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From The Director's Desk



It gives me immense happiness to put forth the accomplishments/achievements of the Institute in the form of Institute Newsletter, a noble initiative envisaged by Dr P.K. Mishra, former Director of the Institute, which got discontinued for some unforeseen and unavoidable circumstances. It was indeed a herculean task to motivate and rekindle the enthusiasm to get the things going once again. We have tried to pick up and regroup the threads from the point the sequence was broken, it may appear a bit incoherent, but I

am quite confident of imbibing the desired regularity in its publication in due course of time. This issue highlights some of the salient initiatives/activities undertaken during the period under report. In the course of annual Institute Research Committee (IRC) meeting 2021, conducted in an online platform, a total of 95 projects including 05 core projects, 04 collaborative projects, 13 externally funded projects, and 31 institutional projects were discussed. Besides, a total of 23 new projects and outcomes of the 17 concluding projects were also discussed.

Research Centre Udhagamandalam signed a MoU with Agricultural Engineering College & Research Institute, Tamil Nadu Agricultural University Coimbatore with the purpose of long-term collaboration for conducting training and research for Masters / Doctoral degree in the area of Soil and Water Conservation Engineering. Also, six consultancy projects, sponsored by Uttarakhand Forest Development Corporation (UFDC), got underway.

Under "Azadi Ka Amrit Mahotsav" an initiative of the Government of India to celebrate and commemorate 75 years of progressive India and achievements, a wide range of programmes, that include webinars, workshops, awareness meets *etc.*, were organised.

Institute organised various farmer oriented trainings/demonstrations with the objective of creating awareness. Commendable efforts were made by the staff members at Institute Head Quarters, Dehradun as well as its Research Centres under hard time of pandemic to conduct a good number of demonstrations and training-cum-agri-inputs distribution programmes (under TSP and SCSP) is appreciated. A fifteen days training on Application of remote sensing and GIS on various aspect of watershed was also organised for M.Tech students at Dehradun.

I hope the contents of this document would be informative and useful. Suggestions to bring further improvement would be appreciated. Proper utilisation of our gained knowledge and an innate desire to work hard and excel shall surely bring advancement.

M. Madhu

NEW INITIATIVES

Consultancy

Six new consultancy projects got underway during the month under report, sponsored by Regional Manager, (Kumano) Uttarakhand Forest Development Corporation (UFDC).

- Assessment of extractable River Bed Material (RBM) from river Kosi-Dabka-2.
- Assessment of extractable River Bed Material (RBM) from river Kosi.
- Assessment of extractable River Bed Material (RBM) from river Dabka Ramnagar, Uttarakhand .
- Assessment of extractable River Bed Material (RBM) from river Gaula Haldwani, Uttarakhand .
- Assessment of extractable River Bed Material (RBM) from river Nandhore & Kailash Haldwani, Uttarakhand.

- Assessment of extractable River Bed Material (RBM) from river Sharda Tanakpur, Uttarakhand .
- Six new consultancy projects got underway during the month under report, sponsored by Regional Manager, (Kumano) Uttarakhand Forest Development Corporation (UFDC).

MoU Signed

ICAR - IISWC, RC, Udhagamandalam, signed a Memorandum of Understanding (MoU) with Agricultural Engineering College & Research Institute, Tamil Nadu Agricultural University Coimbatore on 6th August, 2021 with the purpose of long-term collaboration with TNAU for conducting training and research for Masters / Doctoral degree in the area of Soil and Water Conservation Engineering.

IMPORTANT EVENTS

Institute Research Committee (IRC) Conducted

The annual Institute Research Committee (IRC) Meeting 2021 was inaugurated by the Chief Guest, Dr A.K. Sikka, Former DDG (NRM, ICAR) and the Chairman, Research Advisory Committee (RAC), ICAR-IISWC on 17th July, 2021 in an online platform. In the inaugural address Dr Sikka highlighted the climate change impacts and changing demands of resource conservation and needs the responsibilities of conservation scientists to evolve climate-resilient technologies. Dr M. Madhu, Director and Chairman of the IRC meeting welcomed the Chief Guest and the online participants. In his remarks, he briefed the mandated research and scientific achievements of the institute during the previous years and emerging outcomes of various research projects. Dr M Muruganandam, Principal Scientist, Officer-in-Charge PME Cell of the Institute and Member Secretary, briefed about the numbers and status of various research projects.

The institute addresses various problems of resource degradation, stakeholders and farming communities all over the country through six different Theme areas such as water erosion appraisal in different agro ecological regions, conservation measures for sustainable production system in arable and non-arable lands, watershed hydrology for conservation planning, rehabilitation of areas affected by mass erosion problems,



integrated watershed management for socio-economic growth and policy advocacy and human resource development and technology transfer. The themes are monitored by Theme leaders for their effective implementation and outcome management.

During the week-long deliberations a total of 95 projects including core projects on assessment land degradation, soil Erosion, Productivity Relationships (EPR), carbon sequestration and innovative technologies on Natural Resource Management (NRM), collaborative, externally funded, and institutional projects were discussed. Besides, concept of new projects (23) and outcomes of the concluding projects were also discussed.

Kisan Gosthi under the “Azadi Ka Amrut Mahotsav” Organised

ICAR-IISWC, Dehradun organised one-day Kisan Gosthi under the “Azadi Ka Amrut Mahotsav”, on “Food and Nutrition for farmers” under the Tribal Sub-Plan on 26th August, 2021 at Tiparpur, Vikasnagar, Dehradun. In this programme, 100 plants of Lemon and Papaya were distributed to the farmers to create awareness among the farmers about the nutritional value of plants for food. The programme was inaugurated by Dr Charan Singh, I/c Head of Plant Science Division, and in is addressed emphasised on “Nutritional values of lesser known fruits species” as a component of their diet. On this occasion, Dr A.C. Rathore, Pr. Scientist (Horticulture), Dr Ramanjeet, Scientist, Dr Murganandam, Pr. Scientist, Dr Uday Mandal, Scientist (Hydrology), Dr Sadikul, (Agricultural Statistics) also contributed in the discussion with the farmers. In addition to the officers and employees of the institute, about 150 farmers from Tipurpur, Badripur, Sabhawala and Medinipur village actively participated.



The main objective of this programme was to sensitize the farmers for nutritional security by including cereals, pulses, fruits and vegetables as a component of their balanced diet. Mr Bijendra Kumar (Gram Pradhan-Tiparpur), Mrs Madhu Rani, BDC member Tiparpur, Ward members, Mr Rahul Kumar, Mr Mamraj, Mr Ashok Kumar, Mr Raju Kumar, Mr Chotelal Mr Vijay Singh, and other tribal farmers attended the programme.

Webinar on “Rainwater Harvesting and Rejuvenation of Bore Wells” Organised

On 18th August, 2021, the ICAR- IISWC, R.C., Ballari organized Webinar on “Rainwater Harvesting and Rejuvenation of Bore wells” on account of Azadi Ka Amrut Mahotsav . A total of 56 participants attended in the webinar which includes scientists, technical officers, researchers, students and farmers. Dr B.S. Naik, Head of Research Centre, Ballari welcomed all the distinguished participants of the webinar and briefed about the importance of this programme to mitigate the challenges like water scarcity in Semi Arid region of Karnataka. Dr Devaraj Reddy, N. J., the founder of NGO: Geo Rain Water Board, Chitradurga, Karnataka, was chief guest and main speaker on the occasion.

Mushroom Spawn Production Unit Installed

ICAR- IISWC, R.C., Sunabeda installed Mushroom Spawn Production unit at village Sadaranga, Kotpad Block of Koraput District, Odisha on 2nd August, 2021 under TSP - 2021-22 for employment opportunities among tribal women and meeting the mushroom spawn requirement for commercial purpose.



The unit was handed over to SUGYANI self help group (comprising 10 women members of the village) by Dr D. C. Sahoo, I/c Head of the centre. Prior to installation of spawn production unit necessary skill training was arranged for 4 Self Help Group members who will operate and manage the activities. Initiating the programme, Dr D. C. Sahoo, briefed about various programmes of government under TSP and advised the members to fully utilize the unit for their betterment. On this occasion, Dr Rajesh Bishnoi, Scientist (Agril. Extn.) also highlighted the importance of mushroom production and better management of assets that can leads to reaping benefits over time. Expressing their joy the SHG members thanked the team & Research Centre, Sunabeda and assured that they live up to the faith reposed on them.

16th Parthenium Awareness Week Organised

Recognizing the menace of parthenium weed on

agricultural productivity, human and animal health, biodiversity, Institute HQ Dehradun and its Research Centres observed 16th Parthenium Awareness Week during 16-22nd August, 2021 to create awareness among public and a step towards parthenium-free-campus. All the staff members actively participated in the drive.



HUMAN RESOURCE DEVELOPMENT

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

- Participated in Two weeks training programme (on three occasions) on “Good Agricultural Practices (GAPs)” organised by ICAR-Indian Agricultural Research Institute, New Delhi.
- Attended one day training programme on “Integrated Parthenium Management” organised by ICAR-Directorate of Weed Research, Jabalpur (MP).
- Participated in Five days online training on “Climate Change: Challenges and Response (for Women Scientists)” Organized by Centre for Disaster Management (CDM) Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie, Uttarakhand-248 179, Funded by Department of Science & Technology (DST) Ministry of Science and Technology, Government of India, New Delhi.
- Attended Parthenium awareness week organised during 16 -22nd August, 2021 at Research Farm, Panchkula.
- Attended Six days training on “Overview of application of online platform in research and development and capacity building” organised by ICAR-IISWC, Dehradun.
- Participated in Five days training on “Design thinking in Research project formulation and implementation” organised by ICAR-NAARM
- Participated in three days training on “Multivariate analysis through R-Commander” organised by Institute for Statistics and Analytical Research, Chennai.
- Attended six days online training programme on “Appropriate sampling techniques including sample preparation and preservation for soil, water, plant and air samples for various analyses.

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

- Training on “Application of remote sensing and GIS on Various Aspect of Watershed” was organised for M.Tech Students, during 30th July to 13th August, 2021 (fifteen days).

- Kisan Gosthi on “Food and Nutrition for farmers” was organised on 26th August, 2021.
- On 18th August, 2021, the ICAR- Indian Institute of Soil and Water Conservation, Research Centre, Ballari organized Webinar on “Rainwater Harvesting and Rejuvenation of Bore wells” on account of Azadi Ka Amrut Mahotsav (Celebration of 75th years of Independence). A total of 56 participants were present in the webinar which includes scientists, technical officers, researchers, students and farmers. Dr B.S. Naik, Head of Research Centre, Ballari welcomed all the distinguished participants of the webinar and briefed about the importance of this programme to mitigate the challenges like water scarcity in semi arid region of Karnataka. Dr Devaraj Reddy, N. J, the founder of NGO: Geo Rain Water Board, Chitradurga, Karnataka, was the invited chief guest and speaker of the occasion. The programme was ended with a formal vote of thanks by Sh. Ravi, K.N, Scientist (Agrl. Extension), RC, Ballari.
- Kisan Gosthi on “Food and Nutrition for farmers” was organised on 27th August, 2021 at IISWC, RC, Datia.
- Training and Installation of Mushroom Spawn Production unit (under TSP) was organised for Women SHG on 2nd August, 2021 at vill- Sadaranga in Block- Kotpad, Dist-Koraput Odisha.
- Training-cum-plant distribution (Cashew+Eucalyptus) programme, under TSP & SCSP, for Farmer & Farm women was organised on 4th August, 2021 at vill- 6, Block- Dasmantpur Dist- Koraput Odisha.
- Training cum skill development demonstration programme on “Jackfruit Chips Preparation” (DBT-Kisan project) was organised Women SHG on 9th August, 2021 at vill- Bariguda Block- Koraput Dist-Koraput Odisha.
- Training-cum-exposure visit programme of adopted farmers to millet demonstration sites MSSRF, Jeypore under DBT Kisan Hub was organised for Farmer & Farm women during 30-31st August, 2021 at vill- Macchra Block- Jeypore Dist-Koraput Odisha
- Parthenium awareness programme was organised at ICAR-IISWC, Research Centre, at Rajupura village, (Vasad) and Kachlapura village (Anand) during 16-22nd August, 2021.

FARMERS OUTREACH ACTIVITIES (TSP/SCSP)

- Farmer's advisory on plantation and management of bamboos through Whatsapp and phone.
- Telephonic advisories to the farmers in selected villages under TSP & SCSP for cultivation of crops and plantations, etc. by the team and coordinator.
- Discussion and planning for implementation of TSP activities (animal husbandry) in collaboration with ICAR-CIRG, Makhdoom, Mathura by the team and coordinator.
- Training on “Application of remote sensing and GIS on Various Aspect of Watershed” was organised for M.Tech Students, during 30th July to 13th August, 2021(fifteen days).
- Kisan Gosthi on “Food and Nutrition for farmers” was organised on 26th August, 2021.
- Whatsapp group created by research Centre, Ballari (Soil & Water Conservation) will provide regular message & information to farmers. Total messages 70 & phone calls 12.
- Horticulture based advisories given to the beneficiaries of TSP/SCSP/MGMG programs as and when required through mobile phone
- Dr S. Manivannan Principal Scientist delivered lecture on rain water harvesting and drainage line treatments on 16th August, 2021 organized by GIZ-WASCA and District Rural Development Agency, Thiruvannamalai (Online)

Training-cum-Plant Distribution Programme Organised

On 4th August, 2021, ICAR-IISWC, Research Centre, Koraput organised a training-cum-plant distribution programme under TSP and SCSP at six

villages namely, Naragachha, Chindrijodi, Tikarapada under TSP and Griliguma, Raiambo and Dokribeda under SCSP programme in Dasmantpur Block of the Koraput district. During this programme, 7000 and 8000 Cashew grafts and Eucalyptus clones were distributed to farmers

in the selected villages under TSP (Naragachha, Chindrijodi, Tikrapada) and SCSP (Griliguma, Raiambo and Dokribeda), respectively. Programme benefited 90 farmers (40 and 50 farmers under TSP and SCSP, respectively). Planting of the cashew and Eucalyptus will help not only rehabilitation of the degraded land (46.66 and 5.57 ha) but also help in supplementing farm income of resource poor farmers of the selected village. Dr D. C. Sahoo, I/c Head of the Centre sensitized farmers about the importance of rehabilitation of degraded lands through planting of Cashew and Eucalyptus trees.



Dr Suresh Kumar, Sci. (Agril. Econ.) explained about the likely economic and environmental benefits of rehabilitating degraded lands. Farmers of the selected villages thanked ICAR-IISWC, RC, Koraput for providing plants and technical guidance.

Farmers Training-cum-Seed Distribution Programme Organised

A 'Farmers training cum seed distribution program' was organized on 8th July, 2021 under TSP/SCSP at villages Bonosil and Raimbo of Girliguma gram panchayat, Dashmantpur Block. And the same programme was also organized under TSP at remote village Tikrapada of Girliguma gram panchayat and village Chindrijodi of Pindapadar gram panchayat, Dashmantpur Block, Koraput district. The program was organized by ICAR-IISWC, R.C., Sunabeda, Koraput in collaboration with ORMAS (Odisha Rural Development And Marketing Society), Odisha. The training was organized for execution of Ragi Pigeonpea demonstrations on farmers' field under TSP and SCSP programmes of the Centre. Seeds of Ragi and Pigeonpea (6:2) were distributed among the 25 beneficiaries' farmers covering 14 and 11 acres under SCSP and TSP,

respectively. Staff members from Research Centre along with invited resource persons from different line departments also shared their knowledge with the farmers on different aspects relating to improved crop management practices. Farmers were also sensitized about the processing of the jackfruits for making value addition for better market opportunities. The farmers were highly motivated by the interaction and extended full support for the up-coming events under the SCSP and TSP programme. Programme ended with vote of thank by progressive farmer of the village.



The beneficiary farmers asked to be innovators in adoption of Ragi Pigeon pea intercropping for food and environmental security, and to be role model for other farmers.

Farmers Training-cum-Plant Distribution Programme Organised

ICAR-IISWC, R.C., Sunabeda distributed 30000 numbers of Eucalyptus clones to develop Agro forestry models under SCSP. The clones were distributed to 60 beneficiaries farmers of villages- Girligumma, Dokribeda and Raiambo of Dasmantpur Block of Koraput District.



SUCCESS STORIES

Design and Construction of Water harvesting Check Dam (H&E Division, HQ Dehradun)

The check dam has been designed and constructed at village Satyon, District-Tehri, Uttarakhand to serve the following objectives-

- Improved design of water diversion –cum-storage in-stream structure.
- Low cost, flash flood proofing, sedi-mentation control.
- Conveyance of harvested water to command area.
- Command area- 10 ha, comprising of 44 SC families.
- Riparian zone treatment

In accordance with above improve-ments, the structure withstood devastating extreme event of 26-27

August in that region and very good feedback was received by beneficiary farmers themselves.



Farmers inspecting check dam in Satyon village after the extreme rainfall event during 26-27th August, 2021

Effect of Integrated Farming System (IFS) Intervention (Research Centre, Kota)

ICAR-IISWC, RC, Kota (Rajasthan) has Developed success stories of the farmers benefited in Dhoti watershed project

Name of farmer	:	Sh. Ram Bhagwat
Address	:	S/o Sh. Mangi Lal, Village- Dhoti, Tehsil- Atru, District- Baran (Rajasthan)
Mobile Number	:	9950455723
Age	:	58Years
Education	:	Literate
Size of land holding (in ha)	:	1.6 ha



Before intervention (2016-17)

Components	Name	Crop Area ha	Yield (Q)	Gross Income (Rs.)	Net Income (Rs.)
Field Crop 1	Soybean	1.5	23.45	65906	37688
Field Crop 2	Moong	0.10	0.63	3292	2124
Field Crop 3	Wheat Lok 1	0.50	21.00	34125	10605
Field Crop 4	Wheat Raj 3765	0.54	27.54	44753	13770
Field Crop 5	Coriander	0.56	4.50	29250	11250
Livestock	Buffalo	4 No	3070 L	76750	20450
-	Cow	2 No	710	14200	6450
Total				268276	102337

Status in 2020

Components	Name	Crop Area	Yield (Q)	Gross Income (Rs.)	Net Income (Rs.)	% increase over base year	
						Production	Income
Field Crop 1	Soybean	1.6	30	116400	66333	27.93	76.00
Field Crop 2	Mustard	1.00	22	102300	93205	-	-
Field Crop 3	Garlic	0.60	30	96000	34250	-	-
Livestock	Buffalo	5No	5600 Litre	224000	127560	82.41	61.37
	cow	2 No	930	32550	7150	30.99	10.85
Total				571250	328498		221

The farmer used to get annual income of Rs. 102337/- from field crops and animals. He faced problems like quality seed availability, field undulation, fodder production, higher irrigation charges etc. with IFS interventions like supply of improved varieties of crops

seed, optimization of available resources, field bunding with leveling, he is getting annual income of Rs. 328498/. In addition, there is cost saving of Rs. 15000/- in the crop production due to electricity connection for irrigation. Earlier, he was irrigating crops by diesel water pump.



IFS Farmer with wheat crop



IFS farmer with coriander crop

PUBLICATIONS

Research Papers

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): pp86-94. *NAAS Rating: 6.28.*

Chanu, T. B., Singh, C., Loushambam, R.S., Khulakpam, A. and Shankar, M. 2021. Assessment of impact of Joint Forest Management in the selected Villages of Imphal West of Manipur state of NEH Region.

Advances in Bioresearch, NAAS Rating: 4.53.

Dupdal, R., Patil, B.L. and Naik, B.S. 2021. Perceptions and adaptation strategies to changing climate: Evidence from farmers of northern dry zone of Karnataka. *Indian Journal of Extension Education*, 57(3) pp60-64. *NAAS Rating: 5.95.*

Rashmi, I. and Kala, S. 2021. Rehabilitation of ravine lands with multipurpose tree plantations. *Range Management & Agroforestry* 42 (1): pp22-29. *NAAS Rating: 6.28.*

In High Ranking Research Journals- Congratulations, Keep it up !

Ahmed, M.A., Parihar, C.M., Patra, S., Nayak, H.S., Saharawat, Y.S., Singh, U., Parihar, M.D., Kakraliya, S.K., Nassar, I.N., Ugolini, F., Zohir, W.F. and Shalaby, M.M. 2021. Critical evaluation of functional aspects of evaporation barriers through environmental and economics lens for evaporation suppression - A review on milestones from improved technologies. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2021.147800>, **NAAS Rating: 13.963**.

Rathore, A.C., Mehta, H. and Singh, C., *et. al.*, 2021. Modified plant architecture integrated with liquid fertilizers improves fruit productivity and quality of tomato in North West Himalaya, India. *Scientific Reports*. IF 10, **NAAS Rating: 10.379**.

Patra, S., Kaushal, R., Singh, D., Kumar, R., Tossou, A.G., Durain, J. 2021. Surface soil hydraulic conductivity and macro-pore characteristics as

affected by four bamboo species in North-Western Himalaya, India. *Ecohydrology and Hydrobiology*. DOI: 10.1016/j.ecohyd.2021.08.012. **NAAS Rating: 9.21**.

Kaushal, R., Kumar, A., Alam, N.M., Singh, I., Mandal, D., Tomar, J.M.S., Mehta, H., Lepcha, S.T.S., Long, T.T. and Durai, J. 2020. Assessment of eco-hydrological parameters for important sympodial bamboo species in Himalayan foothills. *Environmental Monitoring and Assessment* 193 (8), pp1-13, **NAAS Rating: 8.513**.

Kaushal, R., Tewari, S., Thapliyal, S. D., Kumar, A., Roy, T., Islam, S., Lepcha, S.T.S. and Durai, J. 2021. Build-up of labile, non-labile carbon fractions under fourteen-year-old bamboo plantations in the Himalayan foothills, *Heliyon*, 7 (8) **NAAS Rating: 8.85**.

Seminar/Conference/Symposium Papers

K. N., Ravi 2021. published abstract and presented poster titled “Information dissemination for sustainable natural resource management towards climate resilience: Evidences from Sujala-III watershed project, Karnataka” in the Virtual National Seminar on Advances in Sustainable Management of Natural Resources for Food and Nutritional Security organised by Department of Soil Science and Agricultural Chemistry and Department of Agronomy, N. M. College of Agriculture, NAU, Navsari held on 26-27th August, 2021. (virtual mode).

Kumar, S.D.S., Mondal, B., Venkatesh, P. and Kumar, A. 2021. Does Adoption of Soil Bund Increase Sorghum Productivity? Some Empirical Evidence from Drought Prone Areas of Karnataka, India, paper presented in ICAE 2021 International conference of agricultural Economists 17-31st August, 2021.

Books / Bulletins / Manuals, etc.

Naik, B.S., Ramesha, M. N., Prabhavathi, M., Dupdal, R., Ravi, K.N., Kumar, G., Mandal, D., Dogra, P., Kaushal, R. and Madhu. M. 2021. Soil erosion status, priority treatment areas and conservation measures for different districts of Karnataka, ISBN-ISBN-978-81-924624-8-6, 34p.

Book Chapters

Dash, Ch. J., Adhikary, P.P., Madhu, M., Mishra, P.K. 2021. Quantifying forest cover changes in Koraput district, India using remote sensing and GIS. In: *Geospatial based Forest Resources Mapping, Monitoring and Modeling*. pp185-191.

Kaushal, R., Mandal, D., Panwar, P., Kumar, R., Kumar, P., Tomar, J.M.S. and Mehta, H. 2021. Soil and water conservation benefits of agroforestry. *Forest In: Resources Resilience and Conflicts* (Eds: Pravat Kumar Shit, Hamid Reza Pourghasemi, Partha Pratim Adhikary, Gouri Sankar Bhunia, Vishwambhar Prasad Sati) pp 259-275. Elsevier. ISBN 9780128229316, <https://doi.org/10.1016/B978-0-12-822931-6.00020-4>

Kumar, D., Ranjan, R., Meena, M.K., Yadav, R.S., Gupta, G., Jinger, D., Yadav, D. and Pramanik, M. 2021.. Exploring Conservation Agricultural Practices in Bundelkhand Region, Central India. In: Jayaraman, S., Dalal, R.C., Patra, A.K., Chaudhari, S.K. (eds) Conservation Agriculture: A Sustainable Approach for Soil Health and Food Security. Springer, Singapore.

https://doi.org/10.1007/978-981-16-0827-8_9

Ranjan, R., Kumar, D., Yadav, R.S., Pramanik, M., Meena, M.K., Sinha, N.K. 2021 Conservation Agriculture for Carbon Sequestration and Mitigation of Climate Change. In: Jayaraman, S., Dalal R.C., Patra A.K., Chaudhari S.K. (Eds). Conservation Agriculture: A Sustainable Approach for Soil Health and Food Security. Springer, Singapore.

https://doi.org/10.1007/978-981-16-0827-8_22.

Sharma, V.P., Barh, A., Bairwa, R.K., Annepu, S.K., Kumari, B., Kamal, S. 2021. Enoki Mushroom (*Flammulina velutipes* (Curtis) Singer) Breeding. In: Al-Khayri J.M., Jain S.M., Johnson D.V. (eds) Advances in Plant Breeding Strategies: Vegetable Crops. Springer, Cham. pp423-441.

https://doi.org/10.1007/978-3-030-66969-0_11.

Tomar, J.M.S., Ahmed, Bhat, A. J.A., Kaushal, R., Shukla, G., Kumar, R. 2021. Potential and Opportunities of Agroforestry Practices in Combating Land Degradation. Agroforestry-Small Landholder's Tool for Climate Change Resiliency. In: Gopal Shukla *et. al.* Intech Open 97843.

Popular Article

Jat, R. A., Choudhary, R.R. and Reddy, K.K. 2021. Kharif me mungphali ki kheti. Khad Patrika, June, 2021, pp 8-16 & 28.

Jinger, D., Dhar, S., Vijayakumar, S., Pande, V.C.,

Kakade, V., Jat, R.A. and Dinesh, D. 2020. Silicon nutrition of graminaceous crops. Indian Farming 70(10): pp18-2.

Kannan. K., Singh, D.V., Selvi, V. and Khola, O.P.S. 2021. Crop Management Practices in Rainfed Groundnut and Maize for Higher Farm Income, Kissan World Vol.. 48(8):pp8-10

Kannan. K., Singh, D.V., Selvi, V. and Khola, O.P.S. 2021. Malaivembu (*Melia Dubia*) a promising tree for higher income, Kissan World Vol.. 48(8)

Kasthuri Thilagam, V., Manivannan, S., Gowda, H.C. Hombe, and Srinivasan, R. 2021. Invasion of Lantana Camera : A Peril to Natural Ecosystem. Vigyan Varta 2(7): pp52-55

Manivannan, S. and V. Kasthuri Thilagam (2021) Application of Jute geo-textiles for hill slope stabilization. Soil and Water Conservation Today 16(1): 6

Rajan, K. Kannan, P. Dinesh. D., Raja. P. and Kannan, K. (2021). Biochar for Acid Soil Improvement. KISSAN WORLD 48(2).

Singh, R., Scientist - Submitted an article on "Adoption of *in-situ* live green manuring makes the hilly farmers self-reliant (Aatmnirbhar) in conserving natural resources" to Soil and Water Conservation bulletin.

Vijayakumar, S., Kumar, D., Jinger, D., Bussa, B. and Panda, B.B. 2021. 4R nutrient stewardship based potassium fertilization for dry-direct seeded rice-wheat cropping system. Indian Farming 71(01): pp 22-25

Yadav, D. and Madhu, M. 2021. Sweet Potato: A Miracle Crop for Soil and Water Conservation under Rainfed Maize in India's North-Western Himalaya: An Opinion. Mod. Concep. Dev. Agrono. 9(1). DOI: 10.31031/MCDA.2021.09.000705

AWARDS AND RECOGNITIONS

- Dr S. Manivannan nominated as CGEWCC representative member of Vidyalaya Management Committee (VMC) Kendriya Vidyalaya, Ooty.
- Dr S. Manivannan nominated as Panelist (Expert) Stockholm International Water Institute, Sweden, Panelist (Expert) in World water week conference on Circular sanitation economy: Cross-sectoral

approaches to climate resilience during 25 - 27th August, 2021.

- Dr S. Manivannan nominated as Expert with Agricultural Engineering Department, Tamil Nadu.
- Dr P. R. Ojasvi was lead speaker at Brahmputra Board, Ministry of Jal Shakti, New Delhi on 13th August, 2021.

IN NEWS

Workshops on New Research Projects held at IISWC

By OUR STAFF REPORTER DEHRADUN, 10 Aug: The ICAR-Indian Institute of Soil and Water Conservation (ICAR-IISWC) organized a series of online workshops on new and extended research projects addressing various aspects of Soil and Water Conservation (SWC), Natural Resource Management (NRM), and conservative agriculture production during July-August.

Dr M Madhu, Director, ICAR-IISWC, chaired the deliberations and called for approaching the problems of SWC, Resource Conservation and provision of livelihood and food security options systematically for the benefit of larger areas, States or Agro-Ecological Regions (AERs) of the country.

Various thematic areas on appraisal of soil/water erosion, Resource Conservation Technologies (RCT) for erable and non-erable lands, watershed hydrology, problems of mass erosion, Integrated Watershed Management (IWM) and Human Resource Development were the subjects of the projects dealt with in the workshops.

The workshop organized on 9 August discussed about 13 research projects and different

Ranajit Prasad Central Agricultural University, Pusa, Bihar, Dr Santosh K Rai, Scientist-E, Waste Institute of Himalayan Geology (WIGG), Dehradun, and Dr Charan Singh, Head of Division, Plant Science, ICAR-IISWC led the deliberations on the subject. Dharm Singh, DFO, Tehri explained the field project on spring rejuvenation executed by his department in Mussoorie hills.

The workshops are organized as part of the discussions held by the Institute Research Committee (IRC) from 17 to 23 July 2021 on 100 research projects being executed across the country.

Dr PR Ojasvi, Dr NR Sharma, Dr Charan Singh and Dr DV Singh, Heads of Division, and Heads of Centre, Theme Leaders, Principal Investigators, and about 70 scientists of the Institute participated.

The workshops were organized by Dr Muruganandam and his team comprising Dr Suddha Islam, Dr Santosh K Rai, Dr Manish Chandra, Meenakshi Pant and Jyoti, PIME Cell, ICAR-IISWC, led by the projects being prioritized based on needs, opportunities and potentials for the systematic research and development in line with the mandate of the Institute. He briefed on the recommendations and way-forward that emerged during the workshop.

The observations and recommendations of the External Evaluator, Dr Rajiv Singh, Head of Centre, Kotia (RiC) were also discussed in the workshop.

ICAR-IISWC organizes workshop on New Research Projects

DEHRADUN, AUG. 10 (PTNS) The ICAR-Indian Institute of Soil and Water Conservation (ICAR-IISWC) organized a series of online workshops on new and extended research projects addressing various aspects of Soil and Water Conservation (SWC), Natural Resource Management (NRM) and conservative agriculture production during July-August.

Dr M Madhu, Director, ICAR-IISWC chaired the deliberations and called for approaching the confronting problems of SWC, Resource Conservation and provision of livelihood and food security options systematically, for the benefit of larger areas, States or Agro-Ecological Regions (AERs) of the country.

Various thematic areas on appraisal of soil/water erosion, Resource Conservation Technologies (RCT) for erable and non-erable lands, watershed hydrology, problems and tactics for mass erosion, Integrated Watershed Management (IWM) and Human Resource Development were the subjects of the projects dealt with in the workshops.

The workshop organized on August 9 discussed about 13 research projects and different topological interests addressing the conservation and production needs of various AERs of the country. Dr Muruganandam Principal Scientist and OIC (PME Cell), ICAR-IISWC briefed about the projects being prioritized based on needs, opportunities and potentials for the systematic research and development in line with the mandate of the Institute. He briefed the recommendations and way-forward emerged during the workshops.

The observations and recommendations of the External Evaluator, Dr Rajiv Singh, Head of Centre, Kotia (RiC) were also discussed in the workshop.

The workshop held earlier on August 9 discussed spring-eroded delineation and rejuvenation. Dr LR Meaurio, Principal Scientist, ICAR National Bureau of Soil Survey and Land Use Planning (NBSS&LUP), Nagpur, Dr Anil Kumar, Dean, Agriculture College, Bihar, Dr Santosh K Rai,

Scientist-E, Waste Institute of Himalayan Geology (WIGG), Dehradun and Dr Charan Singh, Head of Division, Plant Science, ICAR-IISWC led the deliberation on the subject.

Dharm Singh, DFO, Tehri explained the field project on spring rejuvenation executed by his department in Mussoorie hills. The workshops are organized as part of the discussions held during the Institute Research Committee (IRC) from July 17 to 23 about 100 research projects being executed across the country to find innovative and double technologies and solutions for the confronting problems of resource conservation and management.

Dr PR Ojasvi, Dr NR Sharma, Dr Charan Singh and Dr DV Singh Head of Division, and Head of Centre, Theme Leaders, Principal Investigators, and about 70 scientists of the Institute actively participated to detail the technical programs and way forward on various Research Projects and the proceedings of the workshops. Few more workshops on core projects of Erosion Productivity Relationships (EPR) in different AERs, generation of potential soil erosion maps and impacts of SWC technologies implemented on climate resilience and ecosystem services implemented by various Research Centers of the Institute located in Agra, Bahary, Chandigarh, Darjeeling, Dehra Dun, Gurgaon, Haryana, Kottayam, Kerala, Lucknow, Madhya Pradesh, and West Bengal. The Headquarter in Dehradun are being planned in August 2021, by the respective Principal Investigators and Theme Leaders of the Institute.

Dr Madhu in his concluding remarks highlighted the changing paradigms shifts experienced in resource conservation and management, and the needs of the science- and knowledge-based technological advancements to ensure farm-based livelihoods, food security and ecosystem services.

The workshops were organized by Dr Muruganandam and his team Dr Suddha Islam, Dr Santosh K Rai, Dr Manish Chandra, Meenakshi Pant, and Jyoti, PIME Cell, ICAR-IISWC, in collaboration with Dr SS Sinhal and Dr Armit Chandra and their team of the AKMU of the Institute.

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