महत्ता पर

प्रकाश डाला। इसके पश्चात सभी महिलाओं, बच्चों व कर्मचारियों ने अनुसंधान प्रक्षेत्र के पूरे क्षेत्र की सफाई की।



ICAR NEWS/WEBSITE REPORTING

1. Field Engineering Training on Forest Watershed Management. ICAR website on October 4, 2016.
2. Swachhta Pakhwada Inaugurated at ICAR- IISWC, Dehradun. ICAR website on October 16, 2016, Dehradun.
3. Capacity Building Training of MP Farmers on Soil and Water. ICAR website on October 21, 2016.
4. Farmers Fair and Training on Agricultural Mechanization and Marketing at Senguttaiyur village, Tamil Nadu. ICAR website on December 4, 2016.
5. Farmers Day cum Exhibition at ICAR – Indian Institute of Soil and Water Conservation, Research Centre, Datia. ICAR website on January 10, 2017.
6. A short course on Soil and Water Conservation and Watershed Management. ICAR website on February 7, 2017.

AWARDS AND RECOGNITIONS

1. Research Centre, Udhagamandalam received Nilgiri Conservation Award-2016 by the Nilgiri Documentation Centre at Udhagamandalam.
1. Dr. Lakhna Singh received Best Community Mobilizer Award from Society of Community Mobilization for Sustainable Development, New Delhi at Port Blair.
2. Dr. Lakhna Singh received SEE Fellow Award conferred by Society of Extension Education during National Extension Education Congress held at NAARM, Hyderabad.
3. Dr. Lakhna Singh awarded Gold Medal by Indian Association of Soil and Water Conservationist (IASWC), Dehradun.
4. Dr. V.K. Bhatt awarded Fellow of the IASWC during the Conference on Farmers First for Conserving Soil and Water Resources in North Eastern Region (FFCSWR-2017) at Guwahati.
5. Dr. V.K. Bhatt and Dr. A.K. Singh awarded Fellowship by The Institution of Engineers.
6. Dr NM Alam, Scientist and Dr. Sharmistha Pal received IASWC Young Soil Conservationist Award-2016.
7. Dr. Raman Jeet Singh received Best Young Scientist Award – 2017 in 1st National Conference on Advances in Global Research in Agriculture and Technology organized by Society of Human Resource and Innovation, Agra.
8. Dr. Trisha Roy received Best Doctoral Thesis Award from the Indian Society of Soil Science for Ph.D. thesis work at the 81st Convention of Indian Society of Soil Science held at Gwalior.
9. Sh. Suresh Kumar and Er. R.K. Arya awarded IASWC Gold Medal (Technical Skills) by IASWC, Dehradun.
10. Dr. Trisha Roy awarded overall merit certificate for the 114th batch of four months Certificate Course on Soil & Water Conservation and Watershed Management.



11. Mr. Anand Kr. Gupta awarded two Merit Certificates for the 115th batch of four months Certificate Course on Soil & Water Conservation and Watershed Management.
12. Dr. V. Kasthuri Thilagam awarded three merit certificates in 115th batch four months Certificate course on Soil & Water Conservation and Watershed Management.
13. Dr M. Shankar awarded Ph.D. degree from University of Exeter, United Kingdom.
14. Dr. Pankaj Panwar received best research paper award published in Indian Journal of Soil Conservation 44(2): 177–184.
15. Dr (s) O.P.S. Khola, K. Kannan, K. Rajan, D.V.Singh, V.Selvi, P. Raja and D. Dinesh received best oral presentation award in National Seminar on Climate Driven Food Production System: Agrometeorological Interventions at TNAU, Coimbatore.
16. Dr. JMS Tomar, A. Ahmed, H. Mehta and R. Kaushal received best poster award in National Symposium on Agroforestry at CAFRI, Jhansi from December 3-5, 2016.
17. Dr (s) Hrittick Biswas, A. Raizada, Suresh Kumar, B.S. Naik, A.S. Morade and P. Mohan Kumar received best poster award (Theme 6: Policy Issues) in FFCSWR-2017 at Guwhati, Assam.
18. Dr (s) Sharmistha Pal, R.P. Yadav, S.L. Arya and A.K. Tiwari received best poster award in FFCSWR-2017 at Guwhati, Assam.
19. Mr. A.S. Morade, M. Pannirselvam, R.M. Kurian, A.N. Ganeshamurthy and H. Biswas received best poster award (Theme 2) in FFCSWR-2017 at Guwhati, Assam.

IMPORTANT PUBLICATIONS

Research Papers

- Alam NM, Sharma GC, Moreira E, Jana C, Mishra PK, Sharma NK and Mandal D (2017) Evaluation of drought using SPEI Drought Class Transitions and Log-linear Models for different agro-ecological regions of India. *Phys. Chem. Earth*. DOI:10.1016/j.pce.2017.02.008.
- Bhattacharyya Ranjan, Pandey AK, Gopinath KA, Mina BL, Bisht JK and Bhatt JC (2016) Fertilization and Crop Residue Addition Impacts on Yield Sustainability under a rainfed maize-wheat system in the Himalayas. *Proc. Natl. Acad. Sci., India, Sect. B Biol. Sci.* 86(1): 21–32.
- Ch. Jyotiprava Dash, Sarangi A, Adhikary PP and Singh DK (2016) Simulation of nitrate leaching under maize-wheat cropping system in a semi- arid irrigated areas of Indo-Gangetic plain, India. *J. Irrig. Drain. Eng. (ASCE)* DOI:10.1061/(ASCE)IR.1943-4774.0000965.
- Chaturvedi OP, Handa AK, Kaushal R, Uthappa AR, Sarvade S and Panwar P (2016) Biomass production and carbon sequestration through agroforestry. *Range Manag. Agrofor.* 37(2): 116–127.
- Jha P, Neenu S, Rashmi I, Meena BP, Jatav RC, Lakaria BL, Biswas AK, Singh M, and Patra AK (2016) Ameliorating Effects of leucaena biochar on soil acidity and exchangeable ions. *Commun. Soil Sci. Plant. Anal.* 47:10, 1252–1262.
- Kaushal R, Kumar Ambrish, Alam NM, Mandal D, Jayaparkash J, Tomar JMS, Patra S, Gupta AK, Mehta H Panwar P, Chaturvedi OP and Mishra PK (2017) Effect of different canopy management practices on rainfall partitioning in *Morus alba*. *Ecol. Eng.* 102:374–380.
- Kumar S, Raizada A, Biswas H, Morade AS, Reddy KK, Murlidhar W and Rao KS (2017) Groundwater management and achieving equity by direct transfer of electricity subsidy: a workable option. *Curr. Sci.* 112(1):22–23.
- Madhu M and Jerry L Hatfield (2016) Dry matter partitioning and growth analysis of soybean grown under elevated CO₂ and soil moisture levels. *Curr. Sci.* 111(6):981–984.
- Madhu M, Raghupathy R, Adhikary PP, Muralidharan P, Khola OPS and Sikka AK (2016) Biophysical-chemical studies of swamps in the Nilgiris Tamil Nadu. *Tropical Ecol.* 57(4):631–635.
- Madhu M, Raghupathy, Hombegowda HC, Muralidharan P and Khola OPS (2017) Initial growth performance of Shola species under enrichment plantation in the Nilgiris, Tamil Nadu. *J. Environ. Biol.* 38(1):91–95.
- Mandal Debashis, Srivastava Pankaj, Giri Nishita, Kaushal R, Cerda A. and Alam NM (2017) Reversing land degradation through grasses: a systematic meta-analysis in the Indian tropics. *Solid Earth.* 8: 217–233.
- Meena M, Rajesh T and Karambeer (2016) Adoption and Impact of Zero tillage In Rice-Wheat production system of Haryana. *Indian Journal of Agril. Res.* 50(6): 574–578.
- Pal Sharmistha Sidhu GS, Tiwari AK, Sarkar D and Sharda VN (2016) Soil erosion in Punjab. *Curr. Sci.* 111: 1687–1693.
- Pande VC, Kurothe RS, Kumar Gopal, Singh HB and Tiwari SP (2016) Economic assessment of agri-horticulture production production systems on reclaimed ravine lands in Western India. *Agrofor. Syst.* DOI 10.1007/s10457-016-0025-x.
- Patil SL, Loganandhan N and Ramesha MN (2016) Evaluation of chickpea varieties under compartmental bunding in rainfed situation. *Legume Res.* 39(6): 890–895.
- Ramesh K, Reddy KS, Rashmi I, and Biswas AK (2016) Evaluation of Differential Pore-Volume Distribution (DPVD) Patterns of Porous Clinoptilolite Fractions. *Commun. Soil Sci. Plant. Anal.* 47(3):369–374, DOI:10.1080/00103624.2015.1123718.
- Ramesha, MN, Patil, SL, Ratha Krishnan, P and Seshadri BN (2016) Effect of pre-sowing treatments on *Prosopis pallida* seed germination attributes. *Range Manag. Agrofor.* 37(2): 116–127.
- Ranju Chowdhury, Paulo Jorge de Campos Favas, Jonathan MP, Perumal Venkatachalam, Raja P, Sarkar Santosh Kumar (2017) Bioremoval of trace metals from rhizosediment by mangrove plants in Indian Sundarban Wetland. Available online Jan.2017. MPB-08347. *Marine Pollution Bulletin*, Elsevier.
- Rashmi I, Biswas AK, Parama VRR, Athifa M, and Ramteke L (2016) Soil Testing Indices for Phosphorus Leaching in Selected Vertisol and Inceptisol of India. *Proc. Natl. Acad. Sci., India, Sect. B Biol. Sci.* DOI 10.1007/s40011-016-0823-y.
- Rathore AC, Abhishek Kumar, Tomar JM.S, Jayaparkash J, Mehta H, Kaushal R, Alam NM, Gupta AK, Raizada A, Chaturvedi OP (2016) Predictive models for biomass and carbon stock estimation in *Psidium guajava* on boulder riverbed lands in North Western Himalayas, India. *Agrofor. Syst.* DOI: 10.1007/s10457-016-0023-z.
- Rawat I, Chhuneja NK, Gite LP and Meena MS (2016) Health hazard among workers of Agro Processing Industries: an exploratory research in Punjab's context *Natl. Acad. Sci. Let.* 40(1): 1–3.
- Roy T, Biswas DR, Datta SC and Sarkar A (2016) Phosphorus Release from rock phosphate as Influenced by organic acid loaded nanoclay polymer composites in an alfisol. *Proc. Natl. Acad. Sci., India, Sect. B Biol. Sci.* DOI 10.1007/s40011 016-0739-6.



Sharma KK, Singh AK and Dubey SK (2016) Rainfall trend analysis and its possible implication on rainfed agriculture in Agra, U.P. J. Agrometeorol.18(2):339–341.

Singh AK., Mishra Anupam, Singh Lakhan and Dubey SK (2016) Improving Lentil (*Lense culinaris*) productivity and profitability through farmer participatory action research in india. Indian J. Agr. Sci. 86 (10): 1286–92.

Singh Lakhan, Bishnoi Rajesh, VP Chahal, Bihari Bankey and Dubey SK (2017) Psychological and leadership orientation of development officials in India- A diagnostic study of soil and water conservation training programmes. Indian J. Agr. Sci. 87 (2): 71–75.

Books

Muruganandam M, Mandal D, Kaushal R, Mishra PK, Chaturvedi OP, Sharma NK, Ojashvi PR, Singh Lakhan and Sharma Sangeeta N (2016) Natural Resource Management - Opportunities and Technological Options (edited book). Satish Serial Publishing House, New Delhi. pp 1–325.

Naik BS, Paul JC and Panigrahi B (2016) Lland and water use planning for Eastern Ghat region of Oodisha, India: Optimization of net return and minimization of soil loss in watershed. Lambert Academic Publishing, Germany, ISBN-13:978-3-659-97892-0: 192p.

Souvenir

Sharma, NK, Avasthe, RK, Choudhury, S, Kumar, A, Mandal, D, Kaushal, R, Borah, P, Das, A and Singh, R. 2017. Souvenir of the Conference on "Farmers First for Conserving Soil and Water Resources in North Eastern Region (FFCSWR - 2017), February 09-11, 2017. Indian Association of Soil and Water Conservationists, Dehradun, Uttarakhand, pp. 100.

Foreign Visits

1. Dr S. Manivannan, Principal Scientist (SWCE) visited Germany from November 6 – 13, 2016 under the scheme 'National Programme for Training of Scientists / Technologists working in Government Sector' sponsored by Department of Science and Technology, Government of India, New Delhi.

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

Agra

1. Training (6 No.s) on Advances in Soil & Water Conservation Techniques at village Behrampur, Nagla Gangaram, Surehra at Beelpura Agra.
2. Exposure visits (11 No.'s) for farmers from Madhya Pradesh - Shivpuri, Narsinghpur, Tikamgarh, Gwalior, Bhind; Rajasthan – Dausa; Shamli UP sponsored by ATMA.
3. Kisan Gosthi at Surehra, Bilpura from Novemeber 10–11, 2016.
4. One day Kisan ghosthi was organized on December 29, 2016.
5. Swachhta Bharat Abhiyan on October2, 2016 and Swatchta Pakhwara from October 16–31, 2016.

Bellary

1. Mera Gaon Mera Gaurav in the villages Karekal, K.Veerapura, Maramanahalli, Netranahalli, Chelagurki, Vittalapura and Virapura.
2. One month summer practical training programe on Soil and Water Conservation from September 1–September 30, 2016.
3. Workshop of the Sujala project at NBSSSLUP, Bangalore from October 4–6, 2016.

4. World Soil Health Day at village Karekal on December 5, 2016.

Chandigarh

1. Two Days Training cum Awareness Programme on Rainwater Harvesting and input distribution held under Mera Goan Mera Gaurav at Village Sukhomajri, Jabrot, Haryana Haryana and Mandhala District, Solan, Himachal Pradesh.
2. Agro-Tech 2016, organized by Confederation of Indian Industries (CII) at Chandigarh from November 19–22, 2016.
3. Training on Soil and Water Conservation to B.Tech students from December 2 – 31, 2016.
4. Hindi workshop on January 11, 2017.
5. National Productivity Week from February 12–18, 2017.
6. One day Scientist-farmers interaction meeting at Kumhali village, Shimla, H.P. under NMSHE project on February 18, 2017.
7. Organized Hindi workshop on March 7, 2017.

Datia

1. Two days training programme for 25 staff/field functionaries of Department of Forest Panna (MP) under special Bundelkhand package-II from December 29–30, 2016.
2. Farmer's Day cum Exhibition on January 07, 2017.
3. National Productivity Week from February 12–18, 2017.
4. Farmers/Youth training programme from March 6–10, 2017.
5. Exposure visit of 918 farmers and 100 students during the reporting period.

Dehradun

1. Training on Soil Conservation and Water Management (5 No.s) sponsored by Project Director, ATMA, Dist. Sehore, M.P; Pauri Garhwal, Uttarakhand; Chittorgarh, Rajasthan.
2. Kishan Goshti (4 No.s) under Farmers FIRST project in Talai, Rasulpur, Badasi Village.
3. Division of Soil Science and Agronomy Kisan Goshti at village Jurkafun, Almora district on October 3, 2016 under the project NMSHE.
4. Division of Soil Science and Agronomy Kisan Goshti at Sunkiya village on October 4, 2016
5. Four Months Certificate Course on Soil & Water Conservation and Watershed Management from October 8, 2016–February 7, 2017.
6. Celebration of Swachhta Pakhwada from October 16–31, 2016.
7. Five days training programme on Soil and Water Conservation from October 17–21, 2016.
8. Farmers training (2 No.'s) on Use of ICT for Soil and Water Conservation Technologies in Himalayan Region from November 7–8, 2016.
9. Exhibition of conservation technologies in 4th International Agronomy Congress at Pusa, New Delhi on November 22, 2016.
10. Exhibition of Resource Conserving Technologies in the North Regional – Krishi Kumbh – 2016 at Muzaffarnagar (U.P.) from November 28–30, 2016.
11. Exhibition of the institute technologies in the Science and Technology Exhibition organized by Wadia Institute of Himalayan Geology, Dehradun from November 28–29, 2016.
12. World Soil Day celebrated by Division of SS&A, ICAR-IISWC, Dehradun on December 5, 2016.
13. RAC meeting on January 27–28, 2017 at ICAR-IISWC, Dehradun.



14. Division of SS&A organized Zonal Committee Meeting of Lower and Middle Himalayas 2017 (review meeting) under the project National Mission for Sustaining Himalayan Ecosystem – Task Force – 6 Agriculture (NMSHE TF – 6) at IISWC, Dehradun on January 21, 2017
15. National Conference on Farmers First for Conserving Soil and Water Resources in North Eastern Region (FFCSWR – 2017) at Guwahati, Assam from February 9–11, 2017,
16. Three days training on Technological Empowerment of Farmers on Soil and Water Conservation was organized at ICAR-Indian Institute of Soil and Water Conservation, Dehradun from February 1–3, 2017.
17. Agriculture Exhibition at FFCSWR – 2017 held in Guwahati, Assam from February 9–11, 2017.
18. Celebration of National Productivity Week from February 12 – 18, 2017.
19. Division of Soil Science and Agronomy organized one day training programme under Mera Gaon Mera Gaurav at Pata village of Kalsi Block, Dehradun on February 21, 2017.
20. Division of Plant Science organized three days Interaction meeting and field visit with delegates of International Network for Bamboo and Rattan (INBAR) from February 20–22, 2017.
21. Division of Soil Science and Agronomy organized one day training cum awareness programme on Unnat Krishi Takneeque Prashikshan Evam Jagrukta Abhiyaan under Mera Gaon Mera Gaurav at Mazhgaon, Tehri district on February 27, 2017.
22. Division of Plant Science organized training programme for farmers on Horticultural nursery management in watershed for skill development of rural youth from March 22–23, 2017.
23. Division of Plant Science organized training on Janjatiya Mahilaon Hetu Udyamita Vikas Evam Swa-Rojgar under TSP Project at Udpalta from March 22–24, 2017.
24. Division of Plant Science organized two days farmers training on Cultivation and Processing of Lemon Grass under DST funded project Promotion and Extension of lemon grass cultivation as an alternative crops for livelihood security in SC & ST communities in Dehradun district from March 27–28, 2017.

Koraput

1. Training programme on Rainwater Conservation Techniques for Enhancing Crop Productivity at Village Rosaiput, Pujariput, Katurput, Rajbidai, Bodobodigaon, Sakripot, Rajput during the reporting period.
2. Skill development Training programme for raising of nursery from September 28–30, 2016.
3. Training-cum-Exposure visit for the farmers of Village Pakojhola, Kundli, Bondaguda during the reporting period.
4. Training on Crop Management for improving productivity on January 19, 2017.
5. Training on Indigenous Soil and Water Conservation measures in Tribal area and its benefit (Office) on February 9, 2017.
6. Training on Integrated Farming System on February 18, 2017.
7. Training on Efficient Use of Water Through Micro-Irrigation System on March 1, 2017.
8. Training on Alternative Income Generation activities on March 8, 2017.

Kota

1. Swachta Pakhwara from October 16–31, 2016.
2. 63rd Centre's Foundation day on October 19, 2016.
3. दिनांक 31 अक्टूबर से 5 नवम्बर, 2016 के दौरान सर्तकता जागरूकता सप्ताह
4. Two days training (10 No.'s) in MGMG villages from January 1 – March 31, 2017.

Udhagamandalam

1. Hindi Chetna Mass from September 14, 2016 to October 13, 2016.
2. 63rd Foundation Day and Farmers Fair on October 20, 2016.
3. Exposure visits on Soil and Water Conservation Technologies for B.Sc.(Agri) students from Kumaraguru College of Agriculture, Gandhigramam Rural University, Vanavarayar Institute of Technology, Pollachi, Krishna College of Agriculture and Technology, Srengapuram, Madurai, and B.Tech (Hort.) students from Horticultural College and Research Institute, TNAU, Coimbatore.
4. Exposure visit on New Technologies in Soil and Water Conservation in Agriculture for 30 farmers from Malapuram, Ernakulam, Perumavur district, Kerala under ATMA Plus scheme during the reporting period.
5. ICAR sponsored 21 days winter school on “Advanced technologies in watershed hydrology to mitigate climate change impact on soil and water resources” from November 1–21 2016.
6. World Soil Day on December 5, 2016.
7. Hindi Quarterly meetings of Official Language Committee on December 8, 2016 and March 8, 2017.
8. Awareness cum training programme on Soil sampling technique and soil health management on December 16, 2016.
9. Hindi workshop on Karyalin Bol Chal aur Tipani on December 23, 2016.
10. Field visit conducted on Managing Forests in the Context of Soil and Water Conservation – Soil Erosion Vulnerability Assessment during the Workshop on Contemporary Forest Management for Multiple Functions in the Perspective of National Working Plan Code 2014 for the District Forest Officers on November 08 and 24, 2016 and January 4, 2017.
11. Exposure visit organized on Soil and Water Conservation measures for 30 Tribal farmers from Srikakulam district on January 4, 2017.
12. Exposure visit organized for 20 foreign delegates from Afghanistan, Myanmar, Bangladesh, Bhutan, Fuji, Indonesia, Lao PDR, Thailand, Vietnam visited as a part of two months course in Agricultural Project Management at Kothari Agricultural Management Center, Coonoor, sponsored by the Ministry of External Affairs, Govt. of India under the TCS of Colombo plan on January 7, 2017.
13. Exposure visit on Soil and Water Conservation Measures for Range Forest Officers from Kundal Academy of Development, Administration and Management (Forest), Kundal on January 28, 2017.
14. Exposure visit cum training on Soil Conservation and Irrigation Methods for 40 farmers from Chavavakkad, Dairy Development Department, Kerala on February 22, 2017.
15. Study visit on Water Conservation and Watershed Management was organised for 39 civil engineering students from Prasad Potluri Siddhartha Institute of Technology, Kanuru, Vijayawada, Andhra Pradesh on February 23, 2017.



16. Participated in the National Science day organized at Tata Institute of Fundamental Research, Udhagamandalam on February 28, 2017.

Vasad

1. Two days trainings (10 No.s) conducted for capacity building of farmers under Mera Gaon Mera Gaurav scheme.
2. Swatchh Bharat Pakhwada from October 16–31, 2016.
3. Agricultural Education Day on October 17, 2016.
4. Vigilance Awareness Week from October 31–November 5, 2016.
5. Farmer's day on February 28, 2017.

WORKSHOPS/ MEETINGS/TRAINING ATTENDED

1. Dr. P.K. Mishra attended the PMKSY Training Programs as a resource person and delivering lectures on Watershed Development Programmes – Some Success Stories at ICAR-IIWM, Bhubaneswar on October 1, 2016 and October 3, 2016.
2. Dr. Ambrish Kumar attended Farmers meet in the village Sunkiya, Nainital adopted as a hot spot by CITH, Mukteshwar on October 4, 2016.
3. Dr. Indu Rawat and Dr. Trisha Roy attended National Children Science Congress Regional event as Judge at FRI-KV, Dehradun from October 4–5, 2016.
4. Dr (s). S.P. Tiwari and Dr. Rajeev Ranjan participated in workshop on Doubling of farmer's income by 2022 organized by NABARD, Gwalior on October 5, 2016.
5. Dr. Ch. Jyotiprava Dash, Dr. V. Kasthuri Thilagam and Mr. Anand Gupta attended four months Certificate Course on Soil and Water Conservation and Watershed Management at IISWC, Dehradun from October 8, 2016–February 7, 2017.
6. Dr. P.K. Mishra attended the Sectoral Committee Meeting of NAEAB on Curricula and Equivalence at NASC Complex, New Delhi on October 17, 2016.
7. Dr (s). Lakhan Singh and Lekh Chand attended Field Day at Doiwala organized by KRIBHCO on October 19, 2016.
8. Dr. K. Rajan attended and delivered presentation in Annual Convention of Indian Society of Soil Science held at RVSKVV, Gwalior from October 20–22, 2016.
9. Dr. Trisha Roy attended 81st Annual Convention of the Indian Society of Soil Science at RSKVV, Gwalior from October 20 – 23, 2016.
10. Dr. Ambrish Kumar attended Sub-committee (D) meeting, chaired by Dr. K.P. Krishnan, Sp. Secretary, Land Resources (MoRD) for identifying the topics and contents of National Level Training program on Water Governance and Watershed Management at Nirmal Bhavan, New Delhi on October 6, 2016.
11. Plant Science Division organized Training programme in the tribal villages of Koti Korva and Ranigaon situated in Kalsi block during Swachta Pakhwara from October 26–27, 2016.
12. Dr. Lakhan Singh and Mr. Rajesh Bishnoi attended Brainstorming Session on Science and Technology input for Sustainable Development through cluster development approach in Shiwalik Region at UCOST, Dehradun on November 5, 2016.
13. Dr (s). Harsh Mehta Dr. S. Kala and Mr. Manish Kumar attended 1st International Agro biodiversity Congress (IAC-2016) held at NASC complex, New Delhi from November 6–9, 2016.
14. Dr. P.K. Mishra attended the 6th Asian Regional Conference on Geo-synthetics at Delhi Cantt from November 7–8, 2016.
15. Dr. Indu Rawat attended International Conference on Controlled atmosphere and fumigation in stored products at New Delhi from November 7–11, 2016.
16. Dr. Ambrish Kumar attended 6th Asian conference on Geosynthetic organized by IGS at Leela Convention Hotel, Delhi from November 7–10, 2016.
17. Dr (s). O.P. S. Khola and S. Manivannan delivered lecture and conducted field visit for the District Forest Officers on Managing Forests in the Context of Soil and Water Conservation – Soil Erosion Vulnerability Assessment during the Workshop on Contemporary Forest Management for Multiple Functions in the Perspective of National Working Plan Code 2014 on November 8, 24, December 6 and 29, 2016.
18. Dr. Trisha Roy attended winter school on Assessing Natural Resource Management, Climate Risk and Environmental Sustainability using Simulation Models at ICAR-IISS, Bhopal from November 8–28, 2016.
19. Dr.R. Kaushal attended Forest Advisory Committee meeting at Ministry of Environment and Forest and Climate Change, N. Delhi on November, 10, December 26, 2016 and January 9 – 10, February 28 and March 30, 2017.
20. Dr. J.M.S. Tomar acted as member of Evaluation Committee of Technical officers at CAFRI, Jhansi on November 11, 2016.
21. Dr. O.P.S Khola attended the 25th Meeting of ICAR Regional Committee No. VIII at TNAU, Coimbatore from November 11 – 12, 2016.
22. Dr (s). Lakhan Singh, Bankey Bihari and Lekh Chand attended Farmer FIRST meeting at ICAR-ATARI, Kanpur on November 12, 2016.
23. Dr. P.K. Mishra attended Valedictory function of ICAR-Winter School on Advanced Technologies in Watershed Hydrology to mitigate climate change impact on soil and water resources and delivered lecture to the participants at Research Centre Udhagamandalam.
24. Mr. D.M. Kadam attended 7th Indian Horticulture Congress held at IARI, New Delhi from dated November 15–18, 2016
25. Dr. P. Raja participated in 12 days Refresher Course on Agricultural Research Management organized by ICAR-NAARM, Hyderabad from November 15–26, 2016.
26. Dr. Charan Singh attended Workshop on Biodiversity and Climate Change at VPKAS Almora from 16–18 November, 2016.
27. Dr. J. Jaya Prakash conducted study tour of 115th batch of regular officer trainees from November 20–26, 2016.
28. Dr (s) Bankey Bihari, Dev Narayan and Lekh Chand attended 4th International Agronomy Congress held at New Delhi from November 22–26, 2016.
29. Dr. R. S. Yadav monitored and evaluated research projects of SS&A division as a member of Monitoring & Evaluation Committee from November 25–28, 2016.
30. Dr. Ambrish Kumar presented lead paper and Chaired the Technical session in National Workshop on challenges in irrigation management for food security organized by IWRS at IIT Roorkee from November 26–27, 2016.



31. Dr. P.K. Mishra attended Regional Agricultural Fair “Krishi Kumbh 2016” at Muzzafarnagar on November 28, 2016.
32. Dr. R. S. Yadav delivered the lecture on Soil testing and soil nutrient management' in regional farmers fair held at Muzzafarnagar (U.P.) organized by ICAR – IIFSR, Modipuram from November 28 – 30, 2016.
33. Dr. P.K. Mishra attended 402nd Academic Council Meeting of the ICAR-IARI at New Delhi on November 30, 2016.
34. Dr. P.K. Mishra attended the Annual Session of National Academy of Sciences India (NASI) jointly organized by UCOST and UTU at FRI, Dehradun on December 2, 2016
35. Sh. K.R. Joshi attended Competence Enhancement Training Programme on Motivation and Positive Thinking for Technical Officers of ICAR at NAARM, Hyderabad from Novemebr 30 to December 10, 2016.
36. Dr. Lakhan Singh chaired the technical session Agriculture, Horticulture and Livestock Production-Practices and Technologies organized during ISEE National Seminar 2016.
37. Dr (s). R. S. Yadav, Harsh Mehta, A.K. Prandiyal, Dev Narayan, J.M. S. Tomar, R. Kaushal, S. Kala, Rajeev Ranjan and Mr. Manish Kumar attended National Symposium on Agroforestry for Environmental Challenges, Sustainable Land Use, Biodiversity Conservation and Rural Livelihood Options at CAFRI-Jhansi (U.P) from December 3 – 5, 2016.
38. Dr. R. S. Yadav and Mr. Manish Kumar participated in International Training on Payments for Ecosystem Services: Concept, Theory and Practice organized by ICAR-CAFRI, Jhansi from December 6 – 09, 2016.
39. Dr. Lakhan Singh attended International Conference-2016 at Port Blair, A&N Islands from December 8 – 10, 2016.
40. Dr. Indu Rawat presented a research paper in an International Conference on Humanizing Work and Work Environment (HWWE) at Dr. B.R. Ambedkar National Institute of Technology, Jalandhar from December 8 – 11, 2016.
41. Dr (s). O.P.S. Khola, S. Manivannan and K.Rajan attended the Indo – Japanese Meet on Homoeopathic Medicinal Plants Cultivation on December 15, 2016 organized by Central Council for Research in Homoeopathy, Government of India and Japanese Homoeopathic Medical Association, Tokyo at Ooty.
42. Dr (s). AC Rathore, R. Kaushal and J. Jayparkash attended training on Leadership Development organized by Election Commission of India at Dehradun from December 15-17, 2016.
43. Dr. Lakhan Singh and Dr. R. S. Yadav attended training course on “Leadership Skill Development” at ASCI, Hyderabad from December 19 – 23, 2016.
44. Dr. K. Rajan, attended and delivered presentation in National symposium on Climate Driven Food Production System: Agro-meteorological interventions held at TNAU, Coimbatore from December 20 – 22, 2016.
45. Dr. S.P. Tiwari participated in Knowledge and experience sharing workshop on Managing Climate Resilient Agricultural Practices and Technologies in Bundelkhand, organized by ICAR-IGFRI, Jhansi (UP) on December 22, 2016.
46. Dr. P.K. Mishra, Dr. Ramanjeet Singh, Sh. A.K. Singh and Sh. K.R. Joshi attended the meeting with Parliamentary Committee on Rajbhasha at Chandigarh at Research Centre, Chandigarh from December 26 – 27, 2016.
47. Dr. P.K. Mishra attended the Farmers Goshthi at Koti Mechak village (Dehradun) under Farmers First Program on December 28, 2016.
48. Dr (s). P.K. Mishra and Lakhan Singh participated in Kisan Goshtthi at KVK, Dhakrani, Dehradun on December 29, 2016.
49. Mr. Manish Kumar attended and delivered a lecture in rabi interface workshop (Krishak-Vaigyanik Paricharcha) organised by ATMA at KVK, Datia during December 30-31, 2016.
50. Dr. S. Manivannan delivered lecture on “Climate change impact and mitigation strategies” at emerald heights College for Women, Ooty on January 2, 2017.
51. Dr. K. Rajan attended and delivered presentation in 104th Indian Science Congress at Tirupati from January 3 – 7, 2017.
52. Dr. Ashok Kumar participated in Regional Review Meeting for organizing Global Agritech 2017 in Kota at Commissioner Office, CAD, Kota on January 12, 2017.
53. Dr. P. Sundarambal attended and delivered presentation in the International Conference on Sustainable Natural Resource Management from Science to Practice held at BHU, Varanasi from January 12 – 13, 2017.
54. Dr. Lakhan Singh attended a meeting about ICAR Extra Mural project at New Delhi on January 24, 2017.
55. Dr Trisha Roy Scientist appointed as an external examiner for conducting viva-voce of B.Sc. (Agriculture) first and third semester students of Maya Devi group of Colleges, Dehradun on January 8, 2017.
56. Sh V.K. Dwivedi, Sh U.V.S. Chauhan and Sh Chater Singh deputed as Executive Magistrate of Static surveillance team during Uttarkhand assembly Election from January 8 – February 16, 2017.
57. Dr. Shakir Ali attended Technical Advisory Committee meeting (TAC) organized by Directorate of Watershed Management & Soil Conservation, Govt. of Rajasthan at Jaipur on January 10, 2017.
58. Dr (s). O.P.S. Khola and S. Manivannan attended and delivered presentation in Workshop on Use of Jute Geo-textiles in Civil Engineering & Jute Agrotexiles in Agro-Horticulture and Forestry organised by IJMA and NJB at Chennai on January 20, 2017.
59. Dr. P. Sundarambal attended farmer's grievance meeting at Collectorate, Ooty on January 20, 2017.
60. Dr. K. Rajan delivered lecture at farmers awareness programme organized by HRS, TNAU at Timpatti village of the Nilgiris on January 21, 2017.
61. Dr (s). Lakhan Singh, Bankey Bihari, Ambrish Kumar and Trisha Roy participated in Zonal Revised Meeting on NMSHE Project at ICAR-IISWC, Dehradun on January 21, 2017.
62. Dr. P.K. Mishra attended the selection committee meeting at ASRB, New Delhi from January 22 – 23, 2017.
63. Dr (s). P.K. Mishra, N.K. Sharma, Lakhan Singh, P.R. Ojasvi, H. Mehta, P. Dogra, Bankey Bihari, Ambrish Kumar, S.S. Srimali, B.L. Dhyani and R. Kaushal attended the RAC meeting at ICAR-IISWC, Dehradun on January 27, 2017.
64. Dr. Lakhan Singh acted co-chairman for Poster Evaluation Committee during “NEEC-2017 Nutrition Sensitive Agriculture: Changing Role of Extension” held at NAARM, Hyderabad from January 28 – 30, 2017.



65. Dr. K. Rajan delivered guest lecture organized by HRS, TNAU at Edapalli, Solada, Gudalur and Paramoolai, the Nilgiris District from January 30 – February 1, 2017.
66. Dr. P.K. Mishra chaired the session on Water Crises Management & Role of Forest Sector of Mid Career Training Program of IFS Officers at IGNFA, FRI, Dehradun on February 2, 2017.
67. Dr (s) P.K. Mishra, O.P.S. Khola, Lakhan Singh, S.P. Tiwari, S. Manivannan, Dev Narayan D. Mandal, J.M.S. Tomar, K.Kannan, Lekh Chand, Ms. C. Jana, Trisha Roy, Mr. Manish Kumar and K.R. Joshi attended the FFCSSWR-2017 held at Guwahati, Assam from February 9–11, 2017.
68. Dr (s). O, and attended and made thier presentations in Conference on Farmers First for Conserving Soil and Water Resources in North Eastern Region (FFCSWR – 2017) at Guwahati, Assam from February 9–11, 2017.
69. Dr. P.K. Mishra attended the Assessment Committee Meetings of CAS at ASRB, Pusa, Director's Conference and 88th Annual General Meeting of ICAR Society at New Delhi from February 13–16, 2017.
70. Dr. S.P. Tiwari participated in farmer's meeting on Plant variety conservation and Farmer's rights organized by KVK Datia (MP) on February 16, 2017.
71. Dr. J.M.S. Tomar delivered invited talk on Soil & Water Conservation with reference to Agroforestry at Dolphin PG Institute, Dehradun on February 18, 2017.
72. Dr. Lakhan Singh attended Institute Management Committee meeting at ICAR–ATARI, Jodhpur on February 20, 2017.
73. Dr. P. Sundarambal attended and delivered lecture in monthly Zonal Workshop conducted by Horticulture Department at Office of JDH Ooty on February 21, 2017.
74. Mr Rajesh Bishnoi attended Training Program on Competency Enhancement Program for Effective Implementation of Training Functions by HRD Nodal Officers of ICAR' at ICAR– NAARM, Hyderabad from February 20–22, 2017.
75. Sh. K.P. Sharma, Sh. T.S. rawat, Sh. Lallan Mishra, Sh. L.S. rawat and Sh. S.K. Sharma attended the training programme on e-procurement held
76. Dr (s). P. Sundarambal and Dr. K. Rajan delivered lectures in the farmers training programme on 'Advances in Potato cultivation' organized by ICAR - Central Potato Research Station, Muthorai on February 24, 2017.
77. Dr. P.K. Mishra attended 30th National Convention of Agricultural Engineering & National Seminar on Technological Innovations for Enhancing Profitability of Small and Marginal Farms at College of Technology, GB Pant University of Agriculture & Technology, Pantnagar from February 27–28, 2017.
78. Dr. A.C. Rathore participated as expert member for Uttarakhand State Level Committee meeting of National Horticulture Board on January 11, 2017.
79. Dr. P.K. Mishra attended the Validation Workshop for finalizing the Module of Water Conservation and Management at LBSNAA, Mussoorie on March 3, 2017.
80. Dr. A.C. Rathore attended Conference on Double Digit Growth for Uttarakhand: New Growth Engine organized by Uttarakhand State Council at Dehradun on March 17, 2017.
81. Dr. A.C. Rathore inspected various horticultural/fruit nurseries as one of the expert member of state level committee constituted by

National Horticulture Board for Uttarakhand State for Accreditation and Rating of fruit nurseries located in Uttarkashi district of Uttarakhand from February 21– 24, 2017.

82. Dr. P.K. Mishra attended meeting of Uttarakhand State Coordination Committee for doubling of farmer's income at GBPUAT, Pantnagar on March 29, 2017.
83. Dr. R. Kaushal attended meeting with DG ICAR, DG INBAR and Director INBAR at Krishi Bhawan, N. Delhi on March 30, 2017.

TELEVISION/RADIO TALKS

1. Mr. Rajesh Bishnoi delivered a Radio talk on the topic *Praktik Sansadhano ka Ghatta Kshetra* at All India Radio, Nazibabad on October 19, 2016.
2. Dr. P. Sundarambal delivered TV talk on Transfer of Technology activities of ICAR–IISWC, RC, Udhagamandalam at Makkal TV Channel on October 19, 2016.
3. Dr. H.R. Meena delivered Live Phone in programme on *Bageechon Evam Sabjiyon me Paushak Tatv Prabandhan Evam Paudh Sanrakshan* at All India radio, Kota on October 19, 2016.
4. Dr. B.L. Mina delivered a Radio talk on Nutrient Management in Crops and Weed Control on All India Radio, Kota on October 25, 2016.
5. Dr. Lakhan Singh delivered a Radio Talk on *Mrida Urvarta Shakti Mein Girawat – Samadhan Kya* at All India Radio, Nazibabad on January 20, 2017.
6. Dr. G.L. Meena delivered a Radio Talk on *Phasal Utpadan Me Suksham Poshak Tatvon Ka Mahatva* at All India radio, Kota on February 18, 2017.

DISTINGUISHED VISITORS

Agra: **Shri. Ram Shankar Katharia. Honible MP Agra,**

Chandigarh: Dr. Prasanna Kumar Patsani and Dr. Sunil Baliram Gaikwad, M.P. (Lok Sabha) Sh. Chhabilendra Roul, Secretary, ICAR, New Delhi; Dr. J.S. Samra, Ex-CEO, NRAA, New Delhi; Dr. Diana Suhardiman, Senior Researcher and Sub-Theme Leader for Governance and Political Economy at IWMI, Laos office; Mr. Sanjiv De Silva, Researcher- Natural Resource Governance at IWMI Hqrs. Sri Lanka; Ms. Panchali Saikia, Scientific Officer –Social Science in IWMI New Delhi; Dr. B.N. Tripathi, Director, ICR-NRCE Hissar; Dr. S.K. Dhyani, Principal Scientist, ICAR, New Delhi; Ms. Abhilasha Mishra, Hindi Adhikari, Committee of Parliament on Official language, New Delhi; Ms. Seema Chopra, Director, Rajbhasha, ICAR, New Delhi; Mr. Manoj Kumar, Rajbhasha Adhikari, ICAR, New Delhi; Sh. Jadish Chandra, IFS, Haryana; Dr. Kallol Pramanik, Head, IARI Regional Station, Shimla, HP; Sh. Ranjodh Singh, Ex-Professor, HPKV; Dr. S.K. Jain, Regional Director, Director, CGWB, Chandigarh; Sh. Surender Kumar Sharma, Asstt. Director Rajbhasha, Income Tax Department, Chandigarh; Prof. U.N. Roy, NITTTTR, Chandigarh; Ms. Susmita Sengupta, Programmer Manager, Centre for Science and Environment, New Delhi; Mr. Manu Moudgil, Consultant, India Waterportal, Bangalore; Dr. Surya Prakash, National Institute of Disaster Management, New Delhi; Dr. Satyanarayan Jatiya, M.P. (Rajya Sabha).

Datia: Dr. Arvind Kumar, VC, RLBCAU, Jhansi; Dr. Om Prakash, Pr. Scientist, ICAR-IARI, New Delhi; Dr. L.N. Harsh, Ex. VC, AU, Jodhpur;



Dr. K. Kareemulla Pr. Scientist, ICAR-NAARM, Hyderabad; Dr. Narottam Mishra, Cabinet Minister for Water Resources, Parliamentary Affairs and Public Relations, Govt. of Madhya Pradesh; Sh. Avadesh Nayak, Vice President, Madhya Pradesh Pathyapustak Nigam; Dr. P.K. Pathak, Head, Division of Farm Machinery & Power, ICAR – IGFR, Jhansi; Dr. R.N. Arya, Civil Surgeon, District Hospital, Datia; Dr. R. H. Rizvi, Pr. Scientist, Dr. Mahendra Singh, Sr. Scientist and Dr. S. Sridhar, Scientist, ICAR-CAFRI, Jhansi; Dr. S. R. Kantwa, Sr. Scientist, Dr. D. R. Palsaniya, Sr. Scientist.

Dehradun: Shri Chhabilendra Roul, IAS, Additional Secretary, DARE, Ministry of Agriculture and Farmers Welfare, Govt. of India & Secretary, ICAR, New Delhi; Dr. G.S. Khatri, Deputy Commissioner (Training), Uttarakhand; Sh. Kapil Lal (IFS), Project Director; Directorate of Watershed Management; Dr. I. V. Ramanuja Rao, Chair & Managing Director, Centre for Indian Bamboo Resource & Technology (CIBART); Mr. J. Durai, Project Manager, INBAR; Ms. Baya Aggarwal, Communication Specialist, INBAR; Dr. C.S. Pandey, Head (Agriculture), Dolphin Institute; Dr. MC Nautiyal, former Dean, GBPUAT, Ranichauri Campus, Tehriharwal and Er. Gaurav Tomar, Additional Director, Maya Group of Colleges, Dehradun.

Koraput: Prof. Sachidananda Nohanty, Vice-Chancellor, Central University of Odisha, Koraput, Odisha; Dr. Malay Kumar Mishra, Professor Berhampur University, Odisha; Dr. P.C. Mahapatra, Director; Dr. Sahant Kumar Palita, Dean, School of Biodiversity and Conservation, CUO, Odisha; Sh. S. Mohanty, Project Manager I.T.D.A, Koraput; Sh. S. Chity, CEO PRADHAN, Semiliguda; Sh. Praful Kumar Pangi, MLA, Pottangi, Dist- Koraput, Odisha; Sh. Debabrata Sahoo, Zonal Mang. and Sh. Rajesh Sahoo, Manager, Avantha Agritech; Smt. Malati Majhi, President, Zilla Parishad, Koraput; Dr. V.K. Patil, Director, CCBF, Sunabeda; Dr. Ch. Ravindra Reddy, Director, MSSRF, Sunabeda

Kota: Dr. L.K. Dashora, Dean, College of Horticulture and Forestry, KAU, Jhalawar; Mr. Suresh Kumar, CAO, ICAR-CPCRI, Kasaragod, Kerala; Dr. R.K. Sawal, Pri. Sci, ICAR- NRC Camel, Bikaner; Dr. S.N.S. Chaurasiya, Pri. Sci, ICAR- IIVR, Varanasi; Dr. I.P. Singh, Project Co-Ordinator, ICAR- IIPR, Kanpur; Dr. A.K. Mohanty, Pri. Sci., ICAR-NDRI, Karnal; Dr. M.S. Nagraja, Professor & Head, College of Horticulture, Balakot; Dr. Virendra Sharma, Pri., Sci., PAU, Ludhiana; Dr. V. K. Rao, Professor, GBPUAT, Pantnagar; Dr. J. Somasundaram, Sr. Sci., ICAR- IISS, Bhopal.

Udhagamandalam: Dr. A. Raviraj, Professor, WTC, TNAU Coimbatore; Sh. Subhash Chand Prasha, HPFS, DWDO, Dharamshala, Ms. Angel Chauhan, HPFS, DFO, Kinnaur; Mr. Praveen Thakur, HPFS, DFO, Dharamshala, Mr. Jangvin, HPFS, DM, Sawra (H.P.), Dr. A. Raja Rajan, Dean, Faculty of Agriculture Ramakrishna Mission Vivekanandha University, Coimbatore; Dr. K. K. Mathan, Professor and Head, SSRAC, TNAU (Retired); Olim Kisimov, National Television and Radio Company of Uzbekistan; Prof. A. V. K. Iyengar, Director, Kothari Agricultural Management Centre Coonoor, The Nilgiris, Dr. R. Udhayakumar, Professor of Agri. Engg, Gandhigram, Dindigul, Tamil Nadu; Devarshola, Kunju Vallamattam President, Muvattapazhar, Kerala, K. Somya Moorthy HOD/Agri. Engg, Sakthi Institute of Technology, Erode.

Vasad: Dr. N.C. Patel, Vice Chancellor, Anand Agricultural University, Anand; Sh. Ravi Dutt Kamboj, IFS, Chief Conservator of Forest,

Social Forestry Circle, Ahmedabad; Dr. K.B. Kataria, Director of Research, Anand Agricultural University, Anand; Dr. R.A. Sherasiya, Director of Horticulture, Govt. of Gujarat, Gandhinagar; Sh. Chander Mohan, Scientist 'G', Dept. of S&T, Govt. of India, New Delhi; Sh. V.R. Parmar, Deputy Director of Agriculture (Training), Farmers Training Centre, Thasra (Gujarat); Secretary, IWMP, Alirajpur (M.P.); Dr. A.R. Macwan, Deputy Director, Institute of Distance Education, AAU, Anand.

PERSONALIA

Appointments

1. Shri Gajanand Yadav joined as Adm. Officer at Dehradun

Promotions

Scientists

1. **Dr. R.K. Dubey promoted to Senior Scientist.**

Technical Officers

2. K. K. Reddy promoted to Chief Technical Officer.
3. Dr. Govind Prasad promoted to Chief Technical Officer.
4. Mr. Sant Raj promoted to Chief Technical Officer.
5. **Sh. B. Prasad promoted to Assistant Chief Technical Officer.**
6. **Sh. Suresh Chand promoted to Assistant Chief Technical Officer.**

Administrative Staff

7. Smt. Sujatha, LDC promoted to UDC
8. **Sh. Rakesh Singh promoted to LDC.**
9. Mr. Harnam Singh, SSG promoted to GP of Rs. 1900

TSCL to Skilled Supporting Staff

1. Sh. Parma Ram, Sh. Ranjeet Singh, Sh. Vinod, Sh. Vijendra Singh, Sh. Amar Singh, Sh. Ramesh, Sh. Hoshiyar Singh, Sh. Telu Ram, Sh. Irshad, Sh. Bhanwar Singh, Sh. Lakhan Singh, Sh. Shukhran, Sh. Hori Lal, Sh. Chowramma, Sh. Shanthamma

Transfers

1. Dr. B.K. Rao, Sr. Scientist transferred from RC, Vasad to CRIDA, Hyderabad.
2. Dr. Lekh Chand, transfereed from SSA Division to HRD&SS Division, Dehradun.
3. Sh. Krishan Kumar, Assistant transferred from Dehradun to RC Chandigarh.
4. Sh. R.C. Meena Assisstant transferred to IISWCRC Vasad.
5. Mr. Kureel, Assistant, transferred to the ICAR-IISWC, RC, Vasad.

Retirements

Agra: Sh. Radhey Shyam, CTO; Sh. N.P. Sharma, P.S; Sh. Mahavir Singh, SSS; Sh. Kailash Chand

Chandigarh: Sh. Bant, SSS; Sh. Himachal, SSS.

Dehradun: Dr. G.C. Sharma, Pr. Scientist ; Sh. Shiv Charan Singh, CTO; Sh. Janeshwar Singh, STO; Sh. M.K. Mardi, T.O; Sh. Surat Singh Panwar, AAO; Sh. Govind Singh, Assistant; Sh. Jasmat Singh, Sr. Tech. Asstt; Sh. Nand Lal, T.A. (V/D); Sh. Arjun Singh, T.A. (T/D); Sh. Hukam Singh Tech. Asstt. (T/D); Sh. Kanhaiya Lal, SSS.

Kota: Shri Vikram Chauhan, Chief Technical Officer

Ooty: Sh. R. Mohanraj Senior Technical Officer

Vasad: Smt. R.B. Vasava, AAO

Obituaries

Sh. Bhawani, Dehradun; Sh. Vikram Singh, RC Chandigarh.

IISWC express heartfelt condolences to the bereaved families



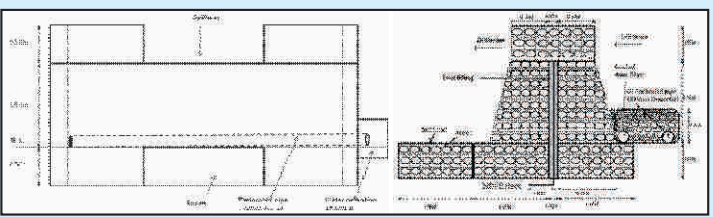
TECHNOLOGY

Low Cost HDPE Sheet Embedded Checkdam for Water Harvesting

For mitigating climate change impact on terraced agriculture in environmental sensitive Himalayas that may cause substantial decrease in water availability for drinking and food production, and consequently increase in vulnerability of food and agricultural systems in the entire region, innovative water harvesting structures are needed for protecting crops from intervening dry spells in the monsoon season and providing at least one or two irrigations for rabi crops. Annual rainfall ranges from 920 to 2370 mm in different parts of Uttarakhand state, with an average of about 1700 mm yr⁻¹ for the state. The monsoon remains active over hardly 100 days. Around 37.5% of average volume of total rainwater is drained away from boundary of the state. As drainage density of hilly terrain is very high, experiencing high flow velocity causes degradation of torrents/streams. For stabilizing degraded streams, Gabion Check Dams (GCD) are one of the effective measures used to slow down velocity of concentrated runoff or stabilize slopes, but they are not effective for water harvesting due to its permeable nature. GCD acts partially as a water harvesting structure (WHS) after 2 to 5 years by filling up voids in the structure. Meanwhile, upstream water storage area gets silted up and there is rare possibility of water storage. After having fully silting up the upstream storage area of the GCD, there is outflow like trickles from downstream face of GCD for longer period even after cessation of rain. The water stored in silted up debris above the check dam and, partly, from upstream slopes contribute subsurface flow. Scattered trickle flow is difficult to gather for purposeful utilization. Keeping all in view, a GCD embedded with impervious HDPE sheet is constructed for water conserving/recharge efficiency.

Design and Installation of HDPE sheet embedded Gabion Checkdams: An impermeable gabion checkdam was constructed at Tigri tributary of Gauna river near village Tigri under TDET project by embedding

geosynthetic – High Density Polyethylene (HDPE) sheet – in middle of the structure. HDPE sheet (750 Micron) was embedded vertically in the gap made between two gabion walls and was well packed with sand that functions like cushion between gabion walls and sheet. The span of checkdam, crest length and gross height (including flood depth & free board) of the checkdam are 15m, 12.7m and 1.5 m, respectively. Total width of checkdam includes width of the upstream wall (0.5 m), middle space (gap) filled with sand either side of the sheet (0.3 m) and downstream wall (0.5 m), i.e. 1.3 m (Fig 1). To protect the downstream toe of the check dam, 1.5 m wide apron with stone pitching was made. For utilizing stored water, a masonry intake chamber of dimension (1 x 1 x 1m) was constructed and fixed with the filter GI pipes (2" dia) as inlet to the chamber in order to prevent leaves/small twigs/other foreign materials into the chamber. This chamber was further fitted with an outlet assembly and connected with HDPE pipeline upto entry point of existing small irrigation channel (Gulh) constructed for downstream command area. In the last week of March, 2014, the discharge of the stream was recorded to be 6 lps and in March, 2016 was 9.5 lps, i.e. around 60% increase over data of 2014. A plan and elevation view is shown in Figures below alongwith water impounding in the pond after monsoon season. Such low cost water harvesting technology could be highly useful in hill and plateau topographic conditions covering a large area in the country, which is characterized by high drainage density and readily sufficient availability of stones. This innovative technology may be fitted under recently launched flagship programme – Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), particularly for small and marginal farmers.



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 Rajesh Kaushal, Senior Scientist
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