



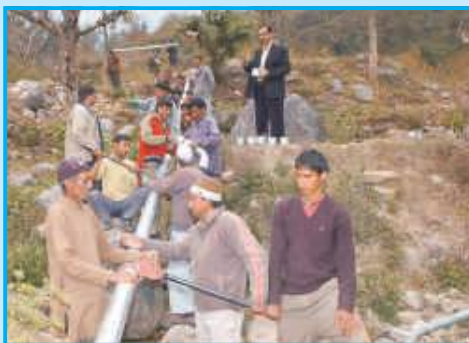
# IISWC News



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## In this Issue



*Natural Resource Management for Livelihood Security*

**The staff of ICAR-IISWC, Dehradun welcome Dr. Trilochan Mohapatra as New Secretary, DARE & Director General, ICAR.**

## From The Director's Desk



With the recent initiative of Government of India to accord high priority to water conservation and its management, Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of extending coverage of irrigation to rainfed farmers. The approved programme has four components, viz; Accelerated Irrigation Benefit Programme (AIBP), Har Khet Ko Pani, Per Drop More Crop and Watershed Development in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities. In the present context of its implementation, proper scientific assessment of vulnerability

to water scarcity in a spatial and temporal framework, and convergence of the related departments is essential.

Now that the Prime Minister has outlined the political will of the country in shape of PMKSY, it is time for bureaucrats and technocrats to scratch their heads together for developing a fresh perspective at national level so as to issue necessary guidelines to the states for mobilizing their logistics to plan projects taking respective local factors into consideration. Further, to achieve a plausible outcome of this novel concept, outlook beyond the utilizable water resources under whose frame work the irrigation planning are done, also needs to be expanded. Planning can be done in a holistic manner by weighing each component from technological and financial angle, individually, for getting the desirable synergistic effect. In the context of equity in water distribution, both spatially and temporally, a decentralised rainwater harvesting initiative is needed to make water available for meeting sectoral demands in watershed area.

Out of 4000 BCM of rainfall in our country, the flow water available for use is 1869 BCM, and the utilizable water is 1123 BCM. Hence the concept and perspective of looking into salvaging the apparently lost ~72% (4000-1123 BCM) of the total water resources as runoff/soil storage and other unexplained ways is the core objective of PMKSY through one of its sub-programmes i.e. Watershed Development. Hence to tap the difference between the precipitation received and the present utilization, measures are to be taken to maximize the use of precipitation. This can be achieved through well planned schemes for managing unused rain water with focus on water storage (*ex-situ* and *in-situ*) for deferred use while controlling runoff and evaporation. This argument has been noted by the Natural Resources and Environment Division of NITI Aayog.

In this approach, we will concentrate on conserving water in highlands only by increasing the time of concentration of flow because conserved water in the uplands will slowly move towards lower levels inside the soil and keep the medium and low lands moist. This will reduce the requirement of drainage line treatments as the total runoff will be managed / controlled by treating the catchment (both arable and non arable). This water can be trapped either as underground or subsurface storage, if strategically planned, justifying watershed development as the first and foremost measure to have a quality flow for other three components to work upon.

P.K. Mishra

- Extra Mural Research Projects Sanctioned For IISWC
- Member of Parliament / Odisha Chief Secretary / Tamil Nadu Government Agriculture Commissioner/ Secretary ICAR & Additional Secretary, DARE Visited IISWC
- Important World Days Celebrated
- Jai Kisan Jai Vigyan Week Celebrated
- Tribal Sub-Plan Activities Undertaken
- हिन्दी चेतना मास मनाया गया
- Mera Gaon Mera Gaurav Programme Successfully Executed

## Next Issue



*Peach Based Agri-Horticulture Land Use System For Degraded Shivaliks*



## NEW INITIATIVES

### Development of Soil Health Cards

Four villages, viz; Hattal, Sainj, Naini and Samulta in Uttarakhand state were selected for developing soil health cards under "Soil Health Card Scheme". About 250 samples were collected from different land units and analyzed for 12 fertility soil parameters. Soil Health Cards are being generated using NIC portal which has been developed for this programme.

### Solid Waste Management

Initiated solid waste (biodegradable farm and kitchen wastes) management work for resource conservation and on-farm utilization of the product to increase crop productivity and profitability. Trainings are being delivered under Clean India Campaign and *Mera Gaon Mera Gaurav* programme to make rural public aware about the recycling of day to day decomposable wastes into a useful product, and for keeping villages and individual houses clean and hygienic.



### Externally Funded Projects

- ICAR Extra Mural Research Project on 'Creation of ICT Network to Disseminate Knowledge about Soil and water Conservation Technologies to Farmers in North West Himalayan Region' sanctioned by Agricultural Extension Division, ICAR, New Delhi for ICAR-IISWC Headquarter Dehradun with Dr. Lakhan Singh as the Principal Investigator.
- The ICAR-IISWC Research Centre, Bellary signed an MoU with Government of Karnataka for monitoring and evaluation of watershed projects as a project partner, which are being established with World Bank funding under Sujala Phase-III project.
- ICAR Extra Mural Research Project on 'Development of cost effective plastic checkdams for water harvesting in rainfed regions' sanctioned for ICAR-IISWC Research Centre, Vasad.
- ICAR Extra Mural Research Project on 'Devising economic framework for ecosystem services' payment and farmers' livelihood in Mahi and Chambal ravine ecosystems' sanctioned for ICAR-IISWC Research Centre, Vasad.

## IMPORTANT EVENTS

### Member of Parliament Shri D.S. Yadav Visited ICAR-IISWC at Agra

Shri Darshan Singh Yadav, Hon'ble Member of Parliament, Rajya Sabha from Etawa visited ICAR-IISWC Research Centre at Agra. Dr. S.K. Dubey, Head welcomed and briefed him about Centre's activities. He showed keen interest in pollution level of Jharna Nala and deteriorating ground water quality in ravines of Yamuna. He was quite happy with the Centre's activities and asked for detailed report on pollution being caused by Jharna Nala. His visit was quite encouraging for the Centre's staff.



### Uttarakhand Chief Minister Briefed About IISWC Model Participatory Water Resource Management Work

Shri Harish Rawat, Hon'ble Chief Minister, Uttarakhand discussed with Dr. P.K. Mishra, Director on March 2, 2016 about model participatory water resource management and agricultural development work undertaken by ICAR-IISWC in Hattal and Sainj villages under Tribal Sub-Plan.



### Odisha Government Chief Secretary Visited IISWC at Dehradun

Chief Secretary, Shri G.C. Pati, Government of Odisha along with Shri Vinod Kumar, Director, IGFNA, Dehradun visited ICAR-IISWC at Dehradun on November 16, 2015. He expressed interest in Government of Odisha officers attending four months certificate course on Soil & Water Conservation and Watershed Management at the Institute. During his interaction with scientists, major focus was given on realistic and scientific watershed planning, de-risking climate change, augmenting long term gain, producing more from less land, etc. He said that empirical studies should be conducted for knowing defects in watershed planning, implementation and after withdrawal of the project from an area. Shri Vinod Kumar, Director, IGFNA, Dehradun drew attention to active involvement of village people in detailed project report preparation of the watershed. He said that integration of all components should be ensured for getting fruitful gains through watershed management. Dr. P.K. Mishra, Director highlighted achievements of the Institute, specially soil and water conservation initiatives and successful watershed cases. His concern was to save soil and water without any adverse effect on environment. Dr. M. Madhu, Head, IISWC Research Centre at Koraput (Odisha) made presentation on soil and water conservation works carried over at different locations of the Odisha state. Dr. D.R. Sena made a presentation on 'Cost Effective Watershed Planning - The State of Art Tools'.



### Tamil Nadu Government Agriculture Commissioner Visited IISWC at Udhagamandalam

Dr. M. Rajendran (IAS), Commissioner, Department of Agriculture, Government of Tamil Nadu, along with many district level officials of his department, visited ICAR-IISWC Research Centre at Udhagamandalam, specifically the buckwheat field, on March 3, 2016 as ICAR-IISWC Research Centre, Udhagamandalam has been undertaking research work at its farm on tillage and cover crops, including buckwheat, for improving soil health. Dr. O.P.S. Khola, Head welcomed him. The Agriculture Commissioner was explained about buckwheat cultivation and its benefit of





increasing nitrogen and phosphorus nutrient availability, environmental benefit and improving soil health. The Commissioner enquired about the prospect of growing buckwheat in plains of Tamil Nadu during winter season as cover crops. Sample seeds were handed over to the Joint Director of Agriculture from various districts who accompanied him. A presentation was also made on buckwheat and Centre's activities.

#### Secretary, ICAR & Additional Secretary, DARE Visited IISWC at Chandigarh

Shri Chhabilendra Roul, Secretary, ICAR & Additional Secretary, DARE visited Research Farm of ICAR-IISWC Research Centre at Chandigarh on January 9, 2016. He visited the Centre's land site proposed for transfer to Haryana Urban Development



Authority (HUDA) for construction of road in public interest. He advised that a copy of HUDA Master Plan may be submitted to ICAR. Thereafter, he visited the Research Farm's watershed development works, Sloping Agriculture Land Technology (SALT) experimentation and vegetation manipulation studies of the centre. He also visited the *aonla*, *ber* and peach plantation at the nursery farm of the Research Centre. The Secretary, ICAR visited the Research Centre, Main Office on January 11, 2016 and had a meeting with Dr. P.K. Mishra, Director and all scientists. Dr. P.K. Mishra made a presentation about the R&D activities of the Institute. Dr. A.K. Tiwari, Head also provided a glimpse of activities being taken up by the Research Centre. The Secretary, ICAR appreciated the work of the Institute and its Centre. He emphasized upon assessment of economic viability of research outcomes for benefit of farmers. A meeting was held by the Secretary, ICAR at mini Secretariat, Punjab and discussion was made on the problems related to agriculture and horticulture with Commissioner Agriculture, Director (Agriculture) and Director (Horticulture) of Punjab state along with Dr. P.K. Mishra and Dr. A.K. Tiwari. During the visit, plantation of *Mimusaph elengi* (Molsiri) was done by the Secretary, ICAR at Research Farm. The Institute thanked him for his visit and providing useful suggestions.

#### Deputy Director General (NRM) Visited NMSA Project Site

Dr. A.K Sikka, Deputy Director General (NRM), ICAR visited NMSA project site at Village Rasulpur Jaton, Muzaffarnagar on February 27, 2016. He critically observed the ongoing and completed activities - innovative water harvesting structure; private tubewells equipped with water conveyance system, PVC pipe line and outlets; operation of rain-gun installed at farmers' fields, and; proposed site of new WHS near Harsauli village. Dr. A.K. Sikka interacted with the beneficiary farmers and expressed his happiness that farmers are taking interest in adoption of new irrigation system. He also appreciated the Science Driven - Scientist



Led project implemented at farmers' field at Rasulpur Village, Muzaffarnagar (UP).

#### IISWC Celebrated World Soil Day and International Year of Soils

United Nations Food and Agriculture Organization declared 2015 as International Year of Soils with the slogan "Healthy Soil for Healthy Life" to sensitize all section of society. World Soil Day and International Year of Soils were celebrated on December 5, 2015 by ICAR-IISWC at Dehradun, and all its Reseach Centres i.e.



Agra, Bellary, Chandigarh, Datia, Koraput, Kota, Udhagamandalam and Vasad at various locations, including villages, engineering college or exhibitions. At all these locations, high ranked Government officers, including Members of Legislative Assembly, Government Departments and Scientists of other research organizations graced the occasion. The dignitaries were welcomed by the Director or Head of the Research Centre. Farmers and students were also invited for the celebration and they participated in large numbers. Importance about assessment and management of soil health and of soil conservation in managing soil health was highlighted to the participants consisting of farmers and students by the invited dignitaries and scientists of ICAR-IISWC. The participants were sensitized that soils have been neglected for too long. We fail to connect soil with our food, water, climate, biodiversity and life. We must invert this tendency and take up some preserving and restoring actions. There is a need for periodic monitoring of soil health in order to mitigate the invisible loss of money by continued erosion and sustain crop productivity. Manures and fertilizers must be applied on the basis of soil test report and crop requirement for keeping farm soils healthy and sustainable. On this occasion Soil Health Cards were distributed to farmers at Bellary and Datia by the ICAR-IISWC. Based on soil health card, the farmers can get sound information for application of correct amount of fertilizers to be integrated with organic



amendments for improving the soil health and quality in order to increase the productivity per unit area. Soil health card based nutrient application would help to reduce the consumption of fertilizers. In addition, the card will help the farmer in determining the best crops that can be grown on the farm.

#### World Water Day-2016 Celebrated

Dr. P.K. Mishra, Director chaired the technical session organized on the occasion of "World Water Day" on the specific theme "Water and Jobs" at Institution of Engineers (India), Uttarakhand State Centre, Dehradun on March 22, 2016. Four speakers from





different state level departments presented their experiences and views on 'Water and Jobs'. Dr. P.K. Mishra opined that water is one of the key factors which is directly or indirectly associated with the job creating sectors – manufacturing, marketing and services. No doubt, agriculture sector is major water consumer where there is maximum opportunity to create jobs by modernizing irrigation infrastructure and creating new water harvesting structures and water conveyance systems.

### IISWC Celebrated World Fisheries Day

The World Fisheries Day-2015 celebration was organized by ICAR-IISWC, Dehradun on November 21, 2015 at its Research Farm, Selakui. The Chief Guest, Dr. Rajendra Dobhal, Director General, Uttarakhand State Council for Science and



Technology (UCOST), Dehradun expressed the need to promote fisheries sector drawing the reference of reducing fish availability, widening fish demand-supply gap, and growing problems of fishermen. Sharing his experiences on fish resources, various research projects, he offered financial support to the interested scientists, farmers and entrepreneurs to carry out innovative research and begin trout farming in the State. About 250 graduate students, faculty members, scientists and technical professionals from research organisations including FRI, UCOST, Central Silk Board, IISWC and State Fisheries Department, Dehradun participated in the event and shared their wisdom and proposals. IISWC and State Fisheries Department had established stalls for display. Dr Lakhn Singh, Head, HRD&SS, IISWC welcomed the Chief Guest and the participants of the Day. The importance of the World Fisheries Day, fish foods, and the needs of fish farming and conservation were highlighted. In the introductory remarks, the message of Dr. P.K. Mishra, Director was conveyed to the audience. The Day was marked with exhibition, demonstration of laboratory/wet lab facilities, fishing and technical interaction on analysis of aquatic ecosystems, fish farming inputs etc. Brief lectures and poster exhibitions on various technical issues and concepts were covered in the program. Agriculture Graduate students and faculty members from Uttaranchal Technical University (Premnagar), Uttaranchal College, and BFIT (Dehradun), Scientists, Technical officers and other staffs of the IISWC attended the program. Few innovative fish farmers of the region also attended the event. The Chief Guest handed over fish seed packets to the progressive fish farmers. At the end dignitaries and participants released fish seedling in a farm pond to mark the need of increasing fish farming and conservation of fish resources. Publications on various technologies and concepts including fish farming, integrated farming systems, fishing festivals, watershed based fisheries developments and achievements of Institute activities were displayed and distributed to the participants. The participants had lively interaction with fisheries professionals and scientists on various issues of fisheries development.

### Agricultural Education Day Celebrated

Agriculture Education Day was celebrated at ICAR-IISWC Research Centre, Vasad on October 17, 2015. Sixty students and two teachers along with school Principal participated in the programme. The programme began with ICAR song followed by



Centre's film. Dr. R.S. Kurothe shared significance of celebrating the education day. Interaction with students was done through organizing quiz and question-answer session on agriculture and allied activities. Dr. P.R. Bhatnagar, Head deliberated on current issues of Indian agriculture, career opportunities in agriculture and salient technologies on conservation of soil and water. The students took keen interest through active participation and learnt the subject of agriculture in general, and soil and water conservation in particular.

### Jai Kisan Jai Vigyan Week Celebrated

The ICAR-IISWC celebrated *Jai Kisan Jai Vigyan* week during December 23-29, 2015 at Dehradun, Bellary Chandigarh and Koraput. At Dehradun, an interface meeting among different stakeholders including scientists, field level extension



officers, soil conservation officers, forest officers representing eight states (West Bengal, Madhya Pradesh, Punjab, Uttarakhand, Nagaland, Maharashtra, Chhattisgarh and Uttar Pradesh) of the country was organised on December 23, 2015. Dr. P.K. Mishra, Director on this occasion advised that science should be such that is understood by farmers. There is need of match between farmers' needs and science developed. Er. K.P. Tripathi, former Principal Scientist and Secretary, Agri-Innovation Foundation, Lucknow focussed on need of agriculture knowledge management, treatment of messages, making technologies in simple and understandable way. He said that farmers are also scientists as they have lot of practical experience and wisdom. He shared few examples of traditional knowledge and ancient history of water management for drinking and irrigation purpose. A one-day farmers training on Soil and Water Conservation was organized on December 28, 2015 for 35 farmers. On the occasion, Dr. P.K. Mishra, said that scientists have analytical ability and farmers have traditional wisdom and application ability. He advised the farmers and scientists to come together for solving their problems and



issues through socially acceptable technological empowerment. During training course, a group of 60 students from Baba Farid Institute of Technology, Dehradun joined and learnt about the soil and water conservation concept. During



December 28 and 29, 2015, a display of soil and water conservation technologies, including integrated farming systems, fish farming, participatory water resource development, mine spoiled rehabilitation work, bio-engineering, agronomical and combination of measures was also done for the farmers and students.

At Bellary, an interaction meeting was organized for farmers at Chellagurki village. Scientists and farmers interacted on soil and water conservation, improved crop management and latest developments in agriculture. At Chandigarh, the programme was organized at villages Aganpur and Bhagwasi in Patiala district of Punjab State to create awareness among farmers and aiming to showcase and demonstrate latest technologies to enhance productivity and profitability. At Koraput, a one-day training on Importance of Soil testing and Soil Sampling for Fertilizer Recommendation was organized at village Jogiput adopted under *Mera Gaon Mera Gaurav* Programme to have interaction, understanding needs of villagers and providing scientific input/solution to existing needs with major emphasis on significance of soil testing and fertilizer application. Participants included 150 farmers, 60 children, and women self help group members. To boost morale of school children, prizes and consolation prizes were distributed to participating children. At the end, wall calendar having message about soil prepared by the centre were distributed to participating farmers.

#### Farm Innovators Day Celebrated

The Farm Innovators Day was celebrated by ICAR-IISWC at Kota, Udhagamandalam and Vasad. At Kota, the day was organized at Jakhana village in Bundi district on February 29, 2016. About 175 leading, progressive and innovative farmers, Panchayat Presidents / Members and entrepreneurs participated in the meeting. Dr. R.K. Singh, Head briefed the audience on the need of Annual Meet of Farm Innovators and Entrepreneurs in diversified agriculture. Three farmers were felicitated and awarded with Farm Innovator Award, Certificates with Citation for their pioneering work like vegetable seeds and garlic production, dairy farming and marketing of milk and its value added products and vegetable production and judiciously use of water in rainfed areas etc. The awardees shared their experiences of using these technologies in their field and the benefits realized thereafter. The farmers were motivated to take up recent innovative technologies like irrigation with mini sprinkler in field crops, fertigation with drip system in fruit and vegetable crops to enhance the productivity of soil and reduce the cost of cultivation. The farmers were informed regarding subsidy in different agricultural implements. Solution to problems of farmers related to agriculture and horticulture were discussed. At Vasad, the celebration was organized on March 19, 2016. Sixty-six farmers from villages of Districts Anand, Vadodara, Kheda and Panchmahal participated. Five innovative farmers who have done outstanding work related to crop production and innovation works were felicitated with Commendation Certificates.



At Udhagamandalam, the celebration was organized for the first time at Kadasholai village, a tribal region of the Nilgiri district on February 27, 2016. Dr O.P.S. Khola, Head presided over the function. The Chief Guest Mr. C. Badrasami, District Forest Officer, The Nilgiris appreciated ICAR-IISWC for the celebration in a remotely located tribal region. He informed the tribals that land title for the tribes are ready in the Nilgiris, for which tribal people should form the forest right groups. He felicitated the innovative tribal farmers with citation and mementos for their effective adoption of ICAR-IISWC technologies for sustainable agricultural farming. He also inaugurated the water resource facilities for the tribal communities developed by the ICAR-IISWC Research Centre, Udhagamandalam. Mr. N. Mani, Joint Director of Horticulture, the Nilgiri district, Dr. P. Subramaniam, Director, Tribal Research Centre, Udhagamandalam, Mr. M. Alwas, Secretary, Nilagiri Adivasi Welfare Association (NAWA), Kotagiri who participated as special guests, addressed the gathering and provided useful information for the tribal farmers. About 120 tribal farmers comprising Irulas, Kurumbas and Kothas community from Kurukundha, Sedikkal, Kadasholai, Pamparai, Kilkattabettu and Selarai villages, scientists from ICAR-IISWC, ICAR-Central Potato Research Station (ICAR-CPRS), Muthorai, ICAR-Indian Agricultural Research Institute, Wellington, United Planters Association of South India (UPASI)- KVK, Tea Board and other line department officials participated. Dr. P. Subramaniam released the leaflet on Natural Resource Interventions for Tribal Development by ICAR-IISWC, Udhagamandalam. Dr. N. Mani distributed farm implements to the tribal farmers provided by the ICAR-IISWC under Tribal Sub Plan and inaugurated the exhibition stalls put up by the various research institutes. A farmers-scientist interactive meeting, in which subject expert from various organisations participated, was also held.

#### Four Months Certificate Course Trained Twenty-Five Officers

ICAR-IISWC, Dehradun organized a 4 Months Certificate Course on 'Soil & Water Conservation and Watershed Management' during October 8, 2015 to February 7, 2016. Twenty-Five officer trainees from 7 states (Punjab-2, Chhattisgarh-8, Nagaland-2, Uttarakhand-3, Kerala-4, Maharashtra-5 and Uttar Pradesh-1) were trained, including 7 women officers. Dr. Pratap Narain, former Vice Chancellor, Rajasthan Agricultural University, Bikaner and Ex- Director, Central Arid Zone Research Institute, Jodhpur as Chief Guest in the Valedictory Function expressed concern about water, energy, nutritional, environmental and livelihood security. To achieve the livelihood security of increasing population, soil and water are the key factors. If availability of water is assured then other inputs can be managed for profitable crop husbandry. Proper use of soil and water can make farmers as best watershed managers and can make the farming more productive, profitable and sustainable. Convergence between different ministries and line departments may again play a greater role for sustainable development and technology application. It can be possible only through intensive





and comprehensive human resource development programmes. More focus on technical skill development in soil and water conservation can make a difference among soil conservation extension workers and farmers. Dr. P.K. Mishra, Director presiding over the function said that all the passing out officer trainees are our messengers in their working areas for promoting soil and water conservation technologies. He also assured the participants of different states that more attention will be given by the Institute to agro-ecological region based solutions considering changing climate scenario, outsourcing the experts from relevant institutions, problem based deliberations, etc. in the coming training programmes. Convergence of different national schemes like PMKSY, National Horticulture Mission and other developmental programmes are required to be strengthened to utilise and share the available natural and trained human resources.

### Foundation Day of Bellary, Kota and Ooty Centres Celebrated

ICAR-IISWC Research Centre, Bellary 62<sup>nd</sup> Foundation Day was organized on October 27, 2015 as culmination of Foundation-Week-Celebration. The function was presided over by Dr. A. Raizada, Head. Shri Ravishankar, Programme Coordinator, KVK, Hagari was the Chief Guest. Shri D. Bhoga Reddy, a progressive farmer from K. Veerapura village was the Farmer Special Guest. The Chief Guest and other speakers spoke about importance of soil testing and soil health cards and briefed about soil health card distribution programme. New schemes of the Government of India such as *Mera Gaon Mera Gaurav* and *Swachh Bharat Abhiyaan*, which are being implemented in villages, were presented and farmers' cooperation was sought for effective implementation. Importance of soil, water and vegetation for agriculture and their conservation through adoption of conservation measures and technologies developed by the Institute were highlighted. Farmers from K. Veerapura, Chellagurki and Joladarasi participated in the function. Farmers' shared their experience and contemporary challenges they are facing in agriculture. Farmers expressed their positive feeling about vision, thoughts and schemes of governments and also presented the picture of results obtained after adoption of technologies demonstrated by the Research Centre, Bellary in their farms. Farmers were advised to register their mobile number at KVK, Hagari for getting instant information about rainfall, probability of disease and pest attack, and advice for application of fertilizers and plant protection chemicals.

ICAR-IISWC Research Centre, Kota celebrated 62<sup>nd</sup> Foundation Day on October 19, 2015 at the Centre. Dr. Virendra Kumar, Ex-Head of ICAR-IISWC Research Centre, Vasad, was the Chief Guest. Dr.



Ratan Singh, renowned soil scientist was the Guest of Honour. For this auspicious occasion, a '*Rishi Vatika*' having 27 trees planted by former and working personals of the Centre according to their *Janam Nakshatra* (birth constellation) was established at Centre. Dr R.K. Singh, the Head presiding over the function narrated history

and research achievements of the Centre in inaugural address. He highlighted the valuable contribution of the Centre on soil and water conservation, watershed management and ravine research, especially for central India (Uttar Pradesh, Madhya Pradesh, Rajasthan and Gujarat). He also said that soil and water conservation technologies and watershed concept developed by the Institute have been massively adopted all over India. Further, the scientists are concentrating on managing natural resources for sustainable agricultural production which will be beneficial to the societies. The Chief Guest and Guest of Honour delivered their foundation day address.

The 61<sup>st</sup> Foundation Day of ICAR - IISWC Research Centre, Udhagamandalam was celebrated on October 20, 2015 at the Centre. Dr. O.P.S. Khola, Head presided over the celebration function. Shri C. Bathrasamy, District Forest Officer, The Nilgiris in his inaugural address as the Chief Guest acknowledged the valuable contribution of IISWC Regional Centre on soil and water conservation, watershed management and forest hydrology research for southern region. He also pointed out that the soil and water management is crucial and the impact of conservation structures / measures will reflect in other regions. He stressed upon the importance of evergreen and deciduous forest on reducing the climate change impact on national and global level. Dr. O.P.S. Khola highlighted the policy recommendation on banning of Eucalyptus tree plantation in Nilgiris as the research output of hydrological studies conducted over period of 16 years which was implemented by Government of Tamil Nadu. He also emphasized that the Nilgiris being an ecologically sensitive region has to be conserved as this region is supporting water and electricity needs of adjoining districts of Tamil Nadu, Kerala and Karnataka. Dr. Sivasamy, Head,



IARI, Regional Centre; Dr. Venkatchalam, Head, CPRS and their scientists, and; Mr. Adul Jain, Head CRL, Ooty also participated in the function. During the occasion, sports and cultural competitions were conducted for staff and their family. Prizes were distributed to all the winners of competitions by the Head. As a part of foundation day programme, cleanliness drive was organised in the afternoon, and all the staff of the Centre took active participation in cleaning the office premises and surroundings.

### Workshop-Cum-Training On SWAT Modelling Organized

ICAR-IISWC, Dehradun organized a seven-days workshop-cum-training on 'Capacity Building in SWAT Modelling for NICRA Project' during November 26 to December 2, 2015 in which 11 scientists and senior research fellows participated from different research centers of IISWC. The training was sponsored by National Innovations on Climate Resilient Agriculture (NICRA) project, ICAR. Dr. P.K. Mishra, Director as Chairman elaborated about background of NICRA project initiation and its importance in national context. He also highlighted the on going research in the Institute, especially on vulnerability analysis, climate change, smart technologies, modelling prospective in climate change scenario etc. The



participants were briefed about detail outlines of NICRA project and its work plan. The training was practical oriented and after the training, the participants will be able to do project work in their respective study area.

#### Awareness Raising Workshop – International Year of Soils

On the occasion of International Year of Soils - 2015, the Food and Agriculture Organization, New Delhi organized an 'Awareness Raising Workshop (Western Himalayan Region)' in collaboration with G.B. Pant Institute of Himalayan Environment and Development (GBPIHED) on December 2, 2015 at Kosi-Katarmal, Almora with objectives raise awareness and educate civil society about profound importance of soil for human life in terms of food security, climate change adaptation and mitigation, essential ecosystem services, poverty alleviation and sustainable development, and support effective policies and promote investment in sustainable soil management activities. Dr. P.K. Mishra, Director in his keynote address, entitled "Land degradation and restoration in the western Himalayan region", made a lucid presentation on various factors of soil degradation in the region including water and wind erosion, water logging and soil acidity in the WH region. He also dwelt upon R&D based package of practices employed by his Institute for soil and water conservation. His talk was based on scientific facts and figures and contained the latest scientific knowledge on the subject and concluded with a pledge on saving soil. The workshop was attended by 84 persons, including scientists of ICAR-Vivekanand Parvatiya Anusandhan Sansthan (Almora), ICAR-IISWC (Dehradun), Forestry Department of Kumaun University (Almora), GBPIHED (Almora), and extension workers from Central Himalayan Environment Association (Nainital) and Grassroots (Ranikhet).



#### Workshop on Pilot Studies for Climate Change Organized

A three days workshop on 'Planning Pilot Studies for Revalidation of Climate Resilient Technologies' under Task Force on Himalayan Agriculture (Lower and Middle Himalayas), National Mission for Sustaining the Himalayan Ecosystem, funded by Department of Science and Technology, Government of India, was organized by ICAR-IISWC at Chandigarh during December 8–10, 2015. The workshop participants were from ICAR-IISWC (Dehradun), ICAR-VIPKAS (Almora), ICAR-CITH Research Centre (Mukteswar), ICAR-IVRI Research Centre (Mukteswar) and ICAR-IISWC Research Centre (Chandigarh). A detailed action plan for pilot studies were discussed and finalized in the workshop. Proforma related to village profile and subject specific information were developed for collection of baseline data.



#### Water Management Training Organized With CGWB

ICAR-IISWC, Dehradun organized a one-day training on 'Water Management' on February 26, 2016 in association with Central Groundwater Board (CGWB), Uttarakhand Region, Dehradun as part of Jal Kranti Abhiyan 2015-16, Ministry of water Resources, River Development and Ganga



Rejuvenation, New Delhi to address issue of de-saturation of aquifer, deterioration of groundwater quality, water harvesting and recycling, spring rejuvenation, water quality management, integrated farming and implications of PMKSY. Dr. P.K. Mishra, Director during his inaugural address highlighted the importance of water management and cooperated actions to tackle challenges of water stress. Five lectures and a poster exhibition on various technical issues and concepts of water management were held. Groundwater scenario of Uttarakhand, rainwater harvesting, recycling and water use efficiency, spring rejuvenation and management, water quality management. sector-specific approaches and techniques, multiple uses of water and integrated farming and approaches followed and impacts of PMKSY on water management were addressed. Er. Anurag Khanna, Head of Office, CGWB, Dehradun presented on prospects of groundwater in Uttarakhand. Scientists of the Institute presented on various issues - water conservation, water harvesting and recycling, water quality, PMKSY and district water management plans and technique to study groundwater flow and spring rejuvenation. A total of 62 participants from 22 different organizations including Swajal Board, Jal Nigam, Irrigation Department, Agriculture Department, Fisheries Department, Forest Research Institute, Forest Survey of India, Doon University, Graphic Era University, Uttaranchal University, DBS college and NABARD, and People Science Institute having interest in water management participated.

#### Udpalta Village TSP Stakeholders Get Training-cum-Demonstration

ICAR-IISWC, Dehraun organized a one-day Farmers Training-cum-Demonstration for Udpalta villagers under Tribal Sub-plan (TSP) programme at Udpalta village, Kalsi Block, District Dehradun on December 13, 2015. The programme was presided by



Dr. Harsh Mehta, Acting Head, Plant Science Division. Scientists of the Institute presented and demonstrated about various topics and issues - silvi-aromatic grass system for hilly areas; benefits of trenching activities for successful establishment of forestry and fruit species; bio-fencing for protection of plantation area; establishment of vegetative barrier / brushwood check dam for erosion control in sloppy land; importance of horticulture; introduction of high yielding varieties of fruits and vegetables; promotion of pomegranate, walnut and apple as future crops; importance of traditional crops minor millets and agroforestry as an



integrated approach for higher productivity and sustainability in that area; concepts of fodder production in hilly areas; efficient lopping and pollarding practices in forestry trees; opportunity of organic farming through vermicomposting, and; preparedness for contingency planning for current climate change scenario. The programme was attended by more than 100 farmers. Some progressive farmers also presented their views during the programme.

#### EGHZ TSP Stakeholders Benefitted with Trainings and Inputs

IISWC Research Centre at Koraput provided training to TSP stakeholders of Eastern Ghats Highland Zone (EGHZ) on October 21, 2015 at Research Farm, Sunabeda on rearing Japanese Quail to promote the rearing of the bird as per the food habit of



TSP stakeholders and potential market prevailing, there by initiating entrepreneurial activity which will supplement their income. Two farmers expert in rearing of Japanese Quail trained the other participants i.e. 40 farmers, including 10 women SHG representatives of TSP adopted villages. On October 27, 2015, one day review cum interaction meeting of TSP stakeholders and SHG group members was organized and Japanese Quail and fishing net were distributed to selected beneficiaries at the Research Farm among the 40 farmers who are interested in rearing of Japanese Quail from TSP adopted villages and 14 members of a SHG group doing fishing activities in their village. A similar activity was undertaken on January 28, 2016.

#### TSP Village Kanihera Provided Inputs, Training and Animal Health Camp

On November 7, 2015, IISWC Research Centre at Kota provided certified seeds of improved varieties of wheat to 22 farmers and of mustard to 40 farmers of selected TSP Village Kanihera alongwith fertilizer input and



information of improved technologies to cultivate them. On November 21, 2015, a *kissan goshtie* was organized in the same village to discuss cultivation of *rabi* crops. In the *kissan goshtie*, all activities that will be exercised in near future under the TSP were brought to the notice of the farmers. Scientists of the Institute presented and discussed about various topics and issues - importance of water conservation and its efficient use for more crop per drop to farmers; the best management practices in limited resources and their impact on environment, soil health and crop production; improved varieties, seed treatment, integrated nutrient management and efficient irrigation techniques for sustainable crop production in *rabi* season, specially for wheat and mustard; importance of soil sampling techniques, soil test and soil health, and; application of agricultural inputs, especially manures and

fertilizers on the basis of soil test report and as per particular crop requirement rather than a blind recommendation. The farmers participated enthusiastically in the proceedings that were held during the night as per their convenience. Another *kissan goshti* was held at the Centre for these villagers on December 5, 2015 on the topic 'Soil Health Management for Sustainable Land Use'. The programme was presided by Shri Ram Ratanji Patel, a progressive farmer of Kota region. Shri Ram Ratanji shared his experiences with farmers and advised them to follow scientific package of practices for cultivation, so that higher production can be taken from limited resources with sustainability of soil health. On December 29, 2015, an animal health camp was organized in Kanihera village to provide basic medicines for the animals and technical know-how to make suitable management practices of agriculture with animal husbandry, productive utilization of existing resources and sensitizing the farmers about different aspects of animal health, milk production, enhancing animal's productivity and quality rearing of different kind of animals. Dr. V.P. Singh, Ex-Joint Director, Department of Animal Science, Kota Division, Rajasthan Government with his team provided veterinary doctor services to the animals. A multi-disciplinary team of Scientists along with the Technical Officers also interacted with the farmers. In the camp, more than 350 animals were treated on the spot and about 26 type of medicines were distributed to the farmers. The beneficiary farmers were suggested to adopt best animal rearing practices to get high and quality production from animals. Farmers were sensitized about the benefits of using improved breeds, balanced nutrition/mineral nutrition for animals and integrated farming system.

#### Technologies Exhibited at Exhibitions / *Kissan Mela* by Headquarter

The ICAR-IISWC, Dehradun exhibited its developed technologies at Science Exhibition during 10<sup>th</sup> Uttarakhand State Science and Technology Congress (USSTC-2016) organized by Uttarakhand Council of Science and Technology (UCOST), Dehradun from February 10 to 12, 2016. Dr. P.K. Mishra, Director held discussion with dignitaries of the congress and had proactive interaction with participants.



Various soil and water conservation technologies, technological potential for improving agricultural and fisheries production, and the need for faster recognition of effective technologies by the stakeholders were highlighted during the exhibition. Flyers and brochures on various technologies and concepts evolved at the Institute were distributed to the needy participants. Institute technologies were also exhibited in the *Kissan Mela* organized by Krishi Vigyan Kendra, Chinyalisod, District Uttarkashi under Vivekanand Parvathiya Kirishi Anusanthan Sansthan (ICAR-VPKAS), Almora on October 14, 2015. Over 15 institutions participated in the *Kissan Mela*.

#### Agra Centre Participated in International Year of Pulse

The ICAR-IISWC Research Centre, Agra participated in International Year of Pulse (2016) and Agriculture Exhibition & Scientist-Farmers



Gosthi organized by ICAR-IIPR, Kanpur on March 13, 2016. An IISWC exhibition stall was put up. More than 200 farmers visited at IISWC exhibition stall. While interacting with farmers and other participants, the team explained the importance of soil and water conservation, importance of agroforestry with agriculture, role of soil testing in diagnosing the conditions of available nutrients in the soil and also suggested participants to adopt innovative technologies for sustainable agriculture production. Suitable publications and technology details developed by the IISWC were distributed to the participants in agriculture exhibition.

#### Koraput Centre Participated in Fairs and Exhibitions

The ICAR-IISWC Research Centre, Koraput participated in two days Bio-Diversity Fair-cum-Exhibition-2015 organized at HAL Guest House, Sunabeda by OUAT, Bhubaneswar, Odisha during November 7-8, 2015. The purpose of this exhibition was to create awareness among masses for conservation of bio-diversity. The Centre participated by putting stalls, exhibiting/displaying natural resource degradation and its consequences, and possible/viable solution to overcome this problem. The display of exhibits by Koraput Centre was appreciated by dignitaries and participants alike. The Centre participated in the ICAR-University and State Department Interface Meet-cum-Exhibition-2016 organized jointly by ICAR-NRRI (Cuttack) and OUAT (Bhubaneswar) during January 27 to 28, 2016 at OUAT, Bhubaneswar. The Centre displayed technologies developed and various developmental activities implemented by the Institute in the allotted exhibition stall. The Centre also participated in the Regional Agriculture Fair – 2016 organized by National Horticulture Board, New Delhi and ICAR-NRRI, Cuttack during February 19 to 22, 2016 at Bargarh, Odisha. The Centre displayed technologies developed. Various technology pamphlets / leaflets / technical bulletin published by the Institute were displaced / distributed to the dignitaries and farmers. This fair provided a platform to showcase the technological innovation and developmental activities being implemented by the Institute.

#### Udhagamandalam Centre Participated in National Science Day

The ICAR-IISWC Research Centre, Udhagamandalam participated in the National Science Day celebration organized at Radio Astronomy Centre, Tata Institute of Fundamental Research, Ooty on February 28<sup>th</sup>, 2016. The Centre participated by displaying 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 dignitaries 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. Overall, 967 visitors from other scientific and research organisations, including 45 educational institutions in and around Ooty visited our exhibits and gained knowledge about soil and water conservation



technologies and environmental issues. School students showed interest in watershed, trenching and application of JGT for slope stabilization models displayed. The exhibition provided the platform to disseminate the knowledge and to attract young students towards soil and water conservation research.

#### स्वस्थ मृदा से ही संभव है खाद्य सुरक्षा

विश्व खाद्य दिवस के अवसर पर अनुसंधान केन्द्र, कोटा के केन्द्राध्यक्ष डा० आर० के० सिंह ने केन्द्रीय विद्यालय नं० 1 के छात्रों को मृदा स्वास्थ्य से अवगत कराते हुए कहा कि वर्तमान में मृदा स्वास्थ्य के साथ साथ हमारी खाद्य सुरक्षा भी खतरे में है। मृदा की महत्त्वता को देखते हुए सुयुक्त राष्ट्र संघ द्वारा वर्ष 2015 को अन्तर्राष्ट्रीय मृदा वर्ष घोषित किया गया है क्योंकि स्वस्थ मृदा से ही स्वस्थ जीवन संभव है। हमने आजादी के पश्चात् हरित क्रांति के दौरान उन्नत तकनीको, सिंचाई, रसायनो एवं कीटनाशकों के अंधाधुंध प्रयोग से खाद्य उत्पादन में तो आत्मनिर्भरता प्राप्त कर ली परन्तु मृदा स्वास्थ्य के साथ-साथ उत्पादन में गिरावट होने लगी। मृदा स्वास्थ्य की तरफ ध्यान न देने से आज देश के कई क्षेत्रों की भूमि बंजर हो रही है तथा उत्पादन स्थिर हो गया है। जिसके कारण कृषि एक लाभप्रद व्यवसाय नहीं रहा। इसके साथ ही उन्होंने मृदा परीक्षण एवम् मृदा स्वास्थ्य को बनाये रखने के लिये कृषि रसायनों का वैज्ञानिक तरीकों से उपयोग, मृदा में जैविक पदार्थों को बनाये रखने तथा संरक्षित जुताई से अवगत कराया।

#### कृषि शिक्षा दिवस का आयोजन

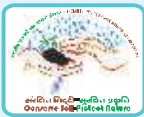
अनुसंधान केन्द्र, कोटा पर आयोजित कृषि शिक्षा दिवस में केन्द्रीय विद्यालय के विज्ञान संकाय के छात्र-छात्राओं ने भाग लिया। इस अवसर पर छात्रों को खेतीबाड़ी के क्षेत्र में उच्च शिक्षा व उपलब्ध रोजगार के सुनहरे अवसरों के बारे में अवगत कराया गया। केन्द्राध्यक्ष डा० आर० के० सिंह ने अपने सम्बोधन में कहा कि गला 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। छात्रों को बताया कि आज हमारे देश में 60 से भी अधिक कृषि विश्वविद्यालय है जो इस क्षेत्र में शिक्षा प्रदान कर रहे हैं। आजकल उच्च शिक्षा प्राप्त करना इतना महंगा होता जा रहा है जिससे एक साधारण परिवार के छात्र को उच्च शिक्षा लेना दुर्लभ होता जा रहा है। कृषि 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। हमारे राज्य (राजस्थान) में भी पांच कृषि विश्वविद्यालय कार्यरत हैं जो कृषि, कृषि-अभियांत्रिकी, खाद्य-प्रसंस्करण, पशु-चिकित्सा, बागवानी तथा कृषि-वाणिकी के क्षेत्र में उच्च शिक्षा प्रदान कर रहे हैं। हमारे देश ने स्वतन्त्रता के पश्चात कृषि के क्षेत्र में उल्लेखनीय बढ़ोतारी की है। छात्रों को कृषि मौसमशाला व केन्द्र पर चल रही विभिन्न अनुसंधान परियोजनाओं से भी अवगत कराया।



#### अनुसंधान केन्द्र कोटा पर हिन्दी चेतना मास समारोह पर काव्य गोष्ठी का आयोजन

अनुसंधान केन्द्र, कोटा पर दिनांक 14. 10.2015 को हिन्दी चेतना मास के समापन समारोह पर काव्य गोष्ठी का आयोजन किया गया। जिसमें हाडोती के प्रसिद्ध कवि श्री मुकुट मणिराज, मुरलीधर गौड़ एवं श्री कमलेश चौधरी ने अपनी स्वरचित कविताओं के माध्यम से मृदा एवं जल संरक्षण की महत्ता,





राजस्थानी संस्कृति एवं इतिहास की झलक प्रस्तुत की। कवि मुरलीधर गौड़ ने अपनी कविता पंतग के माध्यम से मानव मन को अभिव्यक्त किया और बताया कि या तो पवन तेज या कम साथ न देता ये मौसम कैसे उड़ेगी मेरी पंतग (गुड़डी) कागज घनो नरम जैसी मन को छुती हुई कविताएं सुनाकर श्रोताओं की वाहवाही लूटी। कवि मुकुट मणिराज ने रचित राधा कृष्ण के अलौकिक प्रेम पर मनहर छंद सुनाकर वातावरण कृष्णमय हो गया। कमलेश कुमार चौधरी ने हिन्दी को समर्पित सुरवाणी की ये अमसुता है सत्य सनातन की गायक खुसरो अमीर जायसी पीर मीरा के मजीरा सुखदायम सुनाकर श्रोताओं का मन मोहा। केन्द्राध्यक्ष डा. आर. के. सिंह ने अपने अध्यक्षीय सम्बोधन में हिन्दी चेतना मास के दौरान की गयी गतिविधियों की सराहना करते हुए कहा कि हिन्दी हमारी संस्कृति एवं मानवीय व्यवहार की झलक है तथा यह हमें अपनी सभ्यता को मजबूती से जोड़ने का कार्य करती है एवम् बताया कि आज सम्पूर्ण संसार आज भारत से आत्मिक रूप से जुड़ने के लिये प्रयासरत है। इसलिये हिन्दी को अपने दैनिक जीवन में अपना रहे हैं जो कि हमारे लिये गर्व की बात है। कार्यक्रम का संचालन करते हुए केन्द्र के हिन्दी अधिकारी डा. वी. एल. मीना ने हिन्दी चेतना मास के दौरान हिन्दी को बढ़ावा देने के लिये की गयी गतिविधियों से सबको अवगत कराया। साथ ही साथ दैनिक जीवन में अधिक से अधिक हिन्दी के प्रयोग पर जोर दिया। हिन्दी चेतना मास के दौरान केन्द्र पर आयोजित हिन्दी निबन्ध प्रतियोगिता में सफल रहे प्रतिभागियों को पुरस्कृत किया गया। केन्द्र के समस्त कर्मचारियों ने अधिक से अधिक हिन्दी में अपना कार्य करने के संकल्प के साथ समापन हुआ।

#### अनुसंधान केन्द्र उद्गमण्डलम पर हिन्दी चेतना मास का आयोजन

अनुसंधान केन्द्र, उद्गमण्डलम पर हिन्दी चेतनामास का आयोजन दिनांक 14-09-2015 से 13-10-2015 के दौरान किया गया। हिन्दी चेतनामास का उद्घाटन समारोह दिनांक 15-09-2015 को केन्द्राध्यक्ष डा. ओम पाल सिंह खोला की अध्यक्षता में केन्द्र के सभागार में संपन्न हुआ। हिन्दी चेतना मास के दौरान केन्द्र पर विभिन्न प्रतियोगिताओं का आयोजन किया गया — शब्द लेखन एवं वाक्य निर्माण, गीत/पढ़ने का प्रतियोगिता, वाद-विवाद प्रतियोगिता एवं हिन्दी ज्ञान प्रश्नोत्तरी। सभी प्रतियोगिताओं में केन्द्र के अधिकारियों एवं कर्मचारियों ने बढ़-चढ़ कर प्रतिभाग किया। सभी में हिन्दी सीखने के प्रति उत्साह देखा गया।



हिन्दी चेतनामास का समापन समारोह दिनांक 13-10-2015 के मुख्य अतिथि डा. अतुल जैन, प्रभारी अधिकारी, कॉस्मिक रे लैबोरेटरी, उद्गमण्डलम थे। कार्यक्रम के प्रारंभ में श्री वी. ए. पद्मानाभा, प्रभारी अधिकारी (राजभाषा) ने उपस्थित सभी अधिकारियों एवं कर्मचारियों का स्वागत संबोधन किया। डॉ. खोला ने संक्षेप में केन्द्र पर हिन्दी की गतिविधियों तथा वर्ष भर के निर्धारित लक्ष्यों के बारे में अवगत कराया। सभागार में उपस्थित अधिकारियों एवं कर्मचारियों से हिन्दी चेतना मास आयोजन एवं अन्य गतिविधियों पर विचार प्रस्तुत किये गए। तदोपरान्त मुख्य अतिथि महोदय, डा. अतुल जैन द्वारा विजयी प्रतिभागियों को प्रथम, द्वितीय एवं तृतीय पुरस्कार प्रदान किये।

केन्द्र के प्रभारी केन्द्राध्यक्ष ने इस अवसर पर अपने उद्गार प्रस्तुत करते हुए कहा कि केन्द्र पर काफी हिन्दी प्रगति हुई है। केन्द्र पर प्रत्येक त्रैमास में एक हिन्दी बैठक व एक हिन्दी कार्यशाला का आयोजन विधिवत किया जा रहा है तथा इस वर्ष में सोलह अधिकारी एवं कर्मचारी हिन्दी में प्रशिक्षण भी दिया जा रहा है। हिन्दी संबंधी सभी प्रतिवेदन समय पर प्रस्तुत हो रहे हैं। केन्द्राध्यक्ष ने इस केन्द्र के सभी सदस्यों से हिन्दी में सुधार के लिए सुझाव पूछे तथा बताया कि वर्तमान प्रयास आने वाले समय में और रंग लायेंगे तथा केन्द्र हिन्दी के निर्धारित लक्ष्यों को प्राप्त करने में राक्षम हो सकेगा। मुख्य अतिथि महोदय, डॉ. अतुल जैन ने अपने संबोधन में कहा कि सभी देशों की अपनी राजभाषाएँ हैं लेकिन भारत को अपनी राजभाषा को पहचान दिलाने के लिए संघर्ष करना पड़ रहा है। इस केन्द्र

में हिन्दी में किये जा रहे प्रयासों को उचित बताते हुए और अधिक प्रयास करने पर बल दिया तथा अधिक से अधिक हिन्दी में कार्य करने का आग्रह किया।

#### Mera Gaon Mera Gaurav Programme Successfully Executed

The flagship programme of the Prime Minister of India, "Mera Gaon Mera Gaurav" was successfully executed by scientists and staff of the ICAR-IISWC at its headquarters at Dehradun and all its eight Research Centres located in different agro-ecological regions of the country by selecting villages and remaining in touch with the selected villages to provide information to farmers on technical and other related aspects in a time frame through personal visits. During the execution of this programme, the Swachh Bharat Mission activities were also undertaken at all locations.

**Dehradun:** Interaction at Semalta village of Kalsi Block, Dehradun with farmers of Semalta, Phateu, Pata and Ichhla villages on January 19, 2016 clarified doubts and provided information to farmers for better crop, soil, weed and soil waste as well as soil



health management using latest technology, use of appropriate quantity and time of pesticides / insecticides / fertilizers, soil sampling techniques in different land use system for maintaining soil health and Crop Management Calendar. For village Paw Wala Soda during January 24-25, 2016 the Scientists prescribed improved farming practices with emphasis on IFS covering crop cultivation, dairy, goatry, poultry, and fish farming and micro-irrigation systems using the water harvesting system being managed by the village Samiti. To farmers of Kalsi-Johar village of Kalsi block, Dehradun on February 4, 2016, the Institute Scientists prescribed improved farming practices with emphasis on crop diversification, more crop per drop of water, soil and water conservation measures, soil health card, soil sampling techniques, solid waste management, conservation agriculture practices, diagnosis/control of crop pests/diseases and organic farming practices. For water scarcity during lean months, scientists visited a water stream nearby top hill and found this as a good source of

water for irrigation in the village with use of plastic pipe line. Interaction with Almas village of Tehri Garhwal district held on February 8-9, 2016, suggested irrigation improvement through drip irrigation/overhead



sprinklers, construction of water tanks for rainwater harvesting to meet growing vegetable irrigation demand, water tanks fish rearing to add to irrigation economic benefits, rearing of hens with pisciculture for adding hen faeces to water tank as fish feed and irrigation water enrichment with manure to add organic content to soil, improve livestock health by timely vaccination, calcium supplements/mineral feeds and regular livestock checkups by veterinary doctors. Benefits of zero/minimum tillage, regular checking of status of soil nutritive content, and proper waste management practices were also discussed. During February 15-16,



2016, in village Kaligad, Sahastradhara, Dehradun, available land and water resources and farmers' demands and problems were analyzed on ground and suitable sites were identified for demonstration of improved farming technologies like fish farming in ponds under poly-house, integrated fish-poultry-crop farming and drip-irrigation systems to augment water productivity. Knowledge based technologies for soil and water conservation, climate mitigation, carbon management, effective resource management, improved agriculture production, fertilizer management, organic farming, animal healthcare, stall feeding, timely vaccination, integrated farming, fish farming, advance irrigation techniques like drip irrigation, etc. were dealt with. On March 4, 2016 in villages Jasau-bhakro, Damta, Thateyo and Bamrad of Dehradun District, issues regarding terrace renovation (strengthening of terrace risers, construction of shoulder bunds on outwardly sloping terraces, intra-terrace bunding, surplus weir, shaping of terraces), rainwater harvesting (poly lined tanks, trenches, check dams), soil health and crop productivity (introduction of HYV of different crops and vegetables, introduction of resource conservation technology, integrated nutrient management, scope of organic farming, soil health card), and plantation (silvi-pastoral system, napier grass on filed bunds, cultivation of fruit plants, decrease in forest dependency for fuel & fodder) were discussed. At Langha village on March 30, 2016, the Scientists informed about the seasonal crop operations for better productivity and profit and WHS management.

**Agra:** During interaction in five villages namely Gari Udayraj, Sarangpur, Bilpura, Manikpura and Basai Gujjar on February 16, 17, 18, 19 and 25, 2016, respectively training on improved techniques of crop cultivation, modern practices of agri-



horticulture system, forestry system, soil and water conservation measures and balanced fertilization in agriculture were imparted to 25 farmers from each village. Queries related to insect-pest of crops and trees, animal health issue were thoroughly discussed. In ravine affected villages Surehara, Chhirwari, Garapur and Naya Bansh, Etmadpur block, Scientists imparted information on various aspects of soil, water, environment, and engineering measures for ravine management on February 26, February 27, February 28, and March 4, 2016, respectively. Also, Soil Health Cards were distributed to 10 farmers in each village.

**Bellary:** Farmers from Vitlapura and Hanumapura villages at Hiriyur were informed about improved crop management practices in red soils during January 28-29, 2016 in collaboration with KVK, Chitradurga. The farmers visited



the KVK, Shri Ekanthaiah's farm and Shri Siddappa's farm (Hemadala village). At the KVK, possibilities of lac farming, importance of fodder trees, onion production, onion seed production, mango cultivation,

sapota cultivation, guava cultivation and pomegranate cultivation, application of bio-fertilizers in various crops and their production were explained. Characteristics of salt affected soil, how they will behave and what management techniques to be adopted were shown on real field condition. At Shri Ekanthaiah's farm, IFS with modernized dairy set up was shown. Plant propagation, green house technology and green-net house technology utilization, large scale vermi-compost production unit was also shown to the farmers. At Shri Siddappa's farm, an integrated dairying, horticulture and agriculture system using every inch of land was shown to generate high income. For the farmers of Karekal village, Bellary on March 11, 2016 the farmers were briefed about the activities and achievements of the Centre and explained about the essence of soil testing, soil health and soil health cards. Farmers showed keen interests on various topics related to agronomic and mechanical measures of soil and water conservation, and cultivation of fruits under drip irrigation.

**Chandigarh:** In village Nolta, Panchkula (Haryana) on October 28, 2015 and village Johranpur, Solan (HP) on December 19, 2015, farmers were advised to make more efficient use of water by diversifying cropping system, were sensitized to use of vermi-compost,



benefits of improved seeds, balanced fertilizers and integrated pest management, and prevention of diseases such as malaria, dengue, swine flu, etc. Farmers mobile numbers were registered to provide them free weather based agro-advisory to plan and execute appropriate crop operations. On January 12, 2016, information about termite problem in wheat and fruit crops, citrus canker in citrus species, problem in papaya cultivation, size of pits for various fruit plants, importance of pruning in temperate fruits, and time of planning and variety of various fruits was provided to village Mandhala, Solan (HP). On January 30, 2016, in villages Janouli-Kajiyana, Panchkula, Haryana, farmers were advised to make more efficient use of water by repairing kuhl with the help of Soil Conservation Department of Haryana. For this technical help along with material to solve the major problem of irrigation water was assured. Various schemes of State Govt. of Haryana, for fertilizers, seeds, biogas plant, hand spray pump, etc. were informed. Similar activities were undertaken for farmers of villages Bunga and Sukhomajri, Panchkula, Haryana on February 18 and 29, 2016, respectively.

**Datia:** Awareness camps in adopted three villages namely, Sitapur, Murera and Maheba on October 29, 2015 and Nayagaon on November 5, 2015 were organized. Farmers were sensitized about crop residue burning management to help making environment clean, improve soil and human health. Preparation for sowing of rabi crops and their inputs availability with state line departments were also informed. Exposure visit for farmers of Nayagaon and Tewaripura was undertaken on February 6, 2016.

**Kota:** Soil of fields of 30 farmers of village Mandoli were sampled for preparation of Soil Health Cards for distribution on World Soil Day



(December 5, 2015). Farmers of Jakhana and Delunda villages, Bundi and Ardana, Chardana and Narsinhpur villages of Baran (Rajasthan) were explained about sustainable cultivation through soil and water conservation on January, 27 and 30 and February 4 and 5, 2016, respectively.



**Udhagamandalam:** Jointly with District Live Stock Farm, The Nilgiris, farmers of village Melkavkatti, The Nilgiris were informed about soil conservation, fodder production, water harvesting and livestock diseases on October 1, 2015. In



collaboration with Nilgiri Adivasi Welfare Association (NAWA) on January 18, 2016, farmers of Kadosholai village and farmers from tribal Kurukundha, Sedikal, Selarai, Pamparai and Kadasholai villages, The Nilgiris district were informed about nutrient management, soil and water conservation measures in tea, water harvesting and role of forestry in soil and water conservation, welfare activities being undertaken by NAWA for tribal farmers, and about various central and state government schemes and subsidies available with horticultural department for development of farmers of the region. At ICAR-KVK, Karamadai, Coimbatore District, on March 05, 2016, farmers of adopted villages were informed about soil and water conservation technologies for sustainable agriculture and importance of water harvesting and management in mitigation of climate change effects on water resources. Farmers from Kurukundha, Pamparai and Petticombai villages, The Nilgiris were informed about soil and water conservation measures for hilly areas on March 15, 2016.

**Vasad:** Farmers of village Rajupura, Anand (Gujarat) on November 23, 2015 various departments and organizations which can help farmers in different activities related to land and water development and management such as testing of their lands for



suitable cropping as diversification from present tobacco cultivation, menace of parthenium grass as weed, water stagnation that needs drainage system, etc. were informed. Farmers of Ryka village, Vadodara on December 11, 2015 were informed about various soil and water conservation technology developed by the Centre (with special emphasis on bamboo based technology for degraded Mahi ravines), scope of fishery, poultry, mushroom, flower cultivation, planting grass and fodder trees, cultivation of medicinal and aromatic plants. adoption of tree based farming system to mitigate adverse effect of climate change, and balanced use of chemical fertilizers, biofertilizers and vermicompost technology for improving soil

health. They were also informed about SAUs, ICAR-Institutes and other institutions responsible for providing agriculture related information in Gujarat. A similar activity was done for Navadh village, Panchmahal January 11, 2016.

#### AWARDS AND RECOGNITIONS

- Dr P.K. Mishra, Director awarded *Indian Society of Agricultural Engineers (ISAE) Fellowship* for the year 2015.
- Dr P.K. Mishra, Director nominated as *ICAR Representative on Board of Management* of SKUAST, Srinagar (Jammu & Kashmir) for 2 years.
- Dr Lakhan Singh, Head HRDSS awarded *Dr Jamuna Prasad Yadav Vishisht Krishi Vaigyanik Puruskar 2015* from Uttar Pradesh Academy of Agricultural Sciences, Lucknow.
- Dr B.N. Ghosh, Principal Scientist (Soils) awarded *Fellow of the Indian Association of Soil and Water Conservationist (IASWC)* Dehradun for the year 2015.
- Dr M. Muruganandam, Sr. Scientist (Fisheries) has been awarded *Fullbright Fellowship for 2016-2017* (18 months) by the US-India Education Foundation (USIEF), New Delhi and the Fullbright Foreign Scholarship Board (FFSB), Washington D.C.
- Dr P.P. Adhikary, Scientist (Soils) awarded *Young Scientist Award 2015* by IASWC Dehradun for the year 2015.
- Research Centre, Udhagamandalam received *First Prize and a Shield* for outstanding work in the Official Language Implementation in the district from Ooty-Coonoor Town Official Language Implementation Committee (TOLIC).
- Research Centre, Agra awarded *Second Prize* for its Exhibition on Agriculture and Village Development Programme at Din Dayal Dham, Farah Mathura.
- Dr S. Manivannan, Principal Scientist (SWCE) awarded *Distinguished Service Certificate* for the year 2015 during 50<sup>th</sup> Convention of ISAE at OUAT, Bhubaneswar.
- Mr. K Kesava Reddy, ACTO (Engineering), awarded *Gold Medal* by IASWC for the year 2015.
- Dr R.K. Dubey, Scientist (Agronomy) awarded *Gold Medal* for outstanding academic performance in Doctor of Philosophy (Agronomy) from Maharana Pratap University of Agriculture & Technology, Udaipur.
- Dr Ramanjeet Singh, Scientist (Agronomy) selected for *Australia Endeavor Post – doc Research fellowship – 2016* for pursuing six months research work at CSIRO, Floreat, Perth, Western Australia.
- Dr Sharmistha Pal, Scientist (Soils), RC Chandigarh, received *Pran Vohra Award* by Indian Science Congress Association, during 103<sup>rd</sup> Indian Science Congress at The University of Mysuru, Karnataka.
- Mr M.N. Ramesha, Scientist (Forestry) RC Bellary awarded *Netaji Subhas ICAR–International Fellowship* for pursuing his Ph.D programme at Georg–August University at Gottingen, Germany.
- Mr S. Patra, Scientist (SWCE) IISWC Dehradun awarded *Netaji Subhas ICAR–International Fellowship* for pursuing his Ph.D programme at Austria, Vienna.
- Dr A.C. Rathore, Sr. Scientist (Horticulture) nominated as *Member for Accreditation and Rating of Fruit Nurseries* in Uttarakhand State.
- Dr R.K. Dubey, Scientist (Agronomy) RC Agra received *Professor GL Jain & Ms Suman Jain Educational Trust Award* for securing First Position in Ph.D Agronomy received from RCA Alumni Association, MPUA&T, Udaipur (Rajasthan).
- Dr H.C. Hombe Gowda, Scientist (Forestry) awarded *Ph.D Degree* from University of Gottingen, Germany.





- Mr. P. Jakhar, Dr(s) M. Madhu, P.P. Adhikary, H.C. Hombe Gowda, G.B. Naik awarded *Best Research Paper Award 2015* in the category of Social Science by Indian Association of Soil and Water Conservationist, Dehradun, India.
  - Dr(s) K. Rajan, A. Natarajan, R. Muthuraju, K.S. Anil Kumar, V. Kasthuri Thilagam and D. Dinesh received *Best Paper Award* in International Symposium on Biodiversity, Agriculture, Environment and Forest.
  - Dr Lekh Chand, Dr Badrul Hasan, Dr N.K. Sharma and Dr Ummed Singh received *Best Oral Presentation Award* at National Seminar on Agriculture Resource Management for Sustainability and Eco-Restoration at ICAR–Central Institute for Arid Horticulture, Bikaner.
  - Dr(s) Raman Jeet Singh, N.K. Sharma and J.S. Deshwal received *Best Oral Paper Presentation Award* in National Workshop on Natural Resource Management for Climate Resilient Agriculture in Foothills of Lower Himalayas at Ballawal Saunkhri, Punjab.
  - Dr(s) R.K. Dubey and Dr S. Kala received *Best Poster Award* in 25<sup>th</sup> National Conference on Natural Resource Management in Arid and Semi-Arid Ecosystem for Climate Resilient Agriculture and Rural Development at Swami Keshwanand Rajasthan Agricultural University (SKRAU), Bikaner.
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- Khaswan, S.L., Dubey, R.K., Tiwari, R.C., Dubey, S.K. and Chaudhary, R.K. (2016). Total chlorophyll, growth and productivity of soybean [*Glycine Max* (L) Merrill] under different levels and sources of phosphorus and plant growth regulators in south Rajasthan, India. *Legume Research*. DOI: 10.18805/Ir.vOioF9280.
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## Bulletin/ Research Brief

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- Pande, V.C., Bagdi, G.L. and Sena, D.R. (2015). Status of Community Based Water Storage Structures in Gujarat. ICAR-IISWC, Research Centre, Vasad (Gujarat). Bulletin No. T-62/V-5: 38p.
- Singh, A.K., Sharma, K.K., Dubey, S.K. and Chandra, S. (2016). Peripheral bund : Controlling measures for ravine formation in arable land. *Technical Bulletin No. T-71/A-02: 16p*.

## WORKSHOPS AND TRAININGS ORGANIZED

- Research Centre Datia organized *Swachh Bharat Abhiyan* on October 1, 2015.
- RC Udhagamandalam conducted Exposure Visit for B.Tech students from Water Technology Centre, TNAU, Coimbatore on Oct. 7, 2016.
- HRD&SS Division organized 4 months Certificate Course on Soil & Water Conservation and Watershed Management at Dehradun from October 8, 2015 to February 7, 2016.
- RC Udhagamandalam conducted Exposure Visit for BE students from Prasad V Potluri Siddhartha Institute of Technology, Vijayawada on October 12, 2015.
- RC Udhagamandalam conducted *Hindi Chetana Mass* closing ceremony on October 13, 2015.
- HRD&SS Division organized Workshop on Agricultural Knowledge Management in collaboration with MANAGE, Hyderabad at Dehradun during October 13-15, 2015.
- RC Kota organized *Hindi Chetna Mass* on October 14, 2015.
- RC Udhagamandalam organized Training on Soil & Water Conservation Measures in Tea and Vegetable Crops for Tribal Farmers from CARE India and CTRD trust, Gudalure in Nilgiri district on October 16, 2015.
- RC Vasad organized Agriculture Education Day on Oct. 17, 2015.
- RC Kota organized 62<sup>nd</sup> Centre's Foundation Day on Oct. 19, 2015.
- RC Udhagamandalam celebrated 61<sup>st</sup> Foundation Day on October 20, 2015.
- RC Bellary organized Centre's Foundation Day on October 20, 2015.
- HRD&SS Division organized Short Training Programme on Advanced Engineering Measures for Drainage Line Treatment at Dehradun during October 26-30, 2015.
- RC Chandigarh organized Scientist–Farmers Interface Meeting under *Mera Gaon Mera Gaurav* programme at Village Nolta, District Panchkula on October 28, 2015.
- Dr N.K. Sharma organized workshop on Vulnerability Analysis of Himalayan Region under Task Force on Himalayan Agriculture (lower and middle Himalaya) under National Mission on Sustaining Himalayan Ecosystems at Dehradun during November 17-18, 2015.
- Dr M. Muruganandam organized World Fisheries Day–2015 on November 21, 2015.
- Er. U. Mandal and Ms. C. Jana organized a Training Workshop on Capacity building in SWAT Modeling for NICRA project from November 26 to December 2, 2015 at Dehradun.
- ICAR–IISWC, Dehradun and State Fisheries Department sensitized farmers and students on fisheries resources and fish farming under *Mukhya Mantri Adarsh Gram Yojna* at Kheirimanshi Village, Raipur Block, Dehradun on December 1, 2015.

- RC Vasad organized awareness camp under *Mera Gaon Mera Gaurav* on November 23, Dec. 5 and 11, 2015 and January 6, 2016.
- RC Bellary, Chandigarh, Datia, Udhagamandalam celebrated World Soil Health Day on December 5, 2015.
- RC Chandigarh organized Workshop on Planning Pilot Studies for Revalidation of Climate Resilient Technologies under National Mission for Sustaining the Himalayan Ecosystem during December 8-10, 2015.
- RC Udhagamandalam conducted Exposure Visit for Officials of Dairy development, Soil Conservation and Fisheries Department from District Soil Conservation Officer, Palakkad district, Kerala State on December 10, 2015.
- Plant Science Division organized Farmers Training–cum–Demonstration under Tribal Sub-plan (TSP) programme at Udpalta village on December 13, 2015.
- RC Chandigarh organized Training Programme and Scientist–Farmers Interface Meeting under *Mera Gaon Mera Gaurav* programme at Village Johranpur, Dist. Solan (HP) on December 19, 2015.
- HRD&SS Division organized Trainings on Soil and Water Conservation Measures for Forest Range Officers of West Bengal at Dehradun during December 14–23, 2015 and January 13–19, 2016.
- RC Udhagamandalam conducted Hindi Quarterly meeting from December 29, 2015 to March 21, 2016.
- IISWC Dehradun, RC Bellary, RC Chandigarh, RC Datia, RC Koraput and RC Kota organized *Jai Kisan Jai Vigyan Week* in December 2015.
- RC Vasad organized Farmers Training programmes for skill development for farmers of Navadh, Ravalia and Navagam village on January 11, 2016.
- RC Chandigarh organized Training Programme at village Mandhala, District Solan on January 12, 2016.
- Research Centre, Udhagamandalam organized Training on Capacity Building Programme for Farmers of *Mera Gaon Mera Gaurav* at Selarai village on January 18, 2016.
- Plant Science Division organized two Farmers' Training under *Mera Gaon Mera Gaurav* at Udpalta and Datnu village, Dehradun on January 16, 2016 and January 29, 2016.
- RC Udhagamandalam conducted Exposure Visit for foreign delegates from Afghanistan, Bangladesh, Myanmar, Malaysia, Indonesia and Fiji Islands on January 21, 2016.
- RC Datia exhibited Soil Conservation Technologies in *Kisan Mela* organized by ICAR–CAFRI, Jhansi (UP) on January 21, 2016.
- Research Centre, Udhagamandalam organized Training on Resource Conservation Technologies for farmers of *Mera Gaon Mera Gaurav* at Madithorai village on January 25, 2016.
- Dr D.V. Singh organized exposure visit of Tribal Farmers of Hattal and Sainj Villages of Dehradun to ICAR–Indian Institute of Vegetable Research, Varanasi from January 28 to February 2, 2016.
- RC Udhagamandalam organized Capacity building programme on Field Engineering Training on Forest watershed management for the Assistant Conservator of Forests from February 1–12, 2016.
- ICAR–IISWC Dehradun exhibited Soil and Water Conservation Technologies at 10<sup>th</sup> USSTC–2016 at Dehradun during February 10-12, 2016.
- Dr(s) J.M.S. Tomar and R. Kaushal organized exposure visit of Tribal Farmers of Udpalta village to Dr YS Parmar University of Horticulture and Forestry, Nauni, Solan (HP) during February 10-13, 2016.





- HRD&SS Division organized Farmers Training under *Mera Gaon Mera Gaurav* at village Kaligad and Sahastradhara, Dehradun during February 15-16, 2016.
  - RC Udhagamandalam organized Short Course on Soil and Water Conservation Technology Transfer and Withdrawal Strategy in Watershed Management for Assistant / Junior Engineers during February 16-18, 2016.
  - RC Vasad organized Farmers Training programmes for skill development during February 16-17, 2016 for farmers from Surajpura, Navagam and Navadh, Dist. Panchmahals.
  - Dr(s) Raman Jeet Singh, Lakhan Singh and Vikas Kumar conducted training-cum-exposure visit of farmers of Lakshar block of Haridwar district under DST (SARTHI) project at Dehradun during February 17-18, 2016.
  - RC Chandigarh organized Orientation Training under *Mera Gaon Mera Gaurav* in collaboration with Agriculture and Soil Conservation Departments of Haryana at village Bunga, Distt. Panchkula, Haryana on February 18, 2016.
  - RC Vasad organized Farmers Training programmes for Skill Development for farmers of Bhetasi, Vasad, Rajupura village, District Anand during February 19-20, 2016.
  - RAC meeting was organized at Dehradun from Feb. 19-20, 2016.
  - RC Agra conducted Exposure visit for B.Sc Agriculture students from Babu Ram Yadav University Karhal, Mainpuri on Feb. 20, 2016.
  - RC Udhagamandalam organized Training on Soil and Water Conservation Technologies for Dry Land Agriculture for Watershed Management for the watershed committee/user group members of Namakkal during February 23-27, 2016.
  - HRD&SS Division organized Skill Development Training on Catchment Treatment Plan at Dehradun during Feb. 25-27, 2016.
  - HRD&SS Division organized training program on Water Management at Dehradun on February 26, 2016.
  - RC Agra conducted Exposure Visit for Farmers from Vidisha, Shivpuri, Sajapur, Sashapur (MP) sponsored by *Pradhanmantri Krishi Sinchai Yojna* (PMKSY) and ATMA on February 26, March 16, 17 and 19, 2016.
  - RC Udhagamandalam celebrated Farm Innovators Day 2016 on February 27, 2016.
  - RC Vasad organized Farmers Training programmes for skill development for farmers of Mota Boriya, Nana Boriya, Nana Rampura, Mota Rampura and Antisar villages of Kheda Districts from February 29, 2016.
  - RC Kota organized Farm Innovators Day at Jakhana village in Bundi district on February 29, 2016.
  - RC Chandigarh organized Orientation Training under *Mera Gaon Mera Gaurav* in collaboration with Agriculture Department of Haryana at village Sukhomajri, Distt. Panchkula, Haryana on February 29, 2016.
  - RC Udhagamandalam organized four Training on Soil and Water Conservation Technologies for Sustainable Agriculture for the farmers of adopted villages under *Mera Gaon Mera Gaurav* scheme at ICAR–Krishi Vigyan Kendra, Karamadai, Coimbatore on March 5, 2016.
  - RC Udhagamandalam organized three Training on Soil and Water Conservation Measures for Hilly Area for the farmers of adopted villages under *Mera Gaon Mera Gaurav* scheme at Petticombai Village on March 15, 2016.
  - RC Vasad organized Farmers Training programmes for skill development for farmers of Khorwad, Bhadrans and Valvud villages of Anand District during March 15-16, 2016.
  - RC Vasad organized Farm Innovators Day on March 19, 2016.
  - HRD&SS Division organized three Capacity Building training programmes for IISWC Officials.
  - *Swachh Bharat Abhiyan* Cleanliness drive was organized at Dehradun, Kalimati, Raipur Block and Datnu, Badnu, Maletha and Udpalta villages.
  - RC Bellary conducted Exposure Visit for *B.Tech* (Ag.Engg.) students from University of Agricultural Sciences, GKVK Bangalore.
  - RC Bellary conducted Exposure visit for Engineering Diploma Engineering student from Agricultural Engineering College, Raichur.
  - RC Vasad organized four and two months in-plant training on Soil and Water Conservation for B Tech students from CHES, Godhra, Gujarat and Dr AS College of Agril. Engineering, MPKV, Rahuri.
  - Dr P.R. Ojasvi and Dr Ambrish Kumar conducted sessions in training workshops under PMKSY by Directorate of Agriculture of Uttarakhand, Madhya Pradesh, Bihar, Himachal Pradesh, Uttar Pradesh and Maharashtra.
- #### WORKSHOPS AND TRAININGS ATTENDED
- Sensitization workshop on *Mera Gaon Mera Gaurav* at Bangalore on October 3, 2015 : Dr K. Kannan.
  - Workshop on Providing Technological Support, Extension and Demonstration Services to Farmers organized at ICAR–CSSRI, Karnal on October 5, 2015 : Dr(s) Lakhan Singh and B.L. Dhyani.
  - Workshop on Review and Revision of National Forest Policy at FRI Dehradun during October 5-6, 2015: Dr(s) O.P. Chaturvedi, J.M.S. Tomar and R. Kaushal.
  - Training programme on Competence Enhancement for Technical Officers at NAARM, Hyderabad during Oct. 6-15, 2015 : Er. G.B. Naik.
  - Regional Consultation on 'Agroforestry: The Way forward' at NASC Complex, New Delhi on October 6, 2015 : Dr P.K. Mishra.
  - 21 days CAFT training programme on Tillage and nutrient dynamics for better crop production" at GBPUAT Pantnagar during October 10-30, 2015 : Dr. Raman Jeet Singh.
  - Workshop on 'To Develop a Clear Road Map for Agricultural Development for Gujarat Plains and Hills region' at DMAPR, Boriavi on October 12, 2015 : Dr P.R. Bhatnagar.
  - Advanced level training in soil testing, plant analysis and water quality assessment in the Department of Soil Science and Agricultural Chemistry, ICAR–Indian Agricultural Research Institute, New Delhi from October 13 to Nov. 2, 2015 : Dr K. Rajan.
  - Zonal workshop and seminar for farmers under NMSA organized by State Horticulture Department, Udhagamandalam on October 14, 2015 : Dr P. Sundarambal.
  - Action workshop on Adaptive Capacity for Climate Change Action: Sustain Terrestrial Ecosystems conducted at Theppakadu, The Nilgiris on by Tamil Nadu Coalition Post-2015 and Island trust on Oct. 15, 2015 : Dr(s) O.P.S. Khola, S. Manivannan and V. Kasthuri Thilagam.
  - National Workshop on Tree Born Oil Seed (TBOs)–Way Ahead at ICAR–CAFRI Jhansi during October 15-16, 2015 : Dr Manish Kumar.
  - Meeting with Hon'ble Chief Minister of Uttarakhand in the Secretariat regarding land lease of Research Farm, Selakui at Dehradun on October 16, 2015 : Dr P.K. Mishra.
  - Training-cum-Awareness on Residue burning management in adopted 3 villages of distt. Datia under *Mera Gaon Mera Gaurav* on October 29, 2015 : Dr Om Prakash.



- Workshop on Sustainable Growth in Agriculture in Agro-Climatic Zone–XI, East Coast Plains and Hills Region at ICAR–CIBA, Chennai on October 29, 2015 : Dr O.P.S. Khola and Dr S. Manivannan.
- 54<sup>th</sup> Foundation Day of Indian Grassland and Fodder Research Institute, Jhansi on November 1, 2015 : Dr Dev Narayan.
- Meeting with Director on rubber dam and water platform and Golden Jubilee Ceremony at ICAR-IIWM, Bhubaneswar on November 2, 2015 : Dr P.K. Mishra.
- All India Conference on Brighter Career through Professional Skills Enhancement at Dehradun during November 2-3, 2015 : Dr Ambrish Kumar.
- Workshop on Providing Technological Support, Extension and Demonstration Services to Farmers of Agro-climatic Zone-I at Jammu on November 4, 2015 : Dr(s) P.K. Mishra and Lakhan Singh.
- ISEE Golden Jubilee National Seminar on Strategies to drive skill based agriculture development for sustainability and rural employability at BHU during November 5-7, 2015 : Dr B. Bihari.
- International Symposium on Geosynthetics–The Road Ahead during November 5-6, 2015 at New Delhi : Dr S. Manivannan.
- Workshop on the Development of Agriculture in Western Dry Regions and Mid-term regional committee review meeting for zone VI at CAZRI, Jodhpur during November 6-7, 2015 : Dr(s) R.K. Singh and Ashok Kumar.
- RC Koraput participated in Biodiversity Fair-cum-Exhibition 2015 organized by OUAT, Bhubaneswar, Odisha during Nov. 7-8, 2015.
- 22<sup>nd</sup> Kirti Chakra P. Srinivas Memorial Lecture delivered by Sh. G.C. Pati, IAS, Chief Secretary of Odisha Govt. at IGNFA, Dehradun on November 16, 2015: Dr P.K. Mishra.
- Meeting on District Irrigation Plan under PMKSY at New Delhi on November 16, 2015 : Dr Ambrish Kumar.
- Workshop on Vulnerability Analysis of Himalayan Region under Task Force on Himalayan Agriculture (Lower and Middle Himalaya) under National Mission on Sustaining Himalayan Ecosystem at Dehradun during Nov. 17-18, 2015 : Dr(s) M. Muruganandam, A.C. Rathore, U.K. Maurya, R. Kaushal and Mr. Anand Kumar.
- Monthly Zonal Workshop at JDH office on November 19, 2015 : Dr K. Kannan.
- Training course on Land Use Planning for Arresting Land Degradation, Climate Change and Ensuring Food Security at ICAR–NBSS&LUP, Nagpur during Nov. 19-26, 2015: Mr. Manish Kumar.
- XXIII International Grassland Congress, (IGC 2015) at New Delhi, India from November 20-24, 2015: Dr(s) P.K. Mishra, H. Mehta, D Mandal, Om Prakash, R Kaushal, Sharmistha Pal.
- Programme on Soil nutrition and water management in *rabi* crops at KVK, Datia (MP) on November 20, 2015 and November 26, 2015: Mr Manish Kumar.
- Brain storming session on International Year of Soils–2015: Managing Soil Health at NASC Complex, New Delhi on November 23, 2015 : Dr(s) P.K. Mishra, D. Mandal and Sharmistha Pal.
- Farmers programme on Soil nutrition and Water Management in *Rabi* crops organized by SDO (Agriculture) at KVK, Datia (MP) on November 20 and 26, 2015 : Dr S.P. Tiwari.
- Foundation function of ICAR–DMAPR, Boriavi on November 24, 2015 : Dr P.R. Bhatnagar.
- Golden Jubilee function of Green Revolution in India at B.P. Pal Auditorium, IARI, Pusa and 398<sup>th</sup> meeting of Academic Council at IARI, New Delhi during November 26-27, 2015 : Dr(s) P.K. Mishra and N.K. Sharma.
- MDP Training on Qualitative and Quantitative Research Methods at IRMA, Anand, Gujarat during Nov. 26–28, 2015 : Dr Lakhan Singh.
- International Year of Soils Awareness Workshop held at GBPIHED, Almora from November 30 to December 1, 2015 : Dr(s) P.K. Mishra and N.K. Sharma.
- Training-cum-workshop in SWAT modeling for NICRA project at ICAR–IISWC, Dehradun from Nov. 26 to Dec. 2, 2015 : Dr(s) D.C. Sahoo, P.P. Adhikary, Ch. J. Dash, Rajeev Ranjan, Er. M. Pramanik.
- Workshop on Agricultural Development Issues of Central Plateau and Hill Region at Indian Grassland and Fodder Research Institute, Jhansi on November 30, 2015: Dr(s) S.P. Tiwari, Dev Narayan and Manish Kumar.
- MDP on Leadership Development at NAARM, Hyderabad from November 30 to December 11, 2015 : Dr B. Bihari.
- *Kisan Mela* organized by the Uttarakhand State Fisheries Department under *Mukhya Mantri Adarsh Gram Yojna* at Kheirimanshi Village, Raipur Block, Dehradun on Dec. 1, 2015 : Dr M. Muruganandam.
- Awareness Raising Workshop (Western Himalaya Region)–International Year of Soils–2015 organized by FAO India at G.B. Pant Institute of Himalayan Environment and Development, Almora on Dec. 2, 2015 : Dr(s) B.N. Ghosh and Ambrish Kumar.
- Stakeholders meeting on Preparation of District Agriculture Plan, State Agriculture Plan and State Infrastructure Development Program at JDH Office Udhagamandalam on December 3, 2015 : Dr(s) O.P.S. Khola and S. Manivannan.
- Meeting on the occasion of International year of Soil/World Soil day December 5, 2015 : Dr(s) M. Madhu, Ch. J. Dash and M.K. Meena, Karma Beer and G.B. Naik.
- 80<sup>th</sup> Annual Convention of Indian Society of Soil Science at University of Agricultural Sciences, Bangalore during December 5-8, 2015 : Dr(s) K. Rajan and P. Raja.
- State level nodal agency (SLNA) meeting at Directorate of Watershed Development and Soil Conservation at Jaipur on December 7, 2016 : Dr Ashok Kumar.
- Workshop on Planning Pilot Studies for Revalidation of Climate Resilient Technologies under National Mission for Sustaining the Himalayan Ecosystem at RC Chandigarh during December 8-10, 2015 : Dr(s) N.K. Sharma, A.K. Tiwari, Ambrish Tiwari, Pawan Sharma, Swaran Lata Arya, V.K. Bhatt, Ram Prasad, P. Panwar and Sharmistha Pal.
- International symposium on Biodiversity, Agriculture, Environment and Forest at Udhagamandalam during December 11-12, 2015 : Dr(s) K. Kannan, K. Rajan, V. Kasthuri Thilagam and D. Dinesh.
- Workshop on Unified Messaging & Web hosting Solution at ICAR–IVRI, Izatnagar, Bareilly on December 22, 2015 : Ms C. Jana.
- National Workshop on Natural Resource Management for climate Resilient Agriculture in lower Himalayas at Regional Research Centre (PAU), Ballawal Saunkhri, SBS Nagar (Punjab) during 22-23 Dec. 2015 : Dr(s) N.K. Sharma, Lekh Chand and Raman Jeet Singh.
- Sensitization workshop on Effect of Climate Change in Bundelkhand Region by ICAR–CAFRI and installed a exhibition stall in the Kisan Mela on Jan. 1, 2016 : Dr S.P. Tiwari and Mr. Manish Kumar.
- RC Vasad participated in Krishi Mahotsav at Devgadhi Bariya, District Panchmahals on January 2, 2016.
- 14<sup>th</sup> Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Vadodara on January 8, 2016 : Dr P.R. Bhatnagar.
- Intl. Seminar on Indigenous Technology for Sustainable Agriculture and Better Tomorrow during Jan. 9-10, 2016: Dr D.C. Sahoo.





- Technical Advisory Committee meeting organized by Directorate of Watershed Management and Soil Conservation at Jaipur on January 9 and March 28, 2016 : Dr Shakir Ali.
- RAC meeting of Central Silk Board, Jammu on January 12, 2016 : Dr B.N. Ghosh.
- Meeting of the Committee to develop road map for PMKSY at NITI Ayog, New Delhi on January 14, 2015.
- National Symposium on Innovations in Coastal Agriculture – Current Status and Potential under Changing Environment at Bhubaneswar during January 14-18, 2016: Dr S. Manivannan.
- 50<sup>th</sup> Convention of ISAE at OUAT, Bhubaneswar on Jan. 18-20, 2016 : Dr(s) P.K. Mishra, P.R. Bhatnagar, S. Manivannan and Shakir Ali.
- ICAR TAC meeting at IASRI, New Delhi on Jan. 19, 2016 : Shri D. Kaul.
- NRM Directors Meet on and Directors Conference at NASC Complex, New Delhi on January 22, 2016 : Dr P.K. Mishra.
- ICAR–University and State Department Interface Meet-cum-Exhibition–2016 at OUAT, Bhubaneswar during January 27-28, 2016: Dr(s) M. Madhu and D.C. Sahoo.
- Brainstorming Session on Technological Options for Agricultural Water Management at IARI, N. Delhi on Jan. 28, 2016: Dr P.K. Mishra.
- Farmers training programme on Plant variety and Farmer's Rights organized by RSKVV at KVK Datia (MP) on January 28, 2016 : Dr S.P. Tiwari and Manish Kumar.
- Meeting on preparation of District Irrigation Plan meeting at OWDM, Bhubaneswar on January 28, 2016 : Dr M. Madhu.
- Brain storming seminar on Technological Options for Agricultural Water Management at WTC, IARI, New Delhi on January 28, 2016 : Dr Ambrish Kumar.
- Review Meeting of the Progress made in its Land Resource Inventory and Land Use Planning flagship projects and discussion on setting the Road Map of future activities in 2016 at ICAR-NBSS&LUP, Nagpur during January 29-30, 2016: Dr P.K. Mishra.
- Training Workshop on PMKSY at Bhopal on January 29, 2016: Dr Ambrish Kumar.
- RC Vasad Participated in *Krishi Mela*–cum–Exhibition on February 1, 2016 at KVK, Vejalpur, District Panchmahals.
- Farmers training at Sorna, Vikasnagar Block, Dehradun under *Mera Gaon Mera Gaurav* initiatives during February 1-2, 2016 : Dr M. Muruganandam.
- Interface of *rabi* season organized by ATMA at KVK, Datia on February 4, 2016 : Dr Om Prakash.
- Training Workshop on PMKSY at Patna on February 6, 2016 : Dr Ambrish Kumar.
- Inception meeting of the NMSHE, TF–6 project for eastern Indian Himalayas on February 9, 2016 at ICAR–Research Complex for NEH region, Umiam, Shillong, Meghalaya: Dr Charan Singh.
- Attended D&B's India e-Governance Forum Conference at Dehradun on February 10, 2016 : Dr P.K. Mishra.
- Workshop on Competency Development for HRD Nodal Officers at NAARM, Hyderabad during Feb. 10-12, 2016 : Dr Lakhan Singh.
- Short Course training programme on Exploitation of Underutilized Horticulture Crops for Sustainable Production at Central Horticultural Experiment Station, Godhra (ICAR–CIAH, Bikaner) during February 11-20, 2016 : Dr V.D. Kakde.
- 6<sup>th</sup> International conference on Technology, Innovation and Management for Sustainable Development (TIMS 16) at ITM University, Gwalior during February 11-13, 2016 : Dr(s) B.L. Mina, H.R. Meena, G.L. Meena and I. Rashmi.
- Valedictory Function of the Congress towards the Promotion of Science and Technology, Science Popularization and Dissemination of Scientific Knowledge in the State of Uttarakhand at UCOST, Dehradun during February 10-12, 2016 : Dr P.K. Mishra.
- Training workshop on PMKSY at Shimla during February 15-16, 2016: Dr Ambrish Kumar.
- Review and Guidance meeting on Preparation of District Irrigation Plan, District Watershed Mission, Kalahandi on February 16, 2016 : Dr(s) M. Madhu and P.P. Adhikary.
- Review and Guidance meeting on Preparation of District Irrigation Plan at District watershed Mission, Malkangiri on February 16, 2016: Dr(s) D.C. Sahoo and H. Gowda.
- Review and Guidance meeting on Preparation of District Irrigation Plan at District watershed Mission, Nabarangpur on February 17, 2016: Dr(s) M. Madhu and P.P. Adhikary.
- 25<sup>th</sup> National conference on Natural Resource Management in Arid And Semi Arid Ecosystem for Climate Resilient Agriculture and Rural Development at SKRAU Bikaner during February 17-19, 2016 : Dr(s) R.K. Dubey, S. Kala, G.L. Meena and I. Rashmi.
- IIRS User Interaction Meet (IUM) at IIRS, ISRO, Dehradun on February 18, 2016 : Dr(s) Lakhan Singh and Rajesh Bishnoi.
- Natural Resource Management-Ecological Perspective organized by Indian Ecological Society at SKAUST Jammu during February 18-20, 2016: Dr(s) V.K. Bhatt and S. Pal.
- Inter-State Agri-Horti Fair and Farmers Seminar at Bargarh, Odisha during Feb. 19-22, 2016 : Dr M. Madhu, Er. G.B. Naik, Shri G.W. Barla.
- 12<sup>th</sup> AGRESO Meeting of Agril. Engg. Sub – Committee at NAU, Navsari on February 23, 2016: Dr PR Bhatnagar.
- Refresher Course on Agricultural Research Management at NAARM, Hyderabad from February 23 to March 5, 2016 : Dr(s) P. Panwar and R. Kaushal.
- National Conference (Agricon–2016) on Balanced Fertilization – A Key to Food Security and Environmental Sustainability jointly organized by Amity University) and KRIBCO during February 24-25, 2016 : Dr B.N. Ghosh.
- Training on Water Management at Dehradun on February 26, 2016 : Dr U.K. Maurya.
- Regional RAC meeting of RSRS, Koraput on February 27, 2016 : Dr(s) M. Madhu and P.P. Adhikary.
- Training programme on Application of Isotopes in Hydrology & Water Resources at National Institute of Hydrology, Roorkee from February 29 to March 4, 2016: Dr U.K. Maurya.
- 4<sup>th</sup> Uttar Pradesh Agricultural Science Congress–2016 at CSAUAT, Kanpur during March 2-4, 2016: Dr Lakhan Singh.
- National Seminar on Sustainable Family farming for food, Nutritional and Livelihood Security at Visva Bharati University, West Bengal during March 5-6, 2016: Dr B. Bihari.
- Global Ravine Conference on Managing Ravines for Food and Livelihood Security (GRC 2016) at Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior during March 7-10, 2016: Dr(s) P.K. Mishra, Lakhan Singh, R.K. Singh, S.K. Dubey, P.R. Bhatnagar, H. Mehta, A.K. Prandiyal, V.C. Pande, B.N. Ghosh, Ashok Kumar, J.M.S. Tomar, D. Mandal, B.K. Rao, B.L. Mina, M. Muruganandam, R. Kaushal, G.L. Meena, H.R. Meena, Anand Gupta, R.B. Meena, S. Kala, Rajkumar, D. Dinesh, I. Rashmi and V.D. Kakde.
- Consultation Workshop of States of the Himalayan Region under NMSHE at New Delhi during March 10-11, 2016 : Dr N.K. Sharma.
- National Seminar on Agriculture Resource Management for



Sustainability and Eco-Restoration at ICAR–Central Institute for Arid Horticulture, Bikaner during March 11–13, 2016: Dr Lekh Chand.

- RC Agra attended *Kisan Mela* at IIPR Kanpur on March 13, 2016.
- ICAR Sectoral Committee of National Agricultural Education Accreditation Board (NAEAB) on Curriculum and Equivalence at NAS Complex during March 17–19, 2016 : Dr P.K. Mishra.
- 9<sup>th</sup> International Geographical Union (IGU) Conference on Land Use Change, Climate Extremes and Disaster Risk Reduction at New Delhi during March 18–19, 2016 : Ms C. Jana.
- Krishi Unnati Mela at ICAR-IARI, New Delhi during March 19–21, 2016 : Shri Rajesh Bishnoi, Shri Suresh Kumar and Shri K.R. Joshi.
- Meeting on Vaho Vishwamitri Abhiyan at CSC, Vadodara on March 22, 2016: Dr P.R. Bhatnagar.
- World Water Day 2016 at the Institution of Engineers (India), Uttarakhand State Centre, Dehradun on March 22, 2016: Dr PK Mishra.
- Workshop on Jal Kranti Abhiyan for Uttarakhand organized by Central Water Commission, Hydrological Observation Circle, Vasant Vihar, Dehradun on March 29, 2016 : Dr P.K. Mishra.

#### Radio/TV Talks

- Dr S. Manivannan delivered a talk on Grass Structures for Structure of Soil Erosion at Nilgiris in Podigai TV Channel on October 1, 2015.
- Dr K. Kannan delivered a talk on Biological Bench terraces in Podigai TV Channel on October 2, 2015.
- Dr K. Kannan delivered a talk on Green Manures for Hilly Regions in Podigai TV Channel on October 2, 2015.
- Dr K. Kannan delivered a talk on Economic Utilization and Protection of Bench Terrace Riser Protection through Tea Planting on the Riser in Podigai TV Channel on October 5, 2015.
- Shri H.R. Meena delivered radio talk on *Sabjiyon Anam Bagvani Me Sam–Samyiki Krishi Karyakarm* at AIR Kota on November 2, 2015.
- Dr B.L. Mina delivered radio talk on *Mrida Swasth evam Jal Parbandhan* at AIR Kota on November 18, 2015.
- Dr Harsh Mehta delivered a radio talk on *Faslon Ko Pale Se Kaise Bachani* at AIR Nazibabad on January 26, 2016
- Dr S.P. Tiwari delivered a talk on Centre's R&D Activities and Technologies at AIR Gwalior on January 29, 2016.
- Dr Dev Narayan, Pr. Scientist delivered a talk on SWC Agronomic Measures at AIR Gwalior on January 29, 2016.
- Shri H.R. Meena delivered radio talk on *Udyaniki Phaslon Ka Keet–Rogon Se Bachav* at AIR, Kota on February 15, 2016.
- Dr R.K. Singh delivered radio talk on Use of surface water, groundwater and recycled water for crop production at AIR Kota on February 17, 2016.
- Dr Dev Narayan delivered a talk on *Grism Kalin Urd Moong Ki Unnat Kheti* at All India Radio, Gwalior on February 26, 2016.

#### Distinguished Visitors

**Agra:** Shri Darshan Singh, MP (Rajya Sabha) Etawah; Prof. C. Kole, Ex-Vice Chancellor BCKV, Dean JS&B, SHIATS Allahabad, Principal Coordinator, International Climate Resilient crop Genomics Consortium (ICRCG).

**Bellary:** Er. Parasappa Kennavann, Asstt. Professor and Er. Virupash Gouda, Project Engineer, Agricultural Engineering College, Raichur.

**Chandigarh:** Dr Gurbachan Singh, Chairman, ASRB, N Delhi; Dr V.N. Sharda, Member, ASRB; Dr A.K. Vashisht, ADG, ICAR, New Delhi; Shri T.S. Puri, Consultant, WAPCOS; Dr S.K. Dhyani, Ex- Director, NECAF, Jhansi; Shri Girish Bhatt, US (Vig.), ICAR, New Delhi; Shri K.D. Sharma,

IFS, Himachal Pradesh; Dr K.S. Dadhich, Director & Principal, Dolphin PG College of Science and Agriculture, Chunni Kalan, Distt Fatehgarh Sahib (Punjab); Dr Bir Pal Singh, Director, CPRI, Shimla; Dr R.P. Yadav, Head, NBSLUP, New Delhi; Dr J.S. Samra, CEO, NRAA, New Delhi; Dr Alok Jha, ADG (IR), ICAR, New Delhi; Dr Raj Kumar, Head, CICR, Sirsa; Dr S.M. Deb, Director, ICAR–NRC, Arunachal Pradesh; Shri Chhabilendra Roul, Secretary, ICAR, New Delhi; Dr Ranjodh Singh, RAC Member; Shri J.P. Singh, Retd. DSCO; Shri U.N. Roy, Professor, NITTTR, Chandigarh.

**Datia:** Shri D.S. Ragho, Member, Commission for Agriculture Cost and Prices, Govt of India; Shri S.S. Sharma, Dy. Director Agriculture, Distt. Datia (MP); Shri B.P. Pachauri, SADO, Khaniyadhana Distt Shivpuri (MP); Shri Pramod Shrivastava, Block Technical Manager, SADO Office, Guna (MP); Dr Sandip Arya, Head, Institute of Environment and Development Studies, Bundelkhand University, Jhansi (UP); Shri L.P. Sharma, Sub Divisional Officer, Deptt. of Forest Distt. Datia (MP); Shri Amit Singh, Dy. Project Director, ATMA, Distt Guna (MP); Dr Manoj Kumar, Sr. Scientist (Biochemistry) ICAR–IGFRI, Jhansi; Shri R.C. Regar, Chief Branch Manager, SBI, Agriculture Development Branch, Datia (MP).

**Koraput:** Shri Praful Pangji, MLA, Pattangi, Koraput; Shri Omkar Das Manikpuri, Sr. Manager HRD, HAL, Sunabeda (Odisha); Shri Patil, Director, CCBF, Sunabeda; Dr S.K. Takri, CDVO, Koraput; Shri Prakash Joshi, DEO, Koraput; Er. Sunil Biswal, BEE, Certified Energy Auditor, Sunabeda; Shri Rajendra Kumar Nag, Technical Expert, Malkangiri; Shri Pradip Kumar Naik, APD, Malkangiri; Shri Ganeswar Samantaray, Asstt. Soil Conservation Officer-cum-PGA, Koraput; Shri Padmalochan Joshi, Technical Expert (Watershed), Koraput; Shri Bidhos Bivob Paul, Technical Expert (Watershed), Nabarangpu; Er. Muralidhara Mahalik, Asstt. Engineer, MI Division, Rayagada; Shri Narasinha Behera, Asstt. Agriculture Officer/Scheme Officer, Rayagada; Shri Ganesh Chandra Behera, Asstt. Director Soil Conservation, Rayagada; Shri Laxman Kumar Palatasingh, DDA-cum-PD, ATMA, Kalahandi; Shri Bhabani Shankar Kalo, PD Watershed, Koraput; Shri Gopindra Bhoi, PD Watershed, Kalahandi; Er. Jananta Patnaik, Executive Engineer (Civil), Koraput; Shri Mahesh Prasad Patnaik, Executive Engineer, IV–I, Division, Bhawanipatna; Shri Pratyush Kumar Pattnaik, CBT(M&E)–MIS, Kalahandi; Shri Lingaraz Acharya, Deputy Director Horticulture, Koraput; Shri P.K. Nayak, PD Watershed, Nabarangpur; Shri Susanta Kumar Mishra, Asstt. Engineer, WR Department, Gajapati; Shri Prafulla Chandra Tripathy, Project Director, Watershed, Gajapati; Shri Ladu Kishore Sabata, Executive Engineer DOWR, Kalahandi; Shri Prafulla Kumar Pradhan, Dy. Executive Engineer Malkangiri, Potteru Irrigation Project; Shri Mansha Ram Shukla, SE KBK Minor Irrigation Circle I & II, Koraput; Shri Sukanta Kumar Nayak, CBT(M&E), Office PD Watershed, Gajapati; Shri Sachidananda Nayak, Asstt. Engineer, UICD–I, Kalahandi; Shri Bhabani Shankar Kalo, PD Watershed, Koraput; Dr Indira Nayak, Dy. Director, Central Poultry Development Organization (Eastern Region), Bhubaneswar; Dr S.K. Takri, CDVO, Koraput; Shri Shantanu Kumar Biswal, Executive Engineer, Minor Irrigation (WR), Nabarangpur; Shri Gangadhar Maharana, Computer Expert, O/o Project Director, Watersheds, Kalahandi.

**Kota:** Dr R.C. Gupta, Chief Manager, UKO Bank, Ajmer; Dr V.P. Bhadana, Sr. Sci., IIRR, Hyderabad; Dr P.B. Patel, Assoc. Prof, Navsari, Agricultural University, Nawasari, Gujarat; Dr Ratan Singh, Ex- Pr. Sci., CSWCRTI, Dehradun; Dr Praddep Sharma, Pr. Sci. IGFRI, Jhansi; Dr Hanuman Ram, Professor, KVK, Sriganga Nagar; Dr Pankaj Sood, Principal Scientist, KVK, Mandi; Dr A. Chaturvedi, Head, LUP NBSLUP, Nagpur; Dr Y.V. Singh, Pr. Sci., IARI, New Delhi; Dr Sunil Kumar, Pr. Scientist (Horti.), IGFRI, Jhansi; Dr B.S. Meena, Professor, Agril.



Research Station, Sriganga Nagar; Dr Ajmer Singh Barar, Professor, AAU, Ludhiana; Dr Rishi Kumar, Pr. Scientist, CICR RS, Sirsa.

**Udhagamandalam:** Dr A. Raviraj, Professor, Water Technology Centre, TNAU, Coimbatore; Prasad; Shri T.S. Chikkanath, ADA Office, Yellapur; Dr Vijay Aware, CAET, Dapoli, Ratnagiri; Er. V. Kesavan, Executive Engineer, AED, Sivagangai; Dr G. Prabakaran, Assistant Professor, Government Arts College, Dharmapuri.

**Vasad:** Dr A.K. Sikka, DDG (NRM), ICAR, N Delhi; Dr N.C. Patel, Vice Chancellor, AAU, Anand.

## PERSONALIA

### Joinings/Transfers

- Dr O.P. Chaturvedi Head Plant Science Division selected as Director, CAFRI, Jhansi.
- Mr. Rajesh Bishnoi joined as Scientist (Agriculture Extension) in the HRD&SS Division at Dehradun.
- Ms Trisha Roy joined as Scientist (Soils) in the Division of SS&A, Dehradun.
- Dr D. Dinesh, Scientist (Soils) joined RC, Vasad on transfer from RC Udhagamandalam.
- Shri B.S. Naik, Scientist (SWC Engg) joined RC Bellary on transfer from RC Koraput.
- Shri Morade Amrut Sanjay, Scientist (Fruit Science) joined RC Bellary on transfer from Dehradun.
- Dr P. Raja, Sr. Scientist (Soil Science) joined RC Udhagamandalam on transfer from ICAR–CAZRI, Jodhpur.
- Dr I. Rashmi, Scientist (Soils) joined RC, Kota on transfer from ICAR–IISS, Bhopal.
- Mr Maneesh Yadav joined as SRF under NICRA project.
- Shri Rohit Kumar, STA (Vehicle Driver) RC, Koraput transferred to RC, Chandigarh.
- Shri K. Sunil, STA (Veh. Driver) RC, Udhagamandalam transferred to ICAR–Central Tuber Crops Research Institute, Thiruvanthapuram.
- Shri Shailendra Kumar Yadav, STO, RC, Datia transferred to HQ Dehradun.

### Promotions

- Dr(s) A.C. Rathore, K.K. Sharma, R.K. Dubey and R. Kaushal promoted to Senior Scientist Pay Band 4.
- Dr(s) J. Jayprakash and H.R. Meena promoted to Senior Scientist GP ₹ 8,000.
- Dr H. Biswas, Scientist (Soils) promoted to Senior Scientist.
- Dr(s) S. Patra, P.P. Adhikary, N.M. Alam, Ramesha M.N., Rajkumar, Rajeev Ranjan, Scientists promoted to Research Grade pay of ₹ 7,000.
- Shri K. Someswara Rao promoted to Senior Technical Officer.
- Shri Radhey Shyam promoted to Senior Technical Officer.
- Shri B.K. Upadhayay promoted to Senior Technical Officer.
- Shri Bhagwan Das Kushwaha promoted to Technical Officer.
- Shri Lalit Datta promoted to Senior Technical Assistant.
- Shri P. Mohan Kumar promoted to Senior Technical Assistant.
- Shri H. Saleem Basha promoted to Senior Technical Assistant.
- Shri C.S. Samele promoted to Senior Technical Assistant.
- Shri Lakhan Lal promoted to Technical Assistant.
- Shri Anil Chaturvedi promoted to Technical Assistant.
- Smt. Mamta Negi promoted to PS.
- Smt. Meenakshi Pant promoted to PA.
- Smt. M. Sivajayalakshmi promoted to Assistant.

- Shri K.K. Lawani promoted to Assistant.
- Smt. Arnapuram promoted to UDC.
- Shri R. Siva Prasad promoted to UDC.

### Retirement

**Agra:** Shri Mean Bahadur.

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

**Chandigarh:** Shri Manjit Singh, Technical Assistant; Shri Ram Samujh, Technical Assistant; Shri Ram Shankar, Skilled Supporting Staff.

**Dehradun:** Smt. Munni Devi, PS; Shri Ram Singh, SSS.

**Kota:** Mrs. Bhanwari B., SSS; Shri N.K. Meena, Chief Technical Officer; Shri Shiv Ji Singh, SSS; Shri Radhe Lal, SSS.

**Udhagamandalam:** Shri K. Nanjan, SSS.

**Vasad:** Dr R.S. Kurothe, Pr. Scientist (SWCE).

### Obituaries

Dr U.S. Pathnaik, Ex- Head, RC Koraput; Smt. Munni Devi, TSCL, RC Agra. *IISWC express heartfelt condolences to the bereaved families.*





## SUCCESS STORY

### Natural Resource Management for Livelihood Security

A project was undertaken during 2007-08 to 2013-14 by ICAR-IISWC, Dehradun with financial support by Ministry of Rural Development (GoI) under Technology Development, Extension & Training (TDET) Scheme for livelihood security in rainfed areas of North-Western Himalayas. Three hundred and twenty one farm families from four villages, namely Dungakhhet, Pasauli, Rudrapur and Godaria in Vikasnagar community development block of Dehradun district (Uttarakhand) were adopted. About 82% of farm families belong to weaker section (SC, ST and OBC). About 84% of arable land (165 ha) was rain dependent. Average annual family income was ₹ 83,650 and contribution of agriculture sector was 23% only. Productivity of arable land was very low (25.2 q/ha) owing to low or low to medium fertility status, traditional crop production technologies, and low external inputs. Scarcity of fodder, poor feeding, high proportion (78%) of non descriptive animals, and non adoption of animal health management practices were the contributing factors for low animal productivity.

Multidisciplinary team adopted a tool kit approach for identification, prioritization, implementation, monitoring and evaluation of the project involving all stakeholders. In all, 27 intervention points were finalized and implemented in participatory mode. Capacity building and sensitization of primary stakeholders through trainings, exposure visits and Kissan Gosthi about issues and problems were integral part of the project. Contribution of farmers varied between zero in off-farm activities (like drainage line treatment, afforestation in community land, total 9 in number) to 40% in on farm activities (total 8 in number). Every effort was made to resolve conflict through open discussion with party concerned. Higher level interventions were sought when the matter was not resolved at grass root level.

Adoption of arable land management practices, creation of water resources and improved crop production technologies increased gross cultivated area by 80% from 230 ha (2008) to 414 ha (2013). It attributes to the intensive use of arable land that manifested by increased cultivated land utilization index from 0.7 to 0.93 and increased cropping intensity from 184 to 252%. Cultivation of toria between maize-wheat sequence as third crop and crop diversification from long duration cereal crops to short duration vegetable crops were the key factors. Total production of food crops increased from 597.4 tonne in 2008 to 1741.2 tonne by end of the project (2013). It registered a phenomenal increase of 191% and highest increase (34.5 times) was recorded in vegetable production. The average productivity of arable land in terms of maize equivalent yield improved from 76.5 to 156 q/ha during the project period. Green fodder production increased from 859 to 1925 tonnes during same period, which witnessed 73% fodder deficit villages were converted into surplus villages. Improvement in livestock composition (from 0.8 to 2.7) during project period changed open grazing system into stall feeding. Consequently total daily milk production increased from 633 to 1542 lit registering 144% rise. Total manure availability also showed an increase of 131% owing to stall

feeding and connecting the compost pits to slurry inlet of gobar gas plants.

Plantation of 7192 horticultural plants of 13 species, with 64% overall survival rate, increased the marketed surplus. Integrated fish farming (pond as well as rice-fish) were demonstrated. At present 12 farmers are continuing integrated pond pisci-culture with an impounding area of 844 sqm and producing about 355 kg fishes of each 1-2 kg size.

A significant increase in all the items of human consumption during the project improved food situation in adopted villages. Adopted villages were importing majority of their daily consumption food items except milk and spices which were in surplus before the project. At the end of the project (2014) these villages had surplus quantity of all the food items except pulses. Sixteen essential items were considered to see the human nutritional security. Analysis revealed that there was deficiency of six nutrients, namely carbohydrate, fat, calcium, carotene, riboflavin and vitamin C before the project and it reduced to merely one i.e. carotene at the end of the project period.

Average family income of adopted farmers, with prices at 2013 was ₹ 83,650 in 2008 and increased to ₹ 2,46,284 in April 2014, which showed 191% improvement. The contribution of agriculture in total income also improved from 23% (2008) to 33% (2014). Improvement in income distribution was also observed after the project. The GCR value decreased from 0.323 (pre project) to 0.157 (at the end of the project) and generated employment opportunities for 62 agricultural workers on regular basis.

The project was economically sound with NPV to the tune of 523.24 lakh with a BCR of 2.59, 4 year PBP at 10% discount rate on the basis 30 year period of analysis and 147% IRR value. Crop sector contributes maximum to make it economically viable. Sensitivity analysis revealed that project can bear firmly any unfavorable situation of rise in cost by 10%, beneficiaries decrease by 10%, period of project impact reduced by 50%, individually or collectively.

Project was able to eliminate a good number of myths prevailing in farming community about improved land, vegetation and animal management technologies. It resulted into fast diffusion of 9 technologies as well as infusion of 4 technologies. The findings clearly indicated that livelihood security of primary stakeholders from rain dependent agriculture in North-Western Himalayan region can be achieved through adoption of SWC, improved crops, horticulture, animal husbandry management practices and group action.



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