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## From The Director's Desk



The Institute and its Research Centres are always engaged with various activities and have become a dynamic platform where farmers, students, NGOs and SAUs converge to discuss, share and augment their knowledge base.

During the period under report forty (40) research papers were published in refereed journals, out of which, eleven (11) were having NAAS ranking in excess of seven. Institute signed four MoUs, covering a comprehensive list of activities *i.e.* facilitating seed production programme in Bundelkhand region, promotion of Himalayan ecosystem, watershed management, agro-forestry *etc.*

The various conferences, training programmes and workshops conducted during this period focussed on such relevant areas as environment, agroforestry, natural farming *etc.* Experts from the institute and other organisations delivered talks on wide-ranging topics and brought fresh insights in to field of soil and water conservation, crop management and other related subjects.

Besides lecture series on AKAM, trainings and workshops were organised on capacity building. In addition, the capacity development of extension personnel and farmers through Kisan Gosthis/awareness programmes organised which received a huge response. I thank all the participating farmers' / NGOs and other stake holders for showing trust on us and took benefit from demonstrations, exhibitions and lectures.

As a premier research institute, ICAR-IISWC always shoulders responsibility to work towards overall well being of agriculture sector. I am sure with dedication and hard work of all we will achieve our goal.

Hope you enjoyed reading this edition as well and find this issue informative and interesting I also look forward to your invaluable suggestions for further betterment of the newsletter.

M. Madhu

## NEW INITIATIVES

### MoU Signed

In order to expand institutes engagement base four MoU were signed with the Institutes, SAUs and NGOs having alike mandate.

- ICAR - IISWC, RC Datia signed a Memorandum of Understanding (MoU) with Rani Laxmi Bai Central Agricultural University, Jhansi on 25<sup>th</sup> September, 2021 to facilitate seed production programme at research farm in order to ensure the availability of quality seed to the farmers in Bundelkhand Region.



- ICAR-IISWC, RC, Datia, signed a MOU with Tropical Forest Research Institute, to strengthen basic and advanced research in the field of Soil and Water Conservation, Watershed Management, Agro-Forestry and related topics on 9<sup>th</sup> December, 2021.



- ICAR-IISWC, Dehradun signed a MOU with Sparsh Himalaya, Dehradun on 10<sup>th</sup> December, 2021 to execute Inter-organisational collaborative engagements for promotion of Himalayan ecosystem, people and resources.



- ICAR-IISWC, Dehradun signed a MOU with Shri Guru Ram Rai University, Dehradun on 15<sup>th</sup> December, 2021. Under the agreement emphasis shall be laid on cooperation in the field of Research and Education.



## IMPORTANT EVENTS

- One day Training-cum-Workshop on Rainfall Intensity and Energy calculation from Rainfall Chart was organised at ICAR-IISWC, Dehradun on 17<sup>th</sup> September, 2021.
- ICAR-IISWC, RC, Udhagamandalam in association with National Jute Board, Kolkata organised Stakeholders workshop on “Application of Jute Geo-textiles for Soil and Water Conservation and Road Development” on 01<sup>st</sup> October, 2021.
- ICAR-IISWC, Dehradun organised a field training on “Soil and Water Conservation and Watershed Management” for IFS probationers during 04-11<sup>th</sup> October, 2021. Fifty Eight (58) IFS probationers attended the training programme sponsored by Indira Gandhi National Forest Academy (IGNFA).
- One month (4<sup>th</sup> October to 3<sup>rd</sup> November, 2021) in –plant training for the B.Tech and Agril. Engg students on “Soil and Water Conservation & Watershed Management” organised at ICAR-IISWC, RC, Koraput concluded on 3<sup>rd</sup> November, 2021.
- ICAR-IISWC, Dehradun and its Research centers celebrated World Food Day-2021 on 16<sup>th</sup> October, 2021. A seminar on “Critical Concerns of Food, Nutrition and Environmental Security” was organised at institute Head Quarters Dehradun. The hybrid mode seminar was well participated and deliberated by scientists/ academicians and scholars.
- ICAR-IISWC, RC, Koraput in collaboration with MSSRF, Jeypore organised a mega-event “Farmers First Connect Meet” under Azadi Ka Amrut Mahotsav on 28<sup>th</sup> October, 2021 at Nakatiguda/ Phatagada village. The programme (physical as well as virtual mode) was organised under the Biotech-Kisan Hub Project.
- ICAR-IISWC, Dehradun organised three days “Entrepreneurship Development Training” for dependents of COVID-19 migrants at village Dharkot and Thanu, Raipur Block, Dehradun under Farmers First Project during 16-18<sup>th</sup> November, 2021. The training was attended by eighteen (18) women farmers from Siriyon and Koti Mechak.
- ICAR-IISWC, Dehradun and its Research Centres celebrated “Constitution Day” on 26<sup>th</sup> November, 2021. The programme was organised to create awareness about the constitution and how each and every citizen is responsible to uphold the constitution in letter and spirit.

### *Webinar on the topic “Land Resource Inventory for Agricultural Development & Sujala-3 Experiences”*

ICAR-IISWC, RC, Ballari organised webinar entitled "Land Resource Inventory for Agricultural Development & Sujala-3 Experiences" as part of Azadi Ka Amrut Mahotsav (AKAM) on 12<sup>th</sup> November, 2021. Dr Rajendra Hegade, Head, NBSSLUP, Regional Station, Bengaluru was the main speaker of the webinar. Hon'ble speaker elaborated upon the genesis of Land Resource Inventory (LRI) based watershed and explained detailed process and methods of how LRI based

watershed planning was done by the Consortia of LRI partners in Sujala-III project. Dr Hegade further underlined the importance of LRI in formulation of agriculture development programmes and research.



**AZADI KA AMRUT MAHOTSAV**  
Celebrating 75 Years of India's Independence

**Topic: Land Resource Inventory for Agricultural Development and Sujala-3 Experiences**

12<sup>th</sup> November, 2021  
(Time: 3:00 PM)

Join us on Zoom

Scan to join

SCAN ME

Click to join:  
<https://us02.zoom.us/j/86542918826>  
Zoom Meeting ID: 865 4291 8826  
Password: 123456

Speakers: Dr. Rajendra Hegade  
Head, ICAR-NBSSLUP, Regional station, Bengaluru

Organized by:  
ICAR-Indian Institute of Soil and Water Conservation, Research Centre, Ballari, Karnataka

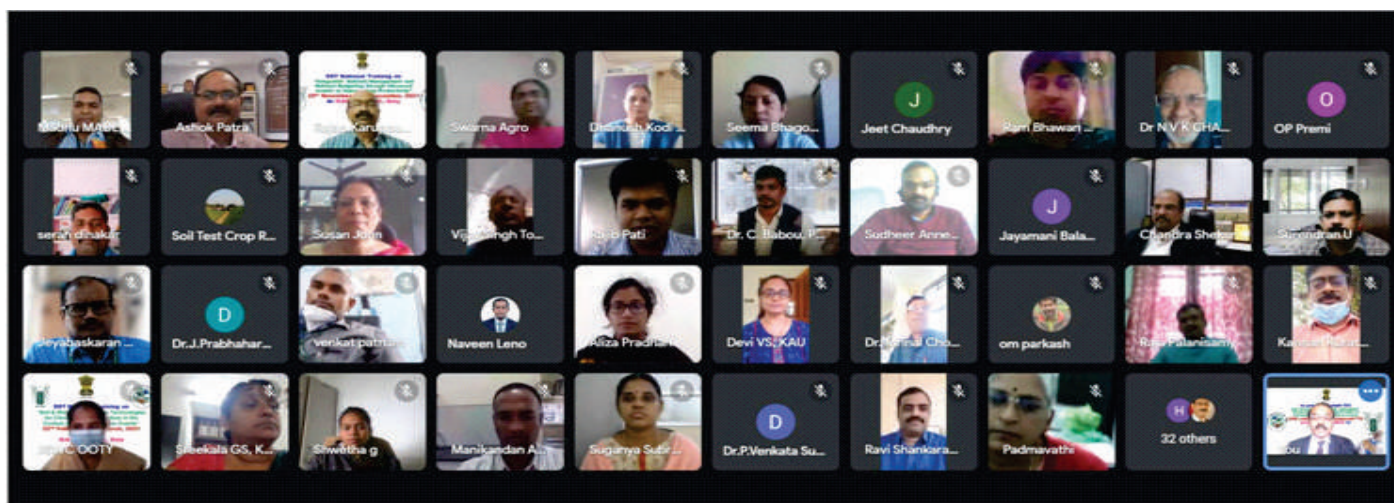


The webinar was conducted under the guidance of Dr M. Madhu, Director, ICAR-IISWC and Dr N.K. Sharma, Head & Pr. Sci. (Agronomy), chairman, Azadi Ka Amrut Mahotsav webinar events. Speaking on the occasion, Dr Madhu appreciated the concept and encouraged the researchers and the project formulators for further improvement to overcome constraints in the existing project model for better implementation and impact in watershed development in the future.

***Training on “Integrated Nutrient Management & Nutrient Budgeting through Advanced Models to improve Crop Productivity”***

ICAR-IISWC, RC, Udhagamandalam organising week long National level Online training programme on “Integrated Nutrient Management and Nutrient Budgeting through Advanced Models to improve Crop Productivity” sponsored by Department of Science and Technology (DST) during 29<sup>th</sup> November – 03<sup>rd</sup> December, 2021. The training programme was designed to acquaint the participants about the latest tools, techniques and models for effective integrated nutrient management (INM training), and Nutrient Budgeting through Advanced Models to improve Crop Productivity”. Fifty four middle and higher level Scientists / Professors holding scientific positions from 15 states of the country participated in the training programme. Dr A.K. Patra, Director, ICAR- IISS, Bhopal while inaugurating the training programme stressed the need for proper nutrient management in different production systems under changing

climate scenario. He further highlighted the need to mitigate the impacts of climate change through Greenhouse Gas (GHG) mitigation, nutrient cycling and by promoting carbon credit policy etc. Dr M. Madhu, Director, ICAR-IISWC, Dehradun in his presidential address emphasised the need for integrated nutrient management to negate the ill-effect of climate change and to achieve nutritional security. He also stressed to come out with some solid recommendations on integrated nutrient management with a view to conserve the natural resources and achieving the targets of land degradation neutrality. Dr R.S. Chaudhary, Principal Scientist, ICAR-IISS, Bhopal in his guest of honour address emphasized the need for conservation agriculture and integrated nutrient management to sustain the productivity in different cropping systems. He has also stressed the significance of soil test based fertilizer application to improve soil fertilizer efficiency and to optimize crop productivity. Dr U.P.S. Bhadauria, Director (Extension Services), RVSKVV, Gwalior also graced the occasion as Guest of Honour. Dr K. Kannan, Head of the ICAR- IISWC, Ooty centre, expressed the need for proper fertilizer policy and emphasized the role of integrated nutrient management to improve crop yield in our country. Dr P. Raja, Principal Scientist (Soil Science), the Course Director; Dr K. Rajan, Principal Scientist (Soil Science); Dr H.C. Hombegowda, Senior Scientist (Forestry), Dr Sudheer Kumar Annepu, Scientist (Vegetable Science) also expressed their view on the occasion.



### World Soil Day

The World Soil Day was celebrated at ICAR-IISWC, Head Quarters Dehradun and its research centers on 5<sup>th</sup> December, 2021. This year, the theme for World Soil Day was “**halt soil salinization, boost soil productivity**”. The celebrations aimed at raising awareness about the importance of soil for sustainable development of our society. Sh. Sahdev Singh Pundir, MLA, Sahaspur was the chief guest at the function organised at Dehradun. Hon'ble guest in his address underlined that each person at individual level needs to act to protect and conserve our soils. Dr Inderjeet Gulati, Principal of Doon Business School Groups and former Dean of RAU, Rajasthan also shared his experience on the occasion. Dr M. Madhu, Director of the institute stressed on inclusive development of soil and how soil is synonymous to our homes which need to be nurtured and cared for. The programme was attended by 80 B.Sc. agriculture students from Doon Business School and Doon PG College, 15 farmers, scientists, staff and other distinguished guests.



At ICAR- IISWC, Research Centre, Ballari the programme was organised at K. Veerapura village of Ballari District. A total of 40 farmers attended the event. Dr R. S. Yadav, Head, RC, Datia enlightened the participants about the role of compost and green manure to keep the soil healthy at a programme organised on the occasion at village Murera. ICAR-IISWC, Research Centre, Koraput in collaboration with Chief District Agriculture Office, Jeypore and KVK, Semiliguda celebrated “World Soil Day” at Skill Development Training Centre, Koraput. Sh. Iswar Chandra Panigrahi,

Chairman of Odisha State Seeds Corporation Limited and Smt. Tulasi Kirsani, Chairperson, Zilla Parishad, Koraput attended the function and gave their valuable feedback and suggestions to the participants. About 70 participants including scientists, farmers and input dealer attended the function. ICAR-IISWC, Research Center, Kota celebrated World Soil Day with the farmers from the Kaririya village of Bundi district adopted under SCSP. The program was attended by 33 peoples including 25 trainee farmers from SCSP village. Dr Ashok Kumar, Head of the centre highlighted the importance of the soil in the day to day life. At R C, Udhagamandalam, the chief guest Shri S. P. Amrith, District Collector, inaugurated the exhibition, organised on the occasion and advised the farmers to have a close link with line departments to update innovative technologies for adoption of soil and water conservation and modern agriculture. ICAR-IISWC, R.C, Vasad celebrated “World Soil Day” 2021 along with MGMG village Rajupura, Anand district. About 26 farmers and 10 young students participated in the event, welcomed the group of farmers.



### Field Engineering Training on “Forest Watershed Management”

ICAR-IISWC, RC, Udhagamandalam, organised twelve days capacity building programme “Field Engineering Training on Forest watershed management” for the Assistant Conservator Forests (ACF) trainees during 06-17<sup>th</sup> December 2021. Forty Five (45) ACF trainees from the states of



Uttar Pradesh, Maharashtra, Jammu & Kashmir, Tamil Nadu, Chhatis Garh and Mizoram participated in the training. Speaking during valedictory function Shri V Thirunavukarasu, IFS, Principal, CASFOS, Coimbatore, shared his field experience about the importance of scientific soil and water conservation structures designing in watershed development programmes and complimented the role of the IISWC Regional Centre in imparting training on scientific watershed management planning. Dr K Kannan, Head (acting), of Research Centre appealed to the trainees to utilise the knowledge gained at their workplace. Dr S Manivannan, Course Director, explained the activities undertaken during the training period and appealed that the soil and water conservation activities in forest watershed should be carried out by scientific planning of watershed concept.



### ***Webinar on the topic “Secondary Agriculture and Agriculture Supply Chain”***

ICAR-IISWC, RC, Kota, organised a webinar on the topic “Secondary Agriculture and Agriculture Supply Chain” on 7<sup>th</sup> December, 2021. Prof. D.C. Joshi, Hon'ble Vice chancellor, Agricultural University Kota was the chief guest and speaker. Dr M. Madhu, Director of the institute extended warm welcome to the chief speaker and formally introduced to the participants. Dr Joshi in his address touched upon a wide range of topics and stressed upon post harvest management and value addition. He urged the youngsters/students pursuing agriculture studies or planning to venture in agri-

business to think sincerely about the role of information technology and avenues thrown open by the hotly debated concept of “Startups”. He further underlined the fact, that in today's time of cut throat competition, we need to have in mind the ever changing preferences of modern day consumer, who is getting choosy and health conscious with every new day to be a successful agriculturist or agri-businessman. The webinar was attended by 97 participants from all over the country. Dr Pratap Singh, Director Research, Kota Agricultural University Kota; Dr Dilip Jain, Kazari, Jodhpur; Dr Veena Gupta, Delhi; Dr P. R. Ojasvi, IISWC Dehradun; Dr Ashok Kumar, RC Kota; Dr S.K. Dubey, R. C. Agra; Dr O.P.S. Kholia, RC, Chandigarh; Dr A.K.Singh, RC, Vasad; Dr Kannan, RC, Udhagamandalam; Dr B.S. Naik, RC, Ballari and Dr D.C. Sahoo , RC, Koraput were among the prominent participants.



### ***Participation in Hon'ble Prime Minister's address (virtual mode)***

The staff members of ICAR-IISWC, Dehradun at HQ as well as at Research Centres along with the farmers attended Hon'ble Prime Minister's address (virtual mode) on “Natural Farming” during valedictory function of Vibrant Gujarat Summit on 16<sup>th</sup> December, 2021 under SCSP/TSP programme. At Dehradun, the programme was organised at HQ as well as Research Farms Selaqui, about 150 students, 100 farmers and staff members attended. The Director addressed the attendees, emphasising upon the need of natural farming and discussed its

vital components. He also elaborated the roadmap for a marginal farmer to adopt natural farming, role of indigenous breeds of cattle for natural farming, 70 farmers from adopted villages under SCSP, and MGMG along with the staff members watched the live conclave in the conference hall of the RC, Agra. The farmers were highly impressed to know about the importance of natural farming and promised to try at the best to adopt ways of natural farming. At ICAR-IISWC, RC, Chandigarh, farmers from villages covering Punjab, Haryana and Himachal Pradesh attended the programme and took keen interest in various aspects of natural farming. An interaction session of farmers with the scientists of the centre was also held, with the focus on prospects and constraints of “Natural farming” in the region. Farmers highlighted the need for quality organic inputs, seeds and improved technical knowhow for making natural farming a successful venture. 29 farmers from Samroli and Sunar villages participated in the proceedings along with the staff members of ICAR-IISWC, RC, Datia.



### ***Training on “Quality Agricultural Planting Materials, Inputs and Location Specific Technologies to Minimise Yield Gaps in Crops”***

ICAR-IISWC, RC, Koraput in association with MSSRF, Jeypore organized one day farmers training at Bagraguda, Koraput on 21<sup>st</sup> December, 2021 under DBT project Biotech Kisan Hub supported by Department of Biotechnology, Govt. of India. About 100 tribal farmers from Mastiput GP of Koraput Districts participated in the event. Dr

Prasant K. Parida, Sr Scientist, MSSRF, Jeypore enlightened the farmers about different combination of millet demonstration and its economics. Dr D. C. Sahoo, Pr. Scientist and Head of the Centre, IISWC, Koraput discussed issues related to quality planting materials and soil health card scheme and how to minimize the yield gap. Dr Jotirmayee Lenka, Scientist, IISWC shared information about the importance of bio-inputs and organic amendments to enhance soil fertility and crop yield and also emphasized on the use of farm waste for making valuable vermi-compost using the portable vermin-beds, and demonstrated procedure of laying out the vermin-bed.



### ***Interactive Dialogue with the Maldives Civil Servants***

Dr M. Muruganandam, Principal Scientist (Fisheries Sciences) held an interactive dialogue with twenty nine senior and mid-level civil service officers participating in Capacity Building Programme in Field Administration for the Civil Servants of the Maldives on 24<sup>th</sup> December, 2021 at the National Centre for Good Governance (NCGG), Mussoorie. Dr Muruganandam shared agro-based models, especially those that are more suitable for unique Maldivian resources, climate, and potentials. Drawing the significance of the Maldivian resource base, various fish farming technologies including the potential of advanced technologies, biofloc fish farming, and hydroponics were emphasised upon. Highlighting the mandate and contributions of the ICAR-IISWC on resource conservation, soil-water

conservation, conservative farming, and integrated farming systems, the participants were introduced to the components and concepts of ecosystems, and environment and strategies for their management in order to protect the environment while proposing and progressing in the economic exploitation of resources towards social advancement, livelihoods, food production, and consumption. Most participants proposed to have joint ventures for the development of fisheries, fish farming including marine aquaculture and dual-purpose rural poultry farming units in strategic locations of various islands of Maldives.



## HUMAN RESOURCE DEVELOPMENT

### [A] Capacity Building: (In house employees)

- ICAR-IISWC, Dehradun organised a sensitization workshop on “ARMS and Monthly Reporting in ICAR –Institutions “on 18<sup>th</sup> October, 2021. The online programme sensitized more than 700 scientists and research managers on various aspects of Agricultural Research Management Systems (ARMS) as a unified system for collection, storage and retrieval of Agricultural Research information.
- ICAR-IISWC, RC, Ballari organised a webinar on “Land Resource Inventory for Agricultural Development & Sujala-3 Experiences” on 12<sup>th</sup> November, 2021. The webinar was organised as part of Azadi Ka Amrut Mahotsav.
- ICAR-IISWC, Dehradun and its Research Centres celebrated “Constitution Day” on 26<sup>th</sup> November, 2021. The programme was organised to create awareness about the constitution and how each and every citizen is responsible to uphold the constitution in letter and spirit.
- ICAR-IISWC, RC, Vasad, participated (online) in 11<sup>th</sup> biannual meeting of Nagar Rajbhasha Karyanavyan Summit, Anand, on 26<sup>th</sup> November, 2021.
- ICAR-IISWC, RC, Vasad, organised visit of a team of scientists from ICAR-CSSRI, Regional Station Bharuch for reclamation of salt affected land in the villages adopted under SCSP on 27<sup>th</sup> November, 2021.
- DST sponsored weeklong training programme on “Integrated Nutrient Management & Nutrient Budgeting through Advanced Models to Improve Crop Productivity” was inaugurated on 29<sup>th</sup> November, 2021 at ICAR-IISWC, RC, Udhagamandalam.
- ICAR-IISWC, RC, Kota, organised a webinar on the topic “Secondary Agriculture and Agriculture Supply Chain” on 7<sup>th</sup> December, 2021.
- ICAR-IISWC, RC, Vasad, participated in Vibrant Gujarat Summit held at Anand Agricultural University (AAU) Anand, Gujarat during 14-16<sup>th</sup> December, 2021.
- The staff members of ICAR-IISWC, Dehradun at HQ as well as at Research Centres along with the farmers attended Hon'ble Prime Minister's address (virtual mode) on “Natural Farming” during valedictory function of Vibrant Gujarat Summit on 16<sup>th</sup> December, 2021.



**[B] Capacity Development:** (Officers from SAUs /State Govt. /Farmers /Students, etc.)

- ICAR-IISWC, RC, Koraput organised Training on use of vermin-beds and distribution of soil health cards, planting material under Biotech-Kisan Hub project at Haridabhata village in Rayagada on 02<sup>nd</sup> September, 2021.
- One day training programme on “Fruit Plant Nursery Development in Poly House and its Management” was organised at village Dharamawala (Vikashnagar), Dehradun under Farmer First project on 30<sup>th</sup> September, 2021.
- ICAR-IISWC, Dehradun organised a field training on “Soil and Water Conservation and Watershed Management” for IFS probationers during 04-11<sup>th</sup> October, 2021. Fifty Eight (58) IFS probationers attended the training programme sponsored by Indira Gandhi National Forest Academy (IGNFA).
- One month (4<sup>th</sup> October to 3<sup>rd</sup> November, 2021) in-plant training for the B.Tech and Agril. Engg students on “Soil and Water Conservation & Watershed Management” organised at ICAR-IISWC, RC, Koraput concluded on 3<sup>rd</sup> November, 2021.
- ICAR-IISWC, Dehradun organised one day training programme on “Vegetable Nursery Development and its Management” under Farmer First Project at village Thano, Raipur, Dehradun on 05<sup>th</sup> October, 2021. Various aspects of vegetable nursery development and its management were covered in detail.
- ICAR-IISWC, RC, Koraput organised one day Training Programme cum Scientists Farmers interaction meeting on 25<sup>th</sup> October, 2021 under SCSP on Soil and Water Conservation interventions for climate smart agriculture at Dashmantpur block, Koraput.
- One month internship training on soil and water conservation for B. Tech students, from college of Agricultural Engineering, University of Agricultural Sciences, was inaugurated on 25<sup>th</sup> October, 2021 at ICAR-IISWC, RC, Udhamandalam.
- ICAR-IISWC, RC, Koraput organised training on “Soil Health Management and Vermi-composting using portable Vermi-bed” at MSSRF, Jeyapore under DBT-Kisan Hub Project on 09<sup>th</sup> November, 2021.
- ICAR-IISWC, Dehradun organised three days “Entrepreneurship Development Training” for dependents of COVID-19 migrants at village Dharkot and Thano, Raipur Block, Dehradun under Farmers First Project during 16-18<sup>th</sup> November, 2021. The training was attended by eighteen (18) women farmers from Siriyon and Koti Mechak.
- ICAR-IISWC, RC, Ballari, organised educational exposure visit of students from International Delhi Public School on 10<sup>th</sup> December, 2021.
- Twelve days capacity building programme on “Field Engineering Training on Forest Watershed Management” was organised for Assistant Conservator Forests (ACFs) during 06-17<sup>th</sup> December, 2021 at ICAR-IISWC, RC Udhamandalam. 45 ACF trainees from states of Uttar Pradesh, Maharashtra, Jammu & Kashmir, Tamil Nadu, Chhatis Garh and Mizoram participated in the training.
- ICAR-IISWC, RC, Vasad, organised visit of 45 undergraduate students from C.P. College of Agriculture, S.D. Agricultural University, Banaskantha on 19<sup>th</sup> December, 2021.
- ICAR-IISWC, RC, Vasad organised visit of students of B.Sc. (Hons) Agriculture from College of Agriculture, Tharad, Banaskantha on 21<sup>st</sup> December, 2021.

## FARMERS OUTREACH ACTIVITIES (TSP/SCSP)

- ICAR-IISWC, Dehradun conducted one day programme on Nutri–Garden and tree plantation to celebrate the International year of Millet-2023/tree plantation under the outreach activities at Shahpur- Kalyanpur, Vikasnagar, Dehradun on 17<sup>th</sup> September, 2021.
- ICAR-IISWC, RC, Kota organised Kishan Gosthi on the topic “Soil and Water Conservation and Management of *Rabi* Crop” at village Pali, adopted under SCSP on 28<sup>th</sup> September, 2021.
- ICAR-IISWC, RC, Vasad, under SCSP/TSP, organised a Kishan Gosthi on “Soil and Water Conservation” at adopted Watershed Bhadroli, Khurd-Karada, Distt. Panchmahal, on 15<sup>th</sup> November, 2021.
- ICAR-IISWC, Dehradun celebrated India, International Science Festival (IISF)-2021 at Village Talai, Raipur Block Dehradun on 26<sup>th</sup> November, 2021.
- ICAR-IISWC, RC, Kota, organised three days training programme under SCSP on “Sustainable and Eco-friendly Crop Production in the Ravines” during 2-4<sup>th</sup> December, 2021.
- ICAR-IISWC, RC, Kota, organised “Agriculture Education Day” on 3<sup>rd</sup> December, 2021. The day is celebrated to commemorate the birth anniversary of Dr Rajendra Prasad, the first president of independent India.
- ICAR-IISWC, RC, Vasad, organised Kisan Gosthi at Navagam Vanta village, Khambat, Anand under SCSP on 7<sup>th</sup> December, 2021.
- ICAR-IISWC, RC, Kota organised three days training on “Advanced Scientific Approach for Horticulture and Agroforestry” under SCST during 13-15<sup>th</sup> December, 2021.
- ICAR-IISWC, RC, Udhagamandalam organised a Kisan Mela and awareness programme on “Different Components of Natural Farming and their Benefits” in regional (local) language (Badaga) at Melkovhatty village, Udhagamandalam on 16<sup>th</sup> December, 2021. About 180 farmers actively participated in the programme.
- ICAR-IISWC, Dehradun conducted one day awareness programme on “Swachh Bharat Abhiyan” on 27<sup>th</sup> December, 2021 at upper and lower Govt. Primary Schools, Kaulagarh Dehradun under Swachta Pakhwara (16-31<sup>st</sup> December, 2021) and Azadi Ka Amrut Mahotasav.

### *Farmers-Scientists interactions meet on “Climate Resilient Agriculture and Organic Farming”*

ICAR-IISWC, R. C, Udhagamandalam organised Farmers-Scientists interaction meet on “Climate Resilient Agriculture and Organic Farming was organised at Madithorai village, Udhagamandalam, The Nilgiris, under MGMT programme on 29<sup>th</sup> September, 2021. Smt. S. Shibhila Mary, Dy. Director, Department of Horticulture, Udhagamandalam Tamil Nadu inaugurated the programme and delivered a talk on the need for organic farming for climate resilient agriculture. She also stressed the need to protect soil quality through the application of organic manures.



Dr. K. Kannan, Head of ICAR-IISWC, Research Centre in his presidential address emphasised the need for utilizing the government schemes and



urge the farmers to take maximum benefit out of it.

Dr P. Raja, explained the farmers about benefits of climate resilient agriculture especially to secure their livelihood. Dr P. Sundarambal, Pr. Scientist, Dr S. K. Anneppu, scientist and Dr S. M. Vanitha, scientist, also participated in the farmers-scientists interaction meet. Slips of grass varieties Hybrid Napier (CO-4 & CO-5) were distributed to interested farmers and the field demonstration was also conducted for grass cultivation.



### ***Training-cum-demonstration on use of portable vermi-bed***

ICAR-IISWC, R.C, Koraput in collaboration with MSSRF, Jeypore conducted a training cum demonstration on the use of portable vermi-bed to create wealth from the farm waste at Naktiguda village, Dist-Rayagada, Odisha. In this programme, 300 farmers from about 10 villages of Naktiguda GP, Rayagada District participated.



Dr D.C. Sahoo, Head of the Centre, sensitized the farmers about the use of farm waste for making valuable vermi-compost using the portable vermin-beds, and demonstrated procedure of laying out the vermin-bed. Dr Suresh Kumar, Scientist, elaborated

about the proper use of FYM, compost and other bio-inputs for improving soil health and thereby crop productivity. Some progressive farmers also shared their experiences in doing very-composting through portable vermi-bed after the initiation of Bio-Tech KISAN hub project in their villages.

### ***Kisan Goshti***

- ICAR-IISWC, RC, Vasad organised a Kisan Goshti at Bhadroli Khurd-Karada village, Kalol, District-Panchmahal, Gujarat under TSP watershed program on 27<sup>th</sup> October, 2021. During the programme, along with demonstration, seed of high yielding chickpea variety (GG-3) was also distributed to the participating farmers. Dr A.K. Singh, Pr. Scientist & Head, RC, Vasad delivered a presentation on water conservation for natural resource management and elaborated the importance of '5 J' (Jal, Jamin, Jungle, Jan, Janwar) and '5 F' (Food, Fodder, Fibre, Fuel, Fruit) for sustainable production. Farmers were encouraged to adopt natural farming and discard the use of chemical fertilisers.



- ICAR-IISWC, Dehradun organised a Kisan Goshti to address the issues of Rabi crops besides help improve livelihood, food and nutritional security at Kotimaychak, in Raipur Block on 10<sup>th</sup> November, 2021. Dr Bankey Bihari, Pr. Scientist, speaking on the occasion, quantified various interventions the project "Farmers, First" and the benefits accrued to the farmers of the adopted villages. He further urged the farmers to continue practicing the beneficial interventions

introduced under the project. Dr M. Muruganandam, Principal Scientist explained the importance of a balanced diet, diversification of food production, consumption, and the potential of livestock, poultry, and fish farming based interventions and technologies in meeting out the rural livelihoods and food security. Sh. Gajendra Kumar, Chief State Marketing Manager, KRIBHCO, Dehradun, Dr B.B. Mishra, Project Officer, USTDC, Dehradun Dr Matbar Singh, Sr. Scientist (Forestry) and Dr Indu Rawat, Sr. Scientist (Home Science) also interacted and sensitizing the farmers on modern and improved farming avenues and income-generating activities, they were informed about the ill-effects of unscientific-way of applying fertilizers, soil preparation, and farming practices. Precautions and necessary land and soil preparation for Rabi crops, especially wheat and healthcare measures for livestock during the winter were provided to the farmers. Ms Rekha Bahuguna, Pradhan, Kotimachak and Ms Hema Purohit, Ex-Zilla Panchayat Member appreciated the efforts made by the ICAR-IISWC in promoting awareness among the farming community of the region. Over 150 farmers, farm women, and village representatives participated in the gothi. Farmers were linked with USTDC, and KRIBHCO to benefit from seed grain production and farmers' support provisions available with the organizations. About 100 farmers received certified seeds of wheat to produce seed quality grains and benefit from the USTDC's buy-back arrangement for procurement and distribution of seeds, after formal registration for the purpose.

### *International Science Festival (IISF)-2021*

Indian International Science Festival (IISF)-2021 was celebrated on 26<sup>th</sup> November, 2021. The festival is organised annually, since 2015, in collaboration with Ministry of Science & Technology, Ministry of Earth Science and Vijnana Bharti (VIBHA). At Head Quarter Dehradun the programme was organised at village Talai, Raipur block, forty (40) farmers including farm women participated. Whereas ICAR-IISWC, RC, Koraput conducted proceedings at Lenjikunduli a Tribal village of Koraput district. The programme was attended by about eighty (80) participants including scientists and farmers. Speakers, on the occasion, emphasised the role of science in achieving food and nutritional security and highlighted the importance of coarse cereals.



The participating farmers also shared their views on science and its application in farming, and acknowledged that with modern tools and machines, agriculture productivity can be improved.





### ***Agriculture and Environment 'The Citizen Face'***

ICAR-IISWC, RC, Udhagamandalam organised “Azadi ka Amrit Mahotsav” campaign on the theme 'Agriculture and Environment: The Citizen Face' at Vivekananda Memorial Metric School, M. Palada, Udhagamandalam on 26<sup>th</sup> November, 2021. About one hundred (100) students participated in various activities planned on the occasion. Shri Ramesh, principal, Vivekananda School, welcomed the participants and elaborated upon the significance of the theme. Dr. S.M. Vanitha, Scientist, presented the orientation for the students towards agriculture sector for education and employment opportunities. Future of agriculture and its scope in entrepreneurship development was briefed by Dr Sudheer Kumar Annepu, Scientist. Mrs Vishali, Science teacher and other teachers and faculty of the school also expressed their views. In order to generate awareness a debate competition for students was conducted on the topic “Future of agriculture in field of science” and winners were felicitated.



### ***Training on “Resource Conservation Techniques for Sustainable and Environment Friendly Crop Production”***

ICAR-IISWC, RC, Kota, organised three days Training Programme on “Resource Conservation Techniques for Sustainable and Environment Friendly Crop Production” at village Pali, Distt. Bundi adopted under SCST during 16-18<sup>th</sup> December, 2021. The training programme was attended by 25 progressive farmers. Dr Ashok Kumar, Pr. Scientist & Head (A), stressed upon the diversification of agriculture and urged various

enterprises to get associated with agriculture. A wide range of topics viz, conservation agriculture/climate change/usage of organic fertilisers/ nutrients/ agroforestry etc were covered during the training. Dr Mahendra Singh, Sr. Scientist, K.V.K. Barkheda urged the farmers to adopt the practice of rearing improved breed of cattle and elaborated its benefits. Dr R.A. Jat, Pr. Scientist; Dr Kuldeep Kumar, Scientist; Dr S. Kala and Dr I. Rashmi, Scientist actively supported the training programme as resource person. Visit to the Nanta Kriskhi Farm was also arranged for the participating farmers on the occasion.



### ***Training on “Dryland Horticulture and its Management Technique”***

One day off-campus farmers training programme was organized at Mattajanahalli village by Research Centre, Ballari on 21<sup>st</sup> December, 2021. A total of 25 tribal farmers participated in the training entitled “Dryland Horticulture and its Management Technique”. The multidisciplinary Scientist's team of Centre and one horticulture scientists from KVK, Hagari imparted the training to farmers through interactive lecture sessions covering different aspects of Dryland horticulture and forestry species and plantations. Dr B S Naik, Sr. Scientist (SWCE) & Head (A) elaborated upon various soil and moisture conservation techniques in dryland crops with help of diagrammatic representations. The resource person Dr Jaya Prakash, Sr. Sci. (Horticulture) discussed important

dryland horticulture crops like Custard apple, Tamarind, Jackfruit, Ber, Sapota and their varieties, spacing, planting techniques and their management techniques in details with the farmers. Mr. Ramesha, M. N., Dr M. Prabhavathi and Dr Ravi Dupdal also discussed different aspects of Dryland horticulture and its management and apprised the participants about the on-going schemes of State and Central Govt. and subsidy available to farmers.



Division, addressing the farmers on the occasion emphasized the importance of the Farmers Day and informed the contributions made by Late. Choudhary Charan Singh. He also assured all the farmers to provide technical support for adopting soil and water conservation measures in their fields for enhancing their crop production. Dr Indu Rawat, Scientist and Nodal Officer of Swachh Bharat Abhiyaan talked about the cleanliness efforts being undertaken by the Institute. Further, village Pradhan Sh Vijay Pal insisted all the farmer participants for cooperation for smooth implementation of SCSP programme in their village. Later on Farmers-Scientists interaction was held and discussed about the future interventions to be undertaken in SCSP villages. A total of 154 people including farm women, men, and children participated in the programme.



### ***Kisan Diwas***

ICAR-IISWC, Dehradun celebrated Kisan Diwas, at village Lal Wala Khalsa adopted under SCSP on 23<sup>rd</sup> December, 2021. The day is celebrated to commemorate the birth anniversary of Ch. Chaudhary Charan Singh, the former Prime Minister of India. Dr D. V. Singh, Head of HRD & SS

## **PUBLICATIONS**

### ***Research Papers***

Bagdi, G.L., Arya, S.L., Sundarambal, P., Prakash, O., Bihari, B., Kumar, A., Singh, A.K., Meena, R.B., Patil, S.L. and Ramesha, M.N. 2021. Determinants of Technological Gap in Soil and Water Conservation Technologies Implemented in Watershed Management Programmes in India. *Indian Journal of*

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Behera, J., Jha, S. K., Maiti, S. and Garai, S. 2021. A Study on Housing Management Strategies Adopted by Livestock-rearers in Flood-prone Districts of Odisha. *Journal of Community Mobilization and Sustainable Development* : Vol. 16(1), pp 223-228, January-April, 2021; (NAAS Rating: 5.67)



- Bhutia, P. L. , Gupta, B., Yadav, R. P., Gupta, A. K., Bhutia, K. G. and Rai, P. 2021. Soil physico-chemical and biological properties as affected by vegetation systems and elevation in Western Himalayas. *Range Management & Agroforestry* 42 (1): pp 86-94. (NAAS Rating: 6.28).
- Chauhan, S.K, Dhillon, W.S., Gupta, N., Panwar, P. and Rajni. 2021. Effect of wind break using eucalyptus on cultivation of kinnow mandarin. *Indian Journal of Horticulture*, 78(3): pp 268-272.(NAAS Rating: 6.16).
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- Jana, C., Alam, N.M, Ghosh, B.N, Raja, P. and Sharma. N.K. 2021. Modelling and mapping of weekly rainfall for crop planning in the North-Western Himalayan states. *Indian Journal Agricultural Sciences*. 91 (10) pp 1546-1548. ICAR, New Delhi. ISI Thomson Reuters (NAAS Rating: 6.33).
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- Kumar, P. S., Shukla, G., Panwar, P. and Chakravarty, S. 2021. Sporadic Flowering in *Bambusa balcooa* in Sub-Himalayan Region of West Bengal. *Indian Forester*, 147(4), pp 413-414. (NAAS Rating: 5.10).
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## In High Ranking Research Journals- Congratulations, Keep it up !

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streams in mid-hills of Chakrata Himalayas, India. *Global Nest International Journal*, 23 (3): pp 468-474 (NAAS Rating: 7.042).

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### **Popular Article**

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Yadav, D. Rabi Fashlon main Jal Prabandhan”, *Khad patrika* 8: pp 27-33.

### **Conference papers/Abstract / Extended abstract and poster etc.**

Ravi, K. N., Patil, S.L., Biswas, H., Ramesha, M.N., Naik, B.S., Ojasvi, P.R., Dupdal, R., Prabhavati, M., Kumar, S. and Morade, A.S. Land Resource Cards for site-specific farm management: An Innovative Extension approach for empowering farmers adopted under Sujala-III project in ISEE National seminar (Abstract No. ISEE/2021/ABS/386)

Patil, S.L., Ramesha, M.N. and Ravi, K.N. 2021. Effect of Integrated Nutrient Management on Chickpea Productivity and Economics under rainfed Vertisols of South India. *In Fifth International Agronomy Congress: A gri Innovation to Combat Food and Nutrition Challenges*, 23-27 November, 2021, The Indian Society of Agronomy, New Delhi and PJTSAU, Hyderabad, India.

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- Jat, R.A., Reddy, K.K. and Choudhary, R.R. 2021. Tillage and Residue Management in Peanut-Based Intercropping systems in Saurashtra region of India. In: Extended Summaries: 5<sup>th</sup> International Agronomy Congress, 23-27 November, 2021, Hyderabad, India. pp 416-17.
- Manivannan, S. 2021. Geo-textiles as technological solutions in soil and water management: Issues and Strategies. In Souvenir and Technical compendium of ISAE-2021 Convention on 55<sup>th</sup> Annual Convention of Indian Society of Agricultural Engineers on Challenges and Technological solutions for ensuring food, water and energy security & International symposium on Emerging trends in Agricultural Engineering Education, Research and Extension during 23-25<sup>th</sup> November, 2021 at Patna, Bihar, pp 38 - 44.
- Raja, P., Mahesh, P., Rajan, K., Kannan, K., Archana, M. and Surendran, U. 2021. Carbon dioxide emission from the soils under various land uses in the Nilgiris of temperate ecosystem in parts of Western Ghats, Southern India. At 85<sup>th</sup> Annual Convention of Indian Society of Soil Science & National Seminar on Developments in Soil Science-2021 at Shanthiniketan, West Bengal
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- Joshi, E., Sasode, D.S., Jinger, D., Reddy, K., Gupta, V. and Lenka, S. 2021. Optimizing crop geometry and nutrition management of kharif groundnut (*Arachis hypogaea* L.) for better yield, economics and higher water productivity. In: proceedings of 5<sup>th</sup> International Agronomy Congress, 23–27 November, 2021, at Professor Jayashankar Telangana State Agricultural University, Hyderabad, India, pp 735–737.
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- Dhar, S., Babu, S., Raj R., Upadhyay, P.K., Singh, T., Yadav, S.K., Meena, R.P., Kumar, A., Yadav, D.D., Sarangi, S.K., Singh, D.N., Gupta, G. and Jinger, D .....et al. 2021. Agri-Innovations to Combat Food and Nutrition Challenges In: Extended Summaries of 5th International Agronomy Congress. The Indian Society of Agronomy, IARI, New Delhi 110012, Vol. 2 pp 526–1186.

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### Book Chapters

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## VISITORS

- Dr B.B. Mohapatra, HoD, Dept. of Extension Education, OUAT, Bhubaneswar visited IISWC, R.C, Koraput.
- Shri Sanjay Saran Joint Secretary, Ministry of Textiles, Government of India visited IISWC, RC Udhagamandalam.
- Shri Pratap, Additional Collector, Thiruvannamalai visited IISWC, RC, Udhagamandalam research farm.
- Dr S.S. Chandra Sekaran, Professor (Dept of structural Geotechnical Engineering) with 65 farmers and 10 students from School of Civil Engineering, VIT, Vellore on 16<sup>th</sup> September, 2021 visited RC Udhgamandalam
- Dr Anil R. Chinchmalpure, Head & Dr Vibhute Sagar Dattatraya, Scientist of ICAR-CSSRI, Regional Station-Bharuch together with officers of the IISWC, RC-Vasad, visited the SCSP village-Navagam Vanta, Taluka-Khambhat, District-Anand, Gujarat, for reclamation of salt affected land on 27<sup>th</sup> November, 2021. An interaction meeting was held with 35 farmers of the village.
- Dr Satyajit Rai, Director & other officers of ICAR- DMAPR, Boriyavi, visited the Research Centre on 17<sup>th</sup> November, 2021 and have interaction meeting with staff of RC, Vasad.
- Expert committee (Dr Dipesh Shah, Mr Hiren J. Shah, Asst. Professor, Mr Anand K. PATEL, Asst. Professor) from Sardar Vallabhbhai Patel Engineering College, visited IISWC, RC, Vasad for discussion regarding MOU between both the Institutes for Research and academic activities between both the organizations.

## AWARDS AND RECOGNITIONS

- Dr S. Pal, acted as Co-Organizing secretary, International Web Conference on Global Research Initiatives For Sustainable Agriculture & Allied Sciences, during 13-15<sup>th</sup> December, 2021 at Astha Foundation, Meerut, U.P., India.
- Ch. Jyotiprava Dash received best worker award (Scientist Category) by ICAR-IISWC, Dehradun
- Ch. J. Dash, PP Adhikary, M. Madhu, UK Maurya, PK Mishra and S Mukhopadhyay received Best Research Paper (Engg. And Hydrology) IASWC, Dehradun.
- Suresh Kumar received IASWC Young Scientist Award for the year 2020 IASWC, Dehradun
- Dr R. A. Jat received Dr P. S. Deshmukh Young Scientist awarded Indian Society of Agronomy.
- Dr S. KALA received Best Oral Paper award for research paper entitled "*Cassia auriculata* based high density plantation for effective rehabilitation and resource conservation in degraded lands Soil Conservation Society of India, New Delhi on 14-16<sup>th</sup> December, 2021.
- Dr I. Rashmi received Best Oral Paper award for a research paper entitled 'Effect of organic and inorganic amendments on resource conservation, soil properties and soybean productivity on tablelands of western India Soil Conservation Society of India, New Delhi on 14-16<sup>th</sup> December, 2021.

- Dr Dinesh Jinger awarded ISA-Best Ph.D. Thesis award for the year 2019 on 5<sup>th</sup> International Agronomy Congress, 23–27<sup>th</sup> November, 2021, at Professor Jayashankar Telangana State Agricultural University, Hyderabad, India.
- Raj Kumar, Dinesh Jinger, Vijay Kakade, D. Dinesh, Gaurav Singh, Sneha Dobhal awarded best paper award on International Web Conference on Smart Agriculture for Resource Conservation and Ecological Stability organized by Academy of Natural Resource Conservation and Management, Lucknow, Uttar Pradesh.
- Dr Uday Mandal, Scientist, H&E Division received “IASWC Budding Scientist” Award for the year 2020.
- Dr Trisha Roy awarded Best Oral Presentation Award for presentation titled “Waste to wealth: Utilizing different agro-industrial wastes for successful reclamation of soil acidity and sustainable soil management in foothills of North-west Himalayan region” at the 2<sup>nd</sup> International Web Conference of ANRCM on Smart Agriculture for Resource Conservation and Ecological Stability from 29<sup>th</sup> to 31<sup>st</sup> October, 2021

Dr P. Raja, Principal scientist (Soil Science) at ICAR-IISWC, RC, Udhamandalam was conferred with prestigious Dr J.S.P Yadav memorial award by the for excellence in soil science by the Indian Society of Soil Science ( ISSS), New Delhi on 16<sup>th</sup> November, 2021. This award was conferred on him to recognize his outstanding contribution in understanding the intricacies of soil development for climate resilient land use planning and land degradation neutrality (LDN) in India. He received this prestigious national award of Gold medal and Citation at the hands of Dr S.K. Chaudhari, DDG (NRM) during the inaugural ceremony of the 85<sup>th</sup> annual convention of the Indian Society of Soil Science at Shanthiniketan (West Bengal).









