

THE PROCEEDINGS

INTERNATIONAL CONFERENCE



On

Sustainable Natural Resource Management under Global Climate Change

November 07 -10 , 2023

New Delhi, India

Organized by

Soil Conservation Society of India, New Delhi

In collaboration with



Sponsored by



जल शक्ति मंत्रालय
MINISTRY OF
JAL SHAKTI



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THE PROCEEDINGS



International Conference
On
Sustainable Natural Resource
Management under Global Climate Change
7-10, November 2023
NASC Complex, New Delhi, India

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In collaboration with

ICAR - Indian Agricultural Research Institute, India

National Academy of Agricultural Sciences, India

International Soil Conservation Organization

World Association of Soil and Water Conservation, China

International Union of Soil Science, Austria

European Society for Soil Conservation

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1.0. INTRODUCTION & BACKGROUND

Climate has a significant impact on the production and productivity of agriculture and its allied sectors. Presently, climate change is a reality which has now been accepted globally. In addition to climate change, the increased frequency of extreme events, such as droughts and floods, poses a greater challenge for farmers and researchers and threatens food security. With an increasing human population coupled with climate change, virtually all of our natural resources have been put under more stress than ever, causing them to become scarcer and more expensive to source in the future. According to FAO estimates, meeting 60% of the additional food demand by 2050 will be challenging due to the depletion of natural resources. The warmer water temperatures are likely responsible for causing a shift in the habitat ranges of several fish and shellfish species and potentially disrupting the ecological balance of aquatic ecosystems. Moreover, the increased temperature disturbs the distribution and composition of tree species and the species variation proceeds in the forest ecosystem. The overall result of climate change is that farming crops and raising animals and fish will no longer be as easy as it used to be. The impact of climate change will be severe globally. However, the small and marginal farmers of developing nations are in jeopardy. Hence, technology-driven mitigation and adaptation measures for natural resources and management are indispensable. Therefore, establishing an interface between academicians, researchers, government departments, policymakers, farmers, industry, and other stakeholders is crucial for a blueprint for sustainable natural resources and their management under climate change scenarios. In light of the emerging new challenges, the Soil Conservation Society of India, New Delhi has organized International Conference on “Sustainable Natural Resource Management under Global Climate Change” at the National Agricultural Science Centre (NASC), ICAR, New Delhi, India during November 7-10, 2023.

The International Conference was organized in collaboration with ICAR - Indian Agricultural Research Institute, New Delhi; National Academy of Agricultural Sciences (NAAS), India; International Soil Conservation Organization, India; World Association for Soil and Water Conservation, China; International Union of Soil Science, Austria and European Society for Soil Conservation. The International Conference was sponsored by the Indian Council of Agricultural Research, India; Ministry of Jal Sakthi, Government of India; Department of Land Resources, Government of India; National Jute Board, Kolkata; National Rainfed Area Authority (NRAA); National Biodiversity Authority of India, Chennai; Indian Oil Corporation Limited and Gas Authority of India Ltd.

Abstracts were called in 10 major themes *viz.*, *Natural Resource Management towards achieving Sustainable Development Goals (SDGs), Scientific tools for land resource inventory, hydrologic assessment and decision support systems for effective management of natural resources, vulnerability, resilience and mitigation of climate change impact on water resources systems, sustainable management of groundwater, planning of efficient soil and water management, hydrology and digital application for management of watersheds, ecosystem and their valuation*

including biodiversity conservation and management, mitigation of climate change impact on soil health and carbon sequestration, climate change adaptation in agriculture and allied sectors and applications of jute geo-textiles for natural resource management. The organizers received 450 abstracts from worldwide scientists, academicians, policy makers, students and other stakeholders. Out of that, 439 were accepted for presentation at the conference for presenting offline / online mode.

2.0. INAUGURAL SESSION

The Conference was inaugurated on 07th November 2023 by Shri Parshottam Rupala Hon'ble Union Minister of Fisheries, Animal Husbandry and Dairying, Government of India at the National Agricultural Science Centre (NASC), New Delhi, India. In his inaugural address, he emphasized scientific-based schemes and policies implemented by the government of India for the farmers. He also expressed his concern about the uneven distribution of rainfall, which may causes flood in some regions and drought in some parts. He appealed to the scientists to develop technologies for conserving and effectively utilizing excess rainwater, which the farmers can adopt locally. He also said that the waste water from various sectors should be recycled for effective use in agriculture. Further, he appealed scientists to develop sustainable technologies to improve natural and organic farming and wished that the deliberations of conference will be useful in preparing the road map for developing technologies for mitigating climate change impact on natural resources. Dr. Sanjay Kumar, Chairman ASRB was the guest of honour and delivered the special address. He stated that the green revolution has made our country self-sufficient in food grain production, but at the same time, the use of chemical inputs has increased at an alarming rate. This threatens the ecosystem biodiversity; hence scientists should focus more on the biodiversity change in soil and other ecosystems due to





climate change and other human activities. He also expressed his concern on using plastics in agriculture and the lack of policies to control them. He emphasized the necessity of creating awareness among the school children through their curriculum on the effect of climate change and the mitigation measures to be taken in our day to day life. Dr. A.K. Singh, Vice President, NAAS and Former DDG, ICAR who also delivered the special address said that soil and water resources are degraded globally, the population pressure and climate change are worsening the situation, and this Conference is organized at the right time. The concentration of CO_2 and the rate of increase in the atmosphere urged us to mitigate the effects of climate change through appropriate scientific interventions. Management of natural resources is the key for climate change mitigation, and new tools and strategies should be utilized to manage natural resources efficiently. Dr. T.B.S. Rajput, President, Soil Conservation Society of India, New Delhi welcomed the dignitaries and the delegates. Dr. T.B.S. Rajput also highlighted the role of SCSi in sustainable natural resource management globally and contributions of the society in soil and water conservation. Dr. S. Manivannan, Organizing Secretary, briefed about the background and themes of the conferences. During the occasion, Shri Parshottam Rupala,





Hon'ble Union Minister of Fisheries, Animal Husbandry and Dairying has given award to 23 scientists and students for the extraordinary contribution in the field of soil and water conservation. He also released three conference publications: Book of Abstract, Souvenir, and Book of Lead Papers. More than 500 persons, including scientists, students, farmers and state government officials, attended the inaugural function. The inaugural session was ended with vote of thanks proposed by Er. R.A.S.Patel, Secretary General, SCS, New Delhi.

3.0. PROF. J.S. BALI MEMORIAL LECTURE

The Technical sessions commenced with Prof. J.S. Bali Memorial Lecture Chaired by Dr. T.B.S. Rajput, Scientist Emeritus and President, SCS and Co-Chaired by Dr. Christ S. Renschler, Research Leader, USDA-NSERL-ARS. Er. Bisweswar Rath, Technical Expert, NRAA, New Delhi delivered the lecture on Water Management in Rainfed Agriculture - Need for a Balanced Strategy Focusing on Economy, Ecology and Equity. In his lecture, he appraised the rising concern on water demand and scarcity due to climate change. He briefed the status





of rainfed agriculture in India and appropriate water management strategies for increasing rainfed agriculture production. He also briefed the initiatives and policies implemented by the government of India for promoting efficient water resources in rainfed regions. The approaches offer a pathway towards resilient and productive rainfed ecosystems by promoting efficient water resource management, minimizing soil degradation, adopting technical innovations, strengthening institutional mechanisms, and engaging stakeholders also elaborated.

4.0. TECHNICAL SESSIONS

The plenary sessions commenced with key note address by eminent speakers on the theme of the conference. Key note speakers highlighted on major issues on irrigation, land degradation neutrality, groundwater depletion and climate vulnerability. The extent of degradation can be understood by the fact that, globally, more than 70% of ecosystems have already been transformed, and it is projected that by 2050, this value could be as high as 90%. In light of the growing challenges of meeting the future food demand without compromising on the principles of sustainability, there is a need to increase land and water productivity by 2-3 times higher than the existing levels; similarly, labor productivity needs to be increased by 6 times. Land subsidence and sinking due to groundwater depletion is now a global problem, and 8% of the world's surface is likely to be impacted, affecting 1.2 billion people. Cascading effects of groundwater depletion in terms of higher energy requirements and associated GHG emissions. The four days conference had 10 technical sessions with the following themes and sub-themes:

1. NATURAL RESOURCE MANAGEMENT TOWARDS ACHIEVING SUSTAINABLE DEVELOPMENT GOALS (SDGS)
 - a. Global warming, increased atmospheric CO₂ changes in rainfall patterns.
 - b. Flood & rain water harvesting and management.



- c. Changes in river basin system.
 - d. Drought forecasting and management.
 - e. Agroecology and sustainable food systems.
 - f. Socio-economic and food security impacts of climate change in the agriculture sector.
 - g. Extreme events (floods, heat waves etc)-forecasting and mitigation.
- 2. SCIENTIFIC TOOLS FOR LAND RESOURCE INVENTORY, HYDROLOGIC ASSESSMENT AND DECISION SUPPORT SYSTEMS FOR EFFECTIVE MANAGEMENT OF NATURAL RESOURCES**
 - a. Remote Sensing application and GIS technology for resource inventory.
 - b. Uniform delineation & codification of watersheds & management.
 - c. Policy interventions for soil & water management.
 - 3. VULNERABILITY, RESILIENCE AND MITIGATION OF CLIMATE CHANGE IMPACT ON WATER RESOURCES SYSTEMS**
 - a. Hydrologic modeling for resource development.
 - b. Vulnerability assessment of water resources system.
 - c. Strategies for building resilience in water resources systems.
 - d. Irrigation water quality and management.
 - e. Irrigation and consumptive use of water.
 - f. Gender participation in the management of water and climate change.
 - 4. SUSTAINABLE MANAGEMENT OF GROUNDWATER**
 - a. Resource inventory of groundwater.
 - b. Groundwater management by surface as well as artificial aquifer recharge.
 - c. Community based management of groundwater.
 - d. Saltwater intrusion in coastal aquifers.
 - e. Groundwater pollution and wastewater management.
 - 5. SUSTAINABLE PLANNING AND UTILIZATION OF NEW AND RENEWABLE ENERGY AND SOIL AND WATER RESOURCES**
 - a. Approaches for efficient soil & water management.
 - b. Soil degradation and restoration.
 - c. Role of renewal energy sources in agriculture and water resource management
 - d. Socio-economic challenges in planning and adaptation in natural resource management.
 - 6. HYDROLOGY AND DIGITAL APPLICATION FOR THE MANAGEMENT OF WATERSHEDS**
 - a. River hydrology and channelization of river courses for mitigation of land erosion.
 - b. Land use and land cover change and management.



- c. Change in an aquatic habitat and management.
 - d. Point and non-point sources of pollution.
 - e. Water sources, services and infrastructure.
 - f. Water as an input to production & socio-economic development, gender and socio-cultural values of water.
- 7. ECOSYSTEMS AND THEIR VALUATION, INCLUDING BIODIVERSITY CONSERVATION AND MANAGEMENT**
- a. Bio-diversity resources conservation and management.
 - b. Ecological restoration of habitat, microbial ecology and agricultural production.
 - c. Aquatic biodiversity, lake and river restoration.
- 8. MITIGATION OF CLIMATE CHANGE IMPACT ON SOIL HEALTH AND CARBON SEQUESTRATION**
- a. Soil fertility and health management through the improved package of practices.
 - b. Soil carbon sequestration to mitigate the climate change impacts.
 - c. Study of soil nutrient deficiency, soil problems and management for sustainability.
- 9. CLIMATE CHANGE ADAPTATION IN AGRICULTURE AND ALLIED SECTORS**
- a. Climate change adaptation techniques.
 - b. Innovative technologies to enhance the agricultural production
- 10. APPLICATIONS OF JUTE GEO-TEXTILES FOR NATURAL RESOURCE MANAGEMENT**
- a. Jute geo-textiles for soil and water conservation.
 - b. Role of Jute geo-textiles in infrastructure development.

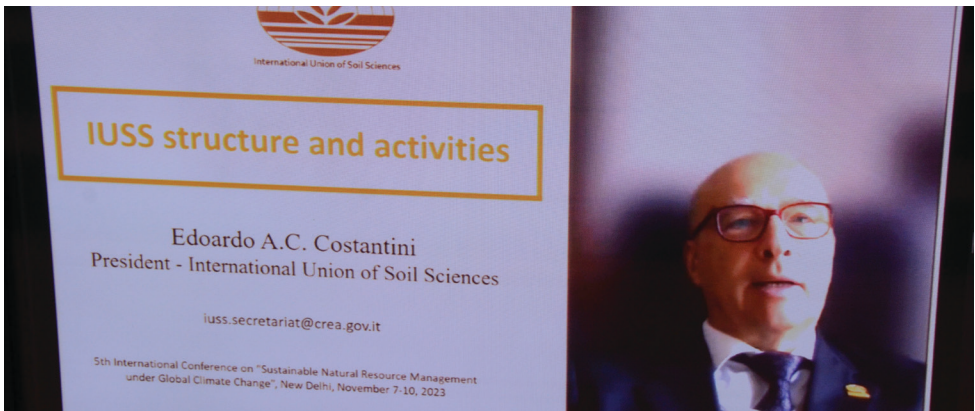
In addition to above technical sessions, a special session of International Soil Conservation Organization has also been organized in view of commemorating symposium of ISCO.

Technical sessions were conducted offline and online concurrently for different themes in the same day. In each Technical session, keynote addresses and lead papers were presented by the experts of the theme area followed by the oral presentations. The posters of the different themes were presented digitally. There are 350 delegates from various parts of the globe including 16 scientists from USA, Iran, Russia and Chek Republic. From each theme, recommendations also derived for developing sustainable natural resource management technologies for mitigating Global Climate Change. The four days conference was conducted in hybrid mode. A total of 369 key note addresses, lead papers and abstracts on various themes were presented offline and online. From the scientific deliberations, many recommendations have emerged to maintain the soil, water and other natural resources sustainably under the global climate change scenario.

The issues discussed in various technical sessions are briefed below:

4.1. PLENARY SESSION

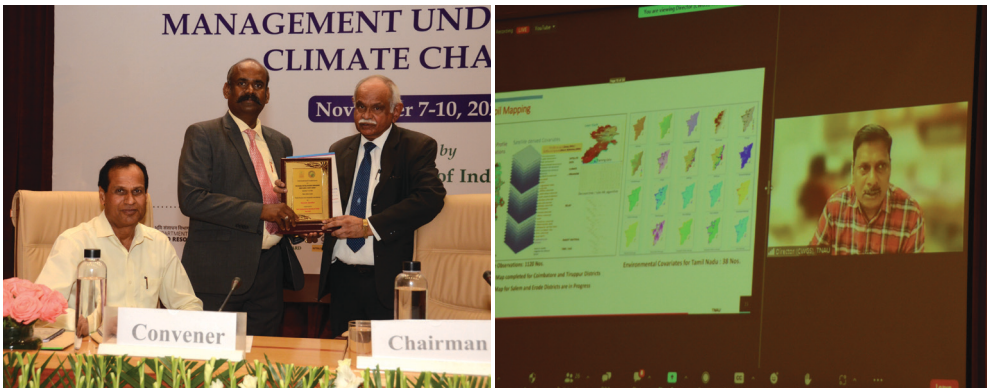
The session was Chaired by Dr. T. B. S. Rajput, President, SCSII and Co-Chaired by Dr. Christ S Renschler, Research Leader, USDA-NSERL-ARS. Dr Praveen Naikodi and Dr. Ajay Narvade were the rapporteurs. The session was convened by Dr. S. K. Dubey Emeritus Scientist, ICAR – CSSRI, Karnal. The keynote speaker Dr. C.P. Reddy explained sustainable land resources management through the watershed development programmes implemented in various part of India. Another keynote speaker Dr. T.B.S. Rajput briefed the techniques for sustainable management of water resources in agricultural development. In this session Prof. Edoardo A.C. Costantini, President, International Union of Soil Sciences addressed the gatherings virtually.



4.2. CONFERENCE THEME SESSION

The session was Chaired by Dr. A.K. Singh, Vice President, NAAS and Co-Chaired by Dr. Adinarayana, Professor, IIT Bombay, Mumbai. Dr. S.M. Purshothaman and Dr. Suresh Kumar were the rapporteurs. The session was convened by Dr. O.P.S. Khola, Principal Scientist, ICAR

–IISWC RC, Chandigarh. There were three key note addresses delivered in this session. The keynote speaker Dr. Anil Kumar Singh, Former DDG (NRM), ICAR & Vice President (NAAS) elaborated the challenges and opportunities for achieving land degradation neutrality in India. Dr. R. C. Srivastava, Former Vice Chancellor (RPCAU) explained the threat faced by groundwater resources and their management strategies. On behalf of Dr. V. Geethalakshmi, Vice-Chancellor, TNAU, Coimbatore, Dr. Palanivelan, Director, Centre for Water and Geospatial studies, TNAU had presented the climate risk vulnerability and impact assessment and risk reduction strategies online.



4.3. NATURAL RESOURCE MANAGEMENT TOWARDS ACHIEVING SUSTAINABLE DEVELOPMENT GOALS (SDGS)

In Theme 1 there were three concurrent sessions for Lead paper presentations, oral presentations and for online presentations.

LEAD PAPER PRESENTATIONS

The session was Chaired by Dr. E.B. Chakurkar, Director, ICAR – CIARI, Portblair and Co-Chaired by Dr. Murari Lal Gaur, Senior Professor, AAU, Gujarat. Dr. Roghayeh Jahdi, University of Mohaghegh Ardabili, Ardabil, Iran and Dr. R. Srinivasan, NBSS & LUP, Bangaluru were the rapporteurs. The session was convened by Dr. V. Kasthuri Thilagam, Senior Scientist, ICAR-SBI, Coimbatore. Total five lead addresses were delivered in this session. Dr. Eaknath B. Chakurkar- Director, CIARI, Portblair, presented water augmentation measures in ICAR-CIARI, Port Blair. Dr. Murari Lal Gaur presented on Next-generation climate-resilient management of water and watersheds. Dr. Ghader Dashti, University of Tabriz, Iran, discussed the risk-based hydro-economic model for evaluating water resource management in the agricultural sector. Dr. Sanjay Arora discussed the remedies for managing salt-affected soils for sustainable productivity.

Another session was Chaired by Dr. R. C. Srivastava, Former VC, RPCAU, Bihar and Co-Chaired by Dr. Sanjay Jain, Head, NIH, Roorkee. Dr. Zeinab Hazbavi, University of



Mohaghegh Ardabili, Ardabil, Iran and Dr. S. M. Vanitha, ICAR-IISWC were the rapporteurs. The session was convened by Dr. D. V. Singh, ICAR-IISWC, Dehradun. The session started with the opening remarks of the chairman, and the first lead paper was presented by Dr. Sanjay Jain, NIH, Roorkee, on “Snow/glacier change and impact on runoff in Himalayan Basin”. He highlighted the snow/glacier change & impact on runoff in the Himalayan basin. The second lead paper was on “Doable agronomic technologies for resource conservation for sustainable production in semi-arid tropics of south India presented by Dr. S. L. Patil, IIPR, Regional Station, Dharwad. The papers discussed droughts and the role of agronomic conservation measures, vegetative barriers, deep tillage with INM, conventional and reduced tillage, zingg terraces, broad bed furrows and compartmental bunding with INM for drought and normal years, compartmental bunding with improved varieties, ridges & furrows with INM, intercropping, crop rotation, energy budgeting, real time contingency crop planning and recommended measures for dry lands. Dr. P.K. Srivatsava, Dr. Manish Kumar, Dr. Vikas Gupta, Dr. R.L. Choudhary, Dr. Jijendra Rajput and Dr. Alka Rani presented their research findings in this session.



OUTCOMES

- 1) Adoption of mulching and inter-cultivation practices are to be developed based on soil and climatic conditions.
- 2) Promotion of cover crops and high carbon sequestrering crops in cropping sequence have to be strengthened.
- 3) Drought mitigation strategies through bio-remedial measures and nutrient management can be promoted.
- 4) Region-specific agro-ecological remedial measures have to be developed, ensuring a focus on food security.
- 5) Ensuring the involvement of different stakeholders and institutions will further refine the effort.

4.4. SCIENTIFIC TOOLS FOR LAND RESOURCE INVENTORY, HYDROLOGIC ASSESSMENT AND DECISION SUPPORT SYSTEMS FOR EFFECTIVE MANAGEMENT OF NATURAL RESOURCES

The session was Chaired by Dr. P. K. Shrivastava, Dean College of Forestry, NAU, Gujarat, India and Co-Chaired by Dr. Robert Scott Van Pelt, USDA, ARS, USA. Dr. K. Rajalekshmi, KAU and Dr. Amit Mishra were the rapporteurs. The session was convened by Dr. Pradeep Kumar Rai, Head Department of Soil Science, SKUA&T. In the session two lead and ten oral papers were presented. Dr. S. S. Grewal presented the lead lecture on “Mitigation of climate change impacts through an integrated watershed development projects operated in the drought prone Aravali Hill ecosystem of Rajasthan”. The second lead paper by Dr. Robert Scott Peld, USDA, USA, was on “Impact of Dust on the health and safety and annual economic loss”. He explained how wind erosion is increasing, particularly in South America. The possible reasons are tillage operations and harvesting operations, loss of carbon and reduction in water holding capacity of soil. The redistribution of the soil particles and wind causes wind erosion that removes the chemically active part of the soil. Andrey Zhidkin from Russia, Srinivasan R. M. Singh, Kisan Kumar, Biradar, Bipul Deka, Vasundara, Ezhilkrishna, R.L. Meena, Praveen Kumar, Manjesh, Sarabjit Singh have presented their papers. Sub themes were justified by very interesting research findings which involved land resources inventory, hydrological models based on suitable statistic, mathematical and software base solution. A robust decision





support system for effective management of natural resources can be developed by using the findings of various research presented under the session.

OUTCOMES

1. Natural resource management strategies can be developed at micro watershed level.
2. Adoption of land resources inventory can be made as part of decision support system to develop site specific interventions in nutrient management, crop recommendation and soil and water conservations.
3. Hydrological assessment can be adapted to formulate water budgeting at the micro watershed level.
4. Research findings from LRI, hydrology and geo-special tools may be made as an integral part of policy decision support.

4.5. VULNERABILITY, RESILIENCE AND MITIGATION OF CLIMATE CHANGE IMPACT ON WATER RESOURCES SYSTEMS

The session was Chaired by Dr. P. L. Patil, Vice Chancellor, University of Agricultural Sciences, Dharward and Co-Chaired by Dr. B. S. Chaudhary, Professor and Head, Kurukshetra University. Dr. Kuldeep Kumar and Dr. Manjushree Singh, NAU, Gujarat were the rapporteurs. The session was convened by Dr. Ashok Maske, PDKV, Akola. Three lead papers were presented in this session. The first lead lecture was presented by Dr. Susma Sudhishri, and she reported that the irrigation water quality index was very low in the Mewat region of Haryana. The optimal crop plan was formulated and Water User Association for better and scientific utilization of precious water resource of the region, The second lead lecture was presented by Dr. B. S. Chaudhary, and they reported that geospatial technology helped in increasing the irrigation efficiency of the Koshlaya Jajhara watershed. A geomorphological map was prepared, a DEM-SRTM model was used, and a LULC map was prepared. Third lead lecture was presented by Dr. P. K. Srivastava and reported integrated land planning was helpful in the scientific management of water resources in the central west coast region of India. Miroslav Dumbrovsky, Abrar Yousuf, Navneet Sharma, Mhaske, Sarita Mishra and



Uday Mandal, P.K. Mandal, Satya Prakash, M.C. Singh, and S. Chand presented their papers. The research findings of the adoption of new tools for the assessment of the Vulnerability of resources due to climate change were presented. The outcomes of these findings can be incorporated into faring the strategies for mitigating the ill effects of climate change on the water resources system.

OUTCOMES

1. Adoption of new tools, Geo-statistical models, Remote sensing of high-resolution data for assessment of vulnerability of resources due to climate change.
2. Research findings on vulnerability for land degradation, nutrient depletion of specific sites have to directed towards conservation and scientific use.
3. The outcomes of findings can be incorporated into formulating strategies for mitigating the ill effects of climate change on the water resources system.



4.6. SUSTAINABLE MANAGEMENT OF GROUNDWATER

The session was Chaired by Dr. P.S. Brahmanand, Project Director, WTC, IARI, New Delhi and Co-Chaired by Dr. Satyendra Kumar, CSSRI, Karnal. Dr. Gaurav Singh, IISWC, Vasad and Dr. Ragupathi were the rapporteurs. The session was convened by Dr. Susama Sudishree, Principal Scientist, IARI,





New Delhi. First lead lecture was presented by Dr. P.S. Brahmanand, WTC, IARI, on Eco-friendly and climate resilient water management interventions and discussed on conservation agricultural practices for better drought resilience. In second lead paper, Dr. Satyendra Kumar, CSSRI, Karnal discussed on controlling groundwater depletion. In oral presentation Sangeeta, Navneet Sharma, Chandrakala, Sujeet Desai, Ranu Rani Sethi, Suresh Kumar, Ashok Kumar, A.K. Singh, P. Mishra and B.S. Naik presented their research findings to improve ground water quality and also emphasized on groundwater recharge.

OUTCOMES

- The discussions proved that there is a need for; detailed, intensive, and temporal assessment of groundwater so that site-specific and sustainable management strategies can be evolved;
- Accurate estimation of groundwater resources for crop diversification; and
- Improved tools to identify the site for micro scale water harvesting structures.

4.7. SUSTAINABLE PLANNING AND UTILIZATION OF NEW AND RENEWABLE ENERGY AND SOIL AND WATER RESOURCES

The session was Chaired by Dr. Indra Mani Mishra, VC, VNMKV, Parbhani and Co-Chaired by Dr. O.P.S. Khola, Former Head, IISWC Research Centre, Chandigarh. Dr. Nandlal Kushwaha and Dr. Manjushree Singh were the rapporteurs. Dr Deodas Meshram, CCRI, Nagpur convened the session. In this session Dr. Indra Mani Mishra, VC, VNMKV, Parbhani have presented keynote address on natural resource management through innovation in mechanization, drones and robotics. He emphasized the need of mechanization and adoption of drones in various agricultural operations for timely management practices. He also informed that a future labour shortage will challenge for agriculture in India. Borivoj Sarapatka, Gourav Singh, H. Rouhipour, S. Pradhan, Deepika, Karthika, Ankila, Ragupathi, Sirisha and Pandey presented their work. In this session, effective soil and water management practices for micro watersheds using models, agroforestry for soil health management, and efficient irrigation management practices were discussed through the research findings. Several research findings concluded that soil and water resources are being lost at an alarming



rate because of natural and anthropogenic activities. Suitable and site-specific interventions must be developed that also take care of natural parameters.

OUTCOMES

- Micro watershed planning using hydrological models.
- Efficient irrigation systems with AI integration.
- Conservation agriculture for reducing land degradation.
- Biological soil and water conservation measures for hill slopes.
- Land degradation and nutrient depletion status must be mapped specifically on a finer-resolution map.

4.8. HYDROLOGY AND DIGITAL APPLICATION FOR MANAGEMENT OF WATERSHEDS

The session was Chaired by Dr. Manoj Samuel, Executive Director, CWDRM, Calicut and Co-Chaired by Dr. K.V. Ramana Rao, CIAE, Bhopal. Dr. H. C. Hombegowda, IISWC, Koraput and Dr. Arvind Kumar Gupta were the rapporteurs. Dr. Mukesh Kumar, IGNOU, Delhi convened the session.

Three lead papers were presented in this session. The first lead paper on sustainable water management and climate-smart agriculture for livelihood and food security in India was delivered by Dr. Manoj P. Samuel. He stressed that the major factor that affects the production and productivity of agricultural crops is crop water management. Dr. H. C. Hombegowda, IISWC, Koraput presented on Model watershed planning and implementation for effective resource conservation and climate resilience: An experience from Eastern Ghats, India. He focused on different processes to conserve soil in hilly regions. He suggested that sloping degraded land (Dunger land) has the potential for agroforestry systems with soil and water conservation measures and water harvesting through silpauline-lined ponds for protective irrigation. In oral paper presentation total 36 papers were listed. and more than 70 % papers were presented during this session.



OUTCOMES

1. Digital micro-watershed maps can be strengthened with hydrological parameters in planning watershed management practices.
2. The intensity of the weather monitoring station has to be strengthened and can be made accessible to all the end users in real real-time bases.
3. Uncontrolled grazing is the major constraint for the successful establishment of plantations.

4.9. ECOSYSTEM AND THEIR VALUATION INCLUDING BIODIVERSITY CONSERVATION AND MANAGEMENT

The session was Chaired by Dr. Pratap S. Birthal, Director, NIAP, Delhi and Co-Chaired by Dr. Munish Kumar, CSAUAT, Kanpur. Rappoteurs were Dr. Madhukar More, VNMKV, Parabani and Dr. Rajesh Kumar Meena, NBSS&LUP, Delhi. The session was convened by Dr. Anchal Das, IARI, New Delhi. In this session Dr. Kiran Kumara T.M presented a lead paper on the value of ecosystem services from sustainable agricultural practices in India: Implications for re-purposing agricultural Subsidies. He highlighted hidden cost of agri-food system, valuation of ecosystem services (traded and non-trade services), value of ecosystem services from improved agricultural practices. He emphasized on development of scientific



and robust methodology to incentivizes farmers and create market for ecosystem services through repurposing of agriculture incentives/ subsidies. D.T. Meshram, V. Kasthuri Thilagam, Satya Prakash, Zehrab Hazbavi, Roghayeh Jahdi, Vanitha SM, Pankaj Kumar Verma, S.M. Purushothaman, N. Rajput, Garima Kumari, Geeta Kumari, Neelam verma, Tresa presented their papers.

OUTCOMES

- Aspects of biodiversity resources, ecological restorations, soil health, and productivity enhancement can be strengthened by scientific interventions.
- Involvement of different stakeholders and functionaries can be intensified to conserve biodiversity.
- Ecosystem services of soil and water conservation structures may be asses indirectly.

4.10. MITIGATION OF CLIMATE CHANGE IMPACT ON SOIL HEALTH AND CARBON SEQUESTRATION

The session was Chaired by Dr. Renschler, Christian Stefan, USDA, USA and Co-Chaired by Dr. D. Mandal, IARI, New Delhi. Rappoteurs were Dr. Hardev Ram, NDRI Karnal and Dr. Uday Mandal, IISWC Dehradun. The session was convened by Dr. Indu Chopra, IARI, New Delhi. Three lead papers were presented in this session. The first lead paper was presented by Dr. Debashis Mandal on soil fertility and health management for C-Sequestration and sustainable agricultural production. He focused on SOC-enhancing practices like sensors to detect nutrient deficiencies and early warnings of nutrient deficiency for precisely targeted control, use of aerial and global positioning technology for precise application of fertilizers, irrigation, fertigation that maximise water and nutrient use efficiency. The second lead paper was by Dr. Adesodun, J. K. on Carbon footprint and aggregation of an Alfisol in response to different tillage and Maize (*Zea mays L.*)/Cowpea (*Vigna unguiculata L.*) intercrop. and the third one was presented by Dr. Anchal Dass on Precision N management using sub-surface drip fertigation in maize wheat system. Rajan Bhatt, Adesodan, Marami Dutta, Deepthi, price Kumar, Ram Kishore, Backiyavathy, Rajalekshmi, Bagavathiyammal, Dibyendu Chatterjee, Vasundara, Samsudeen and Ann Theresa presented their papers. The oral presentations focused on balanced fertilization to get better yield and economic



returns, Carbon footprint estimation, residue management on soil organic carbon, impact of biochar on water holding capacity, high intensity cropping on soil phosphorus fractions, soil organic carbon pools and aggregate, integrated nutrient management.

OUTCOMES

- Carbon sequestration measures to improve soil health and crop production.
- Conservation tillage, residue management, balanced fertilization and inter cropping for increased soil organic carbon content.
- Plantations and agroforestry for higher carbon sequestration.

4.11. CLIMATE CHANGE ADAPTATION IN AGRICULTURE AND ALLIED SECTORS

The session was Chaired by Dr. O.P.S. Khola and Co-Chaired by Dr. Susama Sudhisree, IARI, New Delhi. Rapporteurs were Dr. Anitha Kumavat, IISWC and Sirisha Adamala. The session was convened by Dr Sanjay Arora, CSSRI, Karnal. In this technical session papers on integrated weed management practices, integrated nutrient management, conservation tillage, nano urea, rainfed agri-horti systems, long term effects of fertilization etc. were discussed. Presentations were made by Ramanji Kaur, Satya Prakash, O.P. Aiswath, Parmeshwar, Amar Preet Singh, Kuldeep Kumar, Rekha Nair, Roopa and Amit Mishra.

OUTCOMES:

- Conservation tillage for rain-fed agriculture.
- Integrated weed management and weed dynamics in various cropping systems.
- Integrated nutrient management for improving soil health.

4.12. APPLICATIONS OF JUTE GEO-TEXTILES FOR NATURAL RESOURCE MANAGEMENT

The session was Chaired by Dr. Rajbir Singh, ADG, NRM, ICAR and Co-Chaired by Dr. S. K. Dubey. Rapporteurs were Dr. R. L. Choudhary and Dr. Saswat Kumar Kar. The session was convened by Dr. S. Manivannan, IARI, Assam. In the technical session, one lead paper



presentation on “Application of jute geo-textiles for erosion control and slope stabilization” by Dr. S. Manivannan, Pr. Scientist, IARI, Assam. The findings of application and suitability of Jute geo-textile for the western ghat region was presented by the speaker. Jute geo-textiles are value-added textiles used on sloppy soil surfaces as a protection measure to reduce erosion. Its major functions are filtration, separation, drainage etc. It also acts as a medium for strengthening and stabilization of road embankments. It is advantageous in terms of its foldable nature and tailor-made site-specific nature. The research findings showed that 500 GSM jute geo-textile was suitable for tea plantation areas. However, 700 GSM jute geo-textile was recommended for reducing runoff, soil loss, nutrient loss, and increasing soil moisture and organic carbon content. Further, open-weave jute geo-textile was found to be superior over non-weave jute geotextile and synthetic textiles. It has been found to be effective in rehabilitating landslide areas. However, the cost-effectiveness or economic viability of the JGT may be considered for wider adoption of the technology in other similar areas. The highly innovative and eco-friendly solution was found in the form of geo-textiles in combating small-scale landslides, soil and water conservation activities apart from positive influence on soil nutrients. The efforts of such research can be explored not only to rejuvenate degraded land but also to strengthen rural employment and livelihood.

OUTCOME

- Natural geo-textiles for slope stabilization and reinforcement in road construction needs to be exploited in larger scale for sustainable soil and water resources management.

4.13. ONLINE SESSIONS

The concurrent session was also organized for online participants. The theme 1 and 2 online and poster sessions were Chaired by Dr. Shamsar Singh, Commissioner of Agril. (Rtd.) and Co-Chaired by Dr. S.L. Patil, Head, IIPR Regional Station, Dharwad. Dr. B.S. Naik, ICAR-IISWC and Dr. M.



Manjunath, ICAR-CRIDA were the rapporteurs. The session was convened by Dr. Bipul Deka, Assam Agricultural University

Technical session (online) on theme 3, 4, 6 and 7 was Chaired by Dr. Manojkumar Samuvel, Executive Director, Centre for Water Resources Development and Management, Calicut and Co-Chaired by Dr. V. Sridhar, Virginia Tech University, USA. Dr. Rajan Bhatt, PAU, Ludhiana and Dr. Shamsudheen Mangalassery, ICAR- NRCC, Puttur were the rapporteurs. In this session a lead paper on Perspectives on Hydrologic Extremes with a Case Study from the Chamoli Basin was delivered by V. Sridhar, VT, USA through virtual mode.

Technical session through online on theme 8 was Chaired by Dr. Andrey Zhidkin, V.V. Dokuchaev Soil Science Institute, Moscow, Russian Federation and Co- Chaired by Dr. Sanjay Arora, CSSRI, Lucknow. Dr. Vikas Sharma, SKUAST-Jammu and Dr. Durgesh Kumar were the rapporteurs. The online Technical session on theme 5 and 9 was Chaired by Sh. R.A.S. Patel, Ministry of Agriculture & Farmers Welfare and Co- Chaired by Dr. A.K. Singh, IISWC Research Centre, Vasad. Dr. Subash Chand, NIAP, Delhi convened the session. The recommendations drawn from online session also listed under respective themes.

5.0. VALIDICTORY SESSION

The four days Conference was concluded on 10th December 2023, Prof. Vijay Paul Sharma, Chairman, Commission for Agricultural Costs and Prices (CACPC), Ministry of Agriculture and Farmers Welfare, Government of India, was the Chief Guest and delivered the valedictory address. In his address, he highlighted the initiatives and schemes the Government of India implemented to



double the farmers income. He stated that the misuse of technologies has adversely affected soil and water resources. Fragmented lands and climate change are the major challenges in adopting sustainable technologies. Hence, soil and water resources have to be effectively managed through agroclimatic region-based technologies. Linkages between researchers, extension agency and farmers should be strengthened for effective adoption of the developed technologies. He also congratulated the organizers for organizing this conference on time. During the occasion, the awards were presented for the best oral and poster presentations. Dr. A.K. Singh, Vice President, NAAS, New Delhi was the Guest of Honour during the occasion and he expressed that the ecosystem services of soil and water resources should be focussed more for research. Dr. Indra Mani Mishra, Vice Chancellor, Vasantryao Naik Marathwada Krishi Vidyapeeth, Parbhani delivered special address. He said that our

researches on climate change should focus on the future after 25 years and can be mitigated only through mass movement including youngsters. Dr. Robert Scott Van Pelt from USDA - ARS Wind Erosion and Water Conservation delivered a felicitation address. He emphasized that scientists should think out of the box and ensure people's nutritional security. Dr. T.B.S. Rajput, President, Soil Conservation Society of India welcomed all present. Dr. S. Manivannan, Organizing Secretary briefed about the conference proceedings and the recommendations from each theme. Dr. P.S. Brahmanand, Project Director, Water Technology Centre, ICAR-IARI proposed a vote of thanks in the valedictory function.





6.0. RECOMMENDATIONS

The following general recommendations have been arrived from the deliberations from various technical sessions.

1. Sustainable natural resource management strategies for global climate scenario needs to be developed at minimum operational scale or micro watershed level.
2. Region-specific agro-ecological remedial measures have to be developed, ensuring a focus on food security.
3. Farmers must be provided with climate resilience services to promote climate- smart agriculture with features of weather, water, carbon, and nutrient smartness.
4. Ensuring the involvement of different stakeholders and institutions for deriving climate change mitigation action will further refine the effort.
5. Promotion of low-carbon rice production through SRI, DSR, AWDT, and drip irrigation systems to be taken up on priority.
6. Revitalizing Indian agricultural landscape – Need for a comprehensive and land use policy
7. Globally we need system wide transformations to secure a net - zero, climate resilient future.
8. Revival of traditional water harvesting systems should be the brought under water policy of each country.

Theme wise recommendations arrived from deliberations are listed below:

NATURAL RESOURCE MANAGEMENT TOWARDS ACHIEVING SUSTAINABLE DEVELOPMENT GOALS (SDGS)

- Adoption of mulching and inter-cultivation practices are to be developed based on soil and land properties, including varying climatic conditions.
- Promotion of cover crops to decrease soil erosion and enhance the carbon sequestration potential of soil for climate resilient system to mitigate global climate change.
- Drought mitigation strategies through bio-remedial measures and nutrient management can be promoted.
- Millet based cropping systems needs to be promoted for mitigating climate change on drought with enhanced productivity.
- Spatial and temporal analysis of the effect of climate change on the glacier loss in the Himalayas.
- Adoption of resource use efficient crop cultivars and conservation measures and real time contingency crop planning for dry land areas.

SCIENTIFIC TOOLS FOR LAND RESOURCE INVENTORY, HYDROLOGIC ASSESSMENT AND DECISION SUPPORT SYSTEMS FOR EFFECTIVE MANAGEMENT OF NATURAL RESOURCES



- Adoption of land resources inventory can be made as part of decision support system to develop site specific interventions in nutrient management, crop recommendation and soil and water conservation.
- Data base on snow cover reduction, increasing the glacier lakes and glacier related disasters leading to water variability needs to be created for future climate change research.
- Hydrological assessment can be adapted to formulate water budgeting at the micro watershed level.
- Research findings from Land Resources Index, hydrology and geo-special tools may be made as an integral part of policy decision support.
- Dust production is global issue and global level research for developing technologies / agricultural practices for reduced dust production is need of the hour.
- Land degradation and nutrient depletion status must be mapped specifically on a finer-resolution map.
- Technologies for wind erosion control needs to be popularized and promoted.
- User friendly GIS / Remote Sensing based methodologies for assessment of soil erosion / soil degradation needs to be developed.
- Soil data base for hydrological modeling in minimum scale to be created for countries like India for using the various models for climate change prediction.
- An alternative methods for RUSLE equation needs to be developed for estimating soil loss / soil susceptibility.

VULNERABILITY, RESILIENCY AND MITIGATION OF CLIMATE CHANGE IMPACT ON WATER RESOURCES SYSTEMS

- Adopt new tools, such as geo statistical models and remote sensing of high-resolution data for assessment of vulnerability of resources due to climate change.
- Research findings on vulnerability for land degradation, nutrient depletion of specific sites have to directed towards conservation and scientific use.
- The outcomes of findings can be incorporated into formulating strategies for mitigating the ill effects of climate change on the water resources system.
- Integrated Water resource management at Panchayat / village level and planning methodologies based on water availability should be developed and implemented minimum scale I.e village panchayat level for climate change adaptation.
- Climate mitigation policies should be linked with Government Schemes for effective adoption by farmers.

SUSTAINABLE MANAGEMENT OF GROUNDWATER

- Looking at groundwater resources in the country, awakening findings proved that there is a need for detailed, intensive, and temporal assessment of groundwater so that site-specific and sustainable management strategies can evolve.



SUSTAINABLE PLANNING AND UTILIZATION OF NEW AND RENEWABLE ENERGY AND SOIL AND WATER RESOURCES

- Hydrological regime-based watershed planning and GIS based planning software / models needs to be standardized for each region of the all countries.
- Location specific optimization of micro scale water harvesting structures in minimum watershed scale needs to be standardized and promoted.
- Suitable and site-specific interventions that should take care of natural parameters must be developed.

HYDROLOGY AND DIGITAL APPLICATIONS FOR MANAGEMENT OF WATERSHEDS

- Digital micro watershed maps can be strengthened with hydrological parameters in planning watershed management practices.
- Intense of the weather monitoring station has to be strengthened and can be made accessible to all the end users in real time bases.

ECOSYSTEM AND THEIR VALUATION, INCLUDING BIODIVERSITY CONSERVATION AND MANAGEMENT

- Strategies for biodiversity conservation have to be developed based on the region-specific database to make it more applicable and effective.
- Ecological restorations, soil health, and productivity enhancement can be strengthened.
- Involvement of different stakeholders and functionaries can be intensified to make the efforts more of participatory approaches.
- Development of scientific and robust methodology to incentives to farmers and create market for ecosystem services through re purposing of agriculture incentives/ subsidies.
- Adoption of feasible farm enterprise combination for agricultural productivity and profitability.

MITIGATION OF CLIMATE CHANGE IMPACT ON SOIL HEALTH AND CARBON SEQUESTRATION

- Organic farming promotion must be supported with sufficient research data to enhance soil health and productivity.
- Carbon removal is now essential to limit global temperature rise to 1.5 degrees C and technologies needs to be developed.

CLIMATE CHANGE ADAPTATION IN AGRICULTURE AND ALLIED SECTORS

- Deriving the regional specific drought and flood mitigation strategies
- Implementation of microscale watershed activities at panchayat level to address the local issues on natural resources
- Basin wise largescale adoption of land resource inventories for planning & developmental activities



- Database on natural resources should be available in the common portal for research.
- Location specific technologies should be developed and adoption strategies should be derived for different kind of land degradation.
- Utilization of groundwater and surface water should be optimized based on climatic conditions and availability of water
- Planning efficient water management for various activities including wastewater management
- Location specific land degradation neutrality measures should be developed.
- Biodiversity conservation measures should be intensified by involving different stakeholders
- Unleashing the potential of new and renewable resources for mitigation of climate change impacts
- Exploring the opportunities in using natural materials for infrastructure development like road construction

7.0. LIST OF AWARDEES OF ORAL PRESENTATION

The concurrent sessions were conducted through online and offline for all the themes. The best oral presentations were selected from both online and offline sessions. The awardees were given Best presentation certificate in the valedictory session.

Name of Awardee	Title of presentation
Ajay V Narwade	Morpho-physiological Characterization of Rice (<i>Oryza sativa</i> L.) Genotypes in Response to Potassium Application under Water Stress
Amarpreet S	Chemical and biological based interventions for better root development of Hybrid Bt cotton under various tillage conditions in North India
Amit Mishra	Effect of Integrated Nutrient Management on soil properties and productivity of pulses based cropping system in semi arid climatic condition
Andrey Zhidkin	Development of methods for the inventory of soil degradation areas based on a combination of remote sensing, soil erosion modelling and field survey data.
Ankhila R H	Construction of Soil fertility indices using soil health card data for Andhra Pradesh: An illustration of Bio-economic model
Ann Theresa Jose	Root morphology and nitrogen use efficiency of wheat genotypes using novel nitrogen fertilizers under pot culture
Chandrakala M	Assessment of Ground Water Quality for their Suitability for Drinking and Irrigation Water Management in Chitradurga District, Karnataka, India



Chaudhary R. L.	Climate Smart Practices for Mitigation of Moisture Stress in Indian Mustard-Based Cropping Systems: Assessment on Productivity, Profitability and Resource-Use Efficiency
Chris. S. Renschler	Integrated Soil and Water Conservation Management of Agroecosystems across Scales: Supporting Sustainable Development and Community Resilience around the Globe – A Bid to host the ISCO Conference in West Lafayette, Indiana (USA) in 2026
Farzin Shahbazi	Assessing the vertical and lateral distribution of some key soil properties in an agricultural area of Iran using digital maps
Gaurav Singh	Sapota (<i>Achras zapota</i>) based Bio-engineering Measures for Ravine Slope Stabilization and Sustainable Productive Utilization in Mahi Ravines of Gujarat
Hardev Ram	Effect of source of irrigation and fertilizer levels on forage and seed yield of berseem (<i>Trifolium alexandrinum</i> L.)
Jha S.K.	Combating sub-soil sodicity constraints of Central Indo-Gangetic Plains of Uttar Pradesh for enhancing crop productivity
Kuldeep Kumar	Conservation tillage based broad bed and furrow system for resource conservation and higher income in rainfed regions of South-eastern Rajasthan
Mamta Prakash	Assessment of heavy metals and potential health risk through consumption of vegetables grown in the flood plains of river Yamuna in Delhi
Manjunath M.	Effect of Rhizobium isolates on nodulation and plant growth parameters of black gram (<i>Vigna mungo</i> L.) genotypes
Marami Dutta	Profile Distribution of Potassium in Some Soils of Sarupathar Block of Golaghat District, Assam
Meena R. L.	Large scale soil mapping using geospatial techniques – A case study of Dahod district, Gujarat
Meena, R.K	Characterization of Soil Resources using Geospatial technologies for Sustainable Agricultural Land Use Planning: a case study from intensively cultivated Trans Indo-Gangetic plains.
Mhaske A.R.	Impact Evaluation of Selected Farm Ponds in Hinganghat Taluka of Wardha District
Naik B.S.	Recharge Filter for Revival of Defunct and Low Yielding Bore Well and Augmentation of Ground Water in Semi-Arid Region of Karnataka
Navneet Sharma	Field-Based Assessment of Pond Suitability To Support Implementation of Groundwater Recharge in The Ramganga Basin, India



Praveenkumar B	Geospatial Assessment of Soil and Land Properties for Mango Suitability in Chandanhalli Sub Watershed Using Analytical Hierarchic Process
Prince Kumar	Balanced fertilization to get better yield and economic returns from potato production
Rajan Bhatt	How much potash does sugarcane in Punjab required at deficient sites for improved growth, yields, and recovery?
Ram Kishor Fagodiya	Critical Carbon Input and Carbon Sequestration Potential of Long-term Tillage and Residue Management Practices in Rice–Wheat System
Roghayeh Jahdi	Assessment on Forest Ecosystem Health Based on Forest Types at the Watershed Scale: A Case Study of The Siahkalshenrod Watershed, Northern Iran
Roopa H.S	Enhancing Sustainable Wheat Cultivation in Uttar Pradesh, India: A Biofortified Perspective
Sangeeta	A Multi-Criteria Analysis Approach for Identifying Suitable Sites for the Construction of the Sub-surface Dam in the Morni Watershed, India
Sarita Mishra	Economic Empowerment of Home-Maker: Promoting Climate-Resilient Agriculture Through Diversified Income Resources
Saswat Kumar Kar	Implication of land use shifting on land degradation and restoration ability of conservation tillage in the North-West Himalayan region of India
Shashank Patel	Effect of varietal diversification on nutrient content and uptake of Indian mustard under diverse production systems
Singh M.	Erosion Susceptibility Mapping Using a GIS-based USLE Approach - A Case Study of Dang District in Gujarat
Sonawane A. V	Response of Moringa Oleifera to Partial Rootzone Drying Irrigation and Regulated Deficit Irrigation
Suresh Kumar	Factors Affecting the Adoption of Salt-Tolerant Mustard Varieties in Stressed Environments
Uday Mandal	Vulnerability Area Identification of a Coastal River Basin of India using Hydrological Model
Zeinab Hazbavi	Watershed responses to interactive connection of vitality, organization, resilience, and ecosystem service



8.0. LIST OF AWARDEES OF POSTER PRESENTATION

The posters were prepared in digital format and all the participants presented their digital posters in the concurrent sessions through online and offline for all the themes. The best poster presentations were selected from both online and offline sessions. The awardees were given Best presentation certificate in the valedictory session.

Name of Awardee	Title of presentation
Lalchand Kumawat	Sustainable Drought Management: Adapting to Arid Challenge
Gouthami B	Hydromulching - Tomorrow's Technology For Sustainable Agriculture
Arunadevi K	Smart irrigation scheduling to improve water use efficiency in garden pea
Adrita Dam	Evaluation of Performance of Agriculture Infrastructure Fund Scheme
Kalyani Patil	Bioavailability of Cadmium to Indian Mustard as influenced by Rice Residue Biochar under Combined Lead and Cadmium Spiking in a Loamy Sand Soil
Bankey Bihari	Success and Sustainability issues in Water Resources Development and Management projects
Mohammad Amin Bhat	Response of Maize Varieties to Varying Levels of Fertilizer Nitrogen Under Rainfed Conditions
Chetan Pangul	Optimization of Farm Pond Capacity for Saline Tract of Purna Valley
Shylla C.	Based Site Suitability Study for Pineapple Cultivation in South Garo Hills, Meghalaya
Deo Kumar	Soil characterization of KVK farm, Hamirpur using Geo-statistical tools
Roghayeh Jahdi	Geospatial Analysis and simulation pattern of Land use/ cover changes using Remote Sensing and Geographic Information System (GIS) in Northern Iran
Iska Srinath Reddy	Seaweed Bio-Stimulant Foliar Application for Improving Crop Productivity and Soil Health Under Climate Change: A Comprehensive Review
Abhishek Shukla	Evaluation of few reference evapotranspiration equations against standardized FAO56-PM model for semi-arid region of Ludhiana
Raghupathi Matheyarasu	Achieving Sustainable Development Goals (SDGs) by Means of Watershed Development Program.
VaneetJishtu	Arboreta and the Sustainable Developmental Goals – Case Study of the Western Himalayan Temperate Arboretum, Shimla
Suman Kumar	Effect of Soil Properties on Regulating Soil Dehydrogenase Activity in Inceptisol



Ghazanfer Abbas	Growth and Physiological adaptations of Teak (<i>Tectona grandis</i> Linn. F) under varied irrigation regimes using drip system during initial growth stage
Alka Rani	Spatio-temporal trend analysis of satellite-derived near-surface soil moisture content over Madhya Pradesh
Ramniwas	Mycorrhiza and Zinc Fertilization affect Quality parameters of Pearl Millet (<i>Pennisetum glaucum</i> L.) in Hot Arid Region
Sidhartha Gaddam	Effect of Pusa Decomposer for Enhancing the Nutrient Availability in Bioslurry
Mayurakshi Chanda	Moisture Sensitivity of Carbon in Sludge Amended Inceptisol
Abshiba	Assessment of soil quality in different cropping systems of eastern plateau and hill region of India

9.0. SCHEDULE OF EVENTS

Date & Time	Programme
06.11. 2023 03.30 - 06.30 PM	Registration Venue : SCSi Committee Room, Societies Block, NASC Complex
07.11.2023 08.30 - 09.45 AM	Registration Venue: AP Shinde Symposium Hall, NASC Complex
10.00 - 11.30 AM	Inaugural Function and award ceremony
11.30 - 02.00 PM	High Tea
12.00 - 01.00 PM	Plenary Session Venue: AP Shinde Symposium Hall, NASC Complex
Chairman	Dr.T. B. S. Rajput , President, SCSi
Co-Chairmen	Dr. Christ S Renschler , Research Leader, USDA-NSERL-ARS
Rapporteurs	Dr Praveen Naikodi, Bidar, Karnataka Dr. Ajay Narvade, Navasari Agricultural University
Convener	Dr.S.K.Dubey , Emeritus Scientist, ICAR – CSSRI, Karnal
JS Bali Memorial Lecture	Water Management in Rainfed Agriculture - Need for a balanced strategy focusing on economy, ecology and equity – Er.Bisweswar Rath , <i>Technical Expert, NRAA, New Delhi</i>
Key Note Address	Sustainable land Resources Management through Watershed Development Programme in India – Dr C.P.Reddy , Senior Additional Commissioner, Department of Land Resources Management, Government of India Water Resources Management for Sustained Development and Utilization in Agriculture - T.B.S. Rajput , President, SCSi Virtual Address by Prof. Edoardo A.C. Costantini , President, International Union of Soil Sciences.



01.00 - 02.00 PM	Lunch
02.00 - 03.30 PM	Conference Theme Session- Keynote addresses
	Venue: Venue: AP Shinde Symposium Hall, NASC Complex
Chairman	Dr. A.K.Singh , Vice President, NAAS & Former DDG (NRM), ICAR
Co-Chairmen	Dr. Adinarayana , Professor, IIT Bombay, Mumbai
Rapporteurs	1. Dr.S.M.Purshothaman, Professor, KAU, Kerala 2. Dr.Sureshkumar, CSSRI, Karnal
Convener	Dr. O.P.S.Khola , Principal Scientist, ICAR –IISWC RC, Chandigarh
Key Note Addresses	Land Degradation Neutrality – Challenges and opportunities – Dr. Anil Kumar Singh , Former DDG (NRM), ICAR & V.P.(NAAS) Groundwater Depletion – A Threat to Resilience of our Future – Dr. R. C. Srivastava , Former Vice Chancellor (RPCAU) Climate Risk Vulnerability and impact assessment and Risk reduction strategies – Dr V Geethalakshmi , V.C., TNAU, Coimbatore
03.30 - 04.00PM	Tea
04.00 - 06.00 PM	Technical Session: Theme 1 Lead Paper Presentations Venue : NAAS Lecture Hall
Chairman	Dr E.B. Chakurkar , Director, ICAR – CIARI, Portblair
Co-Chairman	Dr. Murari Lal Gaur , Senior Professor, AAU, Gujarat
Rapporteurs	Dr. R. Jahdi, University of Mohaghegh Ardabili, Ardabil, Iran R.Srinivasan, NBSSLUP Regional Station, Bengaluru.
Convener	Dr. V.Kasthuri Thilagam , SBI, Coimbatore
Lead Papers	1. Water Augmentation Measures in ICAR-CIARI, Port Blair: A Critical Step towards Self Sufficiency – Dr. Eaknath B. Chakurkar - Director, CIARI, Portblair 2. Next-Generation Climate-Resilient Management of Water and Watersheds: From Data to Action – Dr. Murari Lal Gaur , Senior Professor, AAU, Gujarat 3. Agro-climatic Characterization for Risk Reduction in Agriculture – Dr. Santanu Kumar Bal , Project Coordinator, CRIDA, Hyderabad 4. Evaluating the Water Resource Management in an Agricultural Sector Under Climate Change Using a Risk-Based Hydro-Economic Model – Dr. Ghader Dashti ,- University of Tabriz, Iran 5. Remediation of salt affected soils for sustainable productivity under changing climate – Dr Sanjay Arora , CSSRI, R.S., Lucknow 6. Sustainable Natural Resource Management to combat the climate change challenges through NICRA- Dr. D.V.S Reddy , ATARI Bengaluru
04.00 - 06.00 PM	Technical Session: Theme 2 Lead Paper Presentations Venue : ICAR Lecture Hall
Chairman	Dr Ashwini Kumar , Former Director, IIWM
Co-Chairmen	Dr. Bořivoj Šarapatka , Palacký University, Olomouc, Czech Republic



Rapporteurs	1.Dr.Farzin Shahbazi, University of Tabriz, Iran 2.Dr. Ashish Vasant Sonawane, NAU, Gujarat
Convener	Dr.Satya Prakash , SVPUA&T, Meerut
Lead paper	1. Digital Agriculture for Disruption in Agri Food Systems – Dr. Adinarayana , Professor, IIT Bombay, Mumbai 2. Assessing the vertical and lateral distribution of some key soil properties in an agricultural area of Iran using digital maps- Farzin Shahbazi , University of Tabriz, Iran 3. Assessing Climate change impact on Indian agriculture and adaptation strategies – Dr Soora Naresh Kumar , IARI, New Delhi 4. Online and Blended Education in Agriculture–A Way Forward - Mukesh Kumar , IGNOU
06.30 - 08.30 PM	Cultural Programme
08.30 - 09.30 PM	Dinner
08.11.2023	Technical Session – Theme 1 Lead and Oral presentations
09.30 - 11.00AM	Venue : ICAR lecture hall
Chairman	Dr.R.C. Srivastava , Former Vice Chancellor, RPCAU, Bihar
Co-Chairman	Dr. Sanjay Jain , Head &Nodal Officer, N.I.H., Roorkee
Rapporteurs	Dr. Zeinab Hazbavi, University of Mohaghegh Ardabili, Ardabil, Iran Dr SM Vanitha, ICAR –IISWC, Udhagamandalam
Convener	Dr.D.V.Singh , ICAR –IISWC, Dehradun
Lead paper	1. Snow/glacier Change and impact on runoff in a Himalayan Basin - Dr. Sanjay Jain , NIH, Roorkee 2. Doable Agronomic Technologies for Resource Conservation for Sustainable Production in Semi-Arid Tropics of South India – Dr. S.L. Patil , IIPR Regional Station, Dharwad
ORAL PRESENTATIONS	
<ol style="list-style-type: none"> TS1ORL03 -Evaluation of Rainwater Recharging and Harvesting Systems Case studies of Vidyakunj school of Navsari city, Vinay Mandir school of Dandi village and residential areas of Navsari city in Gujarat - P. K. Shrivastava, D. K. Dwivedi, Dileswar Nayak, D. P. Patel , B. N. Bhanderi TS1ORL04- Site Selection for Runoff Water Harvesting using GIS and AHP - P. S. Jayswal, N. K. Gontia, K. N. Sondarva, S. J. Savaliya, V. A. Patel TS1ORL05 -Water Management in Rainfed Agriculture - Need for a Balanced Strategy Focusing on Economy, Ecology and Equity - Bisweswar Rath TS1ORL06 - An Analysis of Time Series Data to Evaluate the Effects of Anthropogenic and Climate Change on Quantitative Land Degradation -Mohamed A. E. Abdel Rahman TS1ORL07 - Adapting Forest Genetic Resource Conservation Strategies in the Era of Climate Change: Enhancing Resilience and Biodiversity -Manish Kumar Vijay,Fatima Shirin, Nanita Berry, Neelusingh, Nitin Kulkarni 	



6. **TS1ORL08 -Resource Management and Ecological Restoration in Road Development Projects Under Threats of Global Warming and Climate Change** -*KaushlendraSingh, Alok Kumar and Jimmi Nery Tirkey*
7. **TS1ORL09 -Designing of Water Harvesting Pond for Rainfed Areas of Jammu District** -*R.K.Srivastava, Shaista Rashid, Sushmita M. Dadhich , Sushil Sharma*
8. **TS1ORL10- Climate Change Influencing Food Security** - *Shalini Kushwaha, Mukesh Kumar, Vijayakumar P*
9. **TS1ORL11 -Flood and Rain Water Harvesting and Management** -*Sunil Kumar and Sushanta Sarkar*
10. **TS1ORL12 -Spatio-Temporal Assessment of Rainfall Changes in the Vaippar Basin, Tamil Nadu, India using Innovation trend analysis** -*M Manikandan , M Nagarajan, A Raviraj*
11. **TS1ORL13 -Growth and Productivity of Pearl Millet Hybrids and their Relation with Changing Climatic Conditions Under Plains of N-W Himalayas of Jammu and Kashmir Ut** - *Vikas Gupta, A. P. Singh, Sanjeev Kumar, ReenaPermdendra Singh and M. C. Dwivedi*
12. **TS1ORL14 -Agro-Economic Feasibility of Direct Seeded Rice Production Technology for Enhancing Productivity in Eastern India** -*Sanjeev Kumar Gupta , Shridhar Patil , Sanoj Kumar , r. K. Sohane , S. K. Pathak , Kamal Kant , A. Kohli, Ghansyam , Srinivasaraghavan A. , R. Vishwakarma , Anjani Kumar , a. B. Patel*
13. **TS1ORL15 -Role of Agro-Technological Interventions and Impact of Climate Change on Farmers' Income for the Sustainable Livelihood: A Case Study of District Tehri Garhwal, Uttarakhand** -*R.S Negi , Ankit Sati , Santosh singh, Nitesh Rawat*
14. **TS1ORL16 -Achieving Sustainable Development Goal-6 (Water and Sanitation for All) in India in the Face of Climate Change: Challenges, Strategies, and Alignment with National Programs** -*Araypalli sivasena reddy and Eazhil Krishna*
15. **TS1ORL17 -Strategies for Climate Resilient Agriculture in Mahasamund District of Chhattisgarh** -*S.K. Verma and Rakhi Dubey*
16. **TS1ORL18 -Climate Smart Practices for Mitigation of Moisture Stress in Indian Mustard-Based Cropping Systems: Assessment on Productivity, Profitability and Resource-Use Efficiency** -*RL Choudhary, RS Jat, HV Singh, ML Dotaniya, MD Meena, VD Meena, MK Meena, PK Rai*
17. **TS1ORL19 - Machine Learning Approaches for Predicting Daily Relative Humidity in Semi-Arid Climate, India** -*Jitendra Rajput, N L Kushwaha, Triptimayee Suna, D. R. Sena, D. K. Singh, Indra Mani, P. K. Sahoo*
18. **TS1ORL20 -Development of Multivariate PCA-Based Index from Remote Sensing Data for Agricultural Drought Monitoring over India** -*Alka Rani, Vinay Kumar Sehgal, Ravinder Kaur, R.N. Sahoo, Rajkumar Dhakar, Abhilash*
19. **TS1ORL21 -Co₂ Emission from Soils Under Different Land uses in Punjab (Northwest India): Results from A Laboratory Incubation Experiment** - *Manju Shrama, Raj Setia, Madhuri Rishi, Brijendra Pateriya*

08.11.2023

09.30 - 11.00 AM

Technical Session : Theme 2: Lead / Oral presentations

Venue :NAAS lecture hall



Chairman	Dr. P.L.Patil , Vice Chancellor, UASD, Karnataka
Co-Chairman	Dr Robert Scott Van Pelt , USDA, ARS, USA
Rapporteurs	Rajalekshmi K., Kerala Agricultural University Amit Mishra, Banda University of Agriculture & Technology, UP
Convener	Dr. Anshuman Kohli , BAU, Bihar
Lead papers	Mitigation of Climate Change Impacts through an integrated watershed development project operated in the drought prone Aravali Hills ecosystem of Rajasthan - S.S. Grewal

ORAL PRESENTATIONS

1. **TS2ORL01 - Development of methods for the inventory of soil degradation areas based on a combination of remote sensing, soil erosion modelling and field survey data.** - *Andrey Zhidkin, Dmitry Rukhovich*
2. **TS2ORL02 - Ridge-to-Valley Treatment of Hilly Terrain for Efficient Soil and Water Conservation** -*Sanjay-Swami*
3. **TS2ORL03 - Role of Smart Cities on Growing Urbanization of India using Thermal Remote Sensing: A Case Study from Ludhiana, Punjab** - *Sarabjit Singh, Koyel Sur , Vipan Kumar Verma, Krishna Mohan*
4. **TS2ORL04 - Land Degradation Vulnerability Mapping in Arid Ecosystem of Rajasthan Using Geospatial Techniques and Analytical Hierarchy Process** -*Brijesh Yadav, Lal Chand Malav , Mahaveer Nogiya , Roshan Lal Meena, R. P. Sharma and Banshi Lal Mina*
5. **TS2ORL05 - Morphometric Study of Dhatarwadi River Basin Using RS and GIS Techniques** *Jayswal, P. S., Gontia, N. K. and Sondarva, K. N.*
6. **TS2ORL06 - Assessment and Mapping of the Fallow land in Tamil Nadu using Landsat imageries for increasing crop productivity and minimizing land degradation** - *R.Srinivasan, V. Ramamurthy, M. Lalitha, Anuja Hiregoudar and Sudha Ramen*
7. **TS2ORL07 - Assessing the vertical and lateral distribution of some key soil properties in an agricultural area of Iran using digital maps** - *Farzin Shahbazi, Fatemeh Rahbar Alam Shirazi, Hossein Rezaei, Asim Biswas*
8. **TS2ORL08 - Predictive Soil Mapping of Soil Organic Carbon in Hill Ranges of South Gujarat of India** - *Mahaveer Nogiya, P.C. Moharana, R. L. Meena, Brijesh Yadav, L. C. Malav, R. P. Sharma, Sunil Kumar, B. L. Meena and N. G. Patil*
9. **TS2ORL09 - Erosion Susceptibility Mapping Using a GIS-based USLE Approach - A Case Study of Dang District in Gujarat** - *M. Singh, V. T. Shinde*
10. **TS2ORL10 - Applications of Remote Sensing in Agriculture** -*Kishan Kumar*
11. **TS2ORL11 - Establishment of correlation between vegetation indices and crop coefficients for onion** -*M. P. Adawadkar, A. R. Pimpale, S.B. Wadatar, I.K. Ramteke*
12. **TS2ORL12 -Mapping of Sodic Soils in Sharda Canal Command of Amethi district, Uttar Pradesh** -*R.H. Rizvi, Sanjay Arora, C.L. Verma and A.K. Dubey*



13. **TS2ORL13-Land Resource Inventory (LRI) for scientific planning and sustainability in watershed area using GIS techniques** -Biradar, I.B, Sreenatha, A, Sanjeevraddi G. Reddi, Prasanna S M, Tuppad, G. B., Rajanand Hiremath, Ruxanabi Naragund and Maheswarappa H. P.
14. **TS2ORL14 -Assessment of spatial variability of soil fertility using semivariogram model in Ankhalli sub- watershed of Gundlupete Taluk, Chamarajanagara District, Karnataka state for sustainable agriculture** -Jagadeesha, G. S, Sathish, A, Aruna, K. T, Vanitha, T and Yogesh, G. S
15. **TS2ORL15 -Soil Fertility Evaluation And Mapping of Nernehalli Micro Watershed of Kolar Taluk, Kolar District, Karnataka** -Shivakumara, M. N., Sathish, A., Jahnvi Katti., Chaitra, B. K., and Vasanthi, B.G.
16. **TS2ORL16 -Soil Erosion and Crop Suitability Assessment of Char Areas in Brahmaputra Riverbanks of Assam using Remote Sensing and GIS** -Bipul Deka, Bipasha Borkotoky, D. K. Patgiri and Marami Dutta
17. **TS2ORL17 -Characterization and distribution of residual soil P in arable lands of north-eastern fringe of arid western Rajasthan** -R.S. Yadav, Mahesh Kumar, P. Santra and Saurabh Swami
18. **TS2ORL18 -Karnataka soil spectral library: A tool for rapid soil testing based on reflectance properties of the soils in Karnataka** -Dharumarajan S, R.Vasundhara, R. Hegde, M. Lalitha, B. Kalaiselvi and V. Ramamurthy
19. **TS2ORL19 - GIS- based site suitability study for expansion of pineapple in Ri Bhoi District of Meghalaya, India** - B. Diangngan, C. Goswami, F. Dutta, B.K. Handique, K.K. Sarma and S.P. Aggarwal
20. **TS2ORL20-Revitalizing India's Agricultural Landscape: "Need for a Comprehensive Soil and Land Use Policy** -Eazhilkrishna N, Aryapalli sivasenareddy
21. **TS2ORL21 -Geo-morphometric prioritization of sub-watersheds using weighting and GIS approach in Dihing Watershed, Assam** -Nibedita Guru
22. **TS2ORL22 -Land Resource Inventory (LRI) for Scientific Planning in Watershed of Northern Dry Zone of Karnataka** -Prasanna S. M., Biradar, I. B., Sreenatha, A., Sanjeevraddi G. Reddi, Tuppad, G. B., RajanandHiremath, Sushma Patil and Maheswarappa H. P.
23. **TS2ORL23 -Large scale soil mapping using geospatial techniques – A case study of Dahod district, Gujarat** -R. L. Meena, P.C. Moharana, Mahaveer Nogiya, R. S. Meena , L. C. Malav , Brijesh Yadav, Sunil Kumar , R. P. Sharma and B. L. Mina
24. **TS2ORL24 -Data envelopment analysis-based study on onion farming efficiency and sustainable development** -Kaustav Aditya, Bharti, A. Carolin Rathinakumari
25. **TS2ORL25 -Characterization of Soil Resources using Geospatial technologies for Sustainable Agricultural Land Use Planning: a case study from intensively cultivated Trans Indo-Gangetic plains** -Meena, R.K, Vikas Joon and Surya, J.N.
26. **TS2ORL26 -Sustainability assessment of reclaimed sodic land in selected district of uttar pradesh using geospatial techniques** -M.S. Yadav, Ranjeet Singh Verma Amitabh Srivastava and A.N. Singh



<p>27. TS2ORL27-Geospatial Assessment of Soil and Land Properties for Mango Suitability in Chandanhalli Sub Watershed Using Analytical Hierarchic Process -Praveenkumar B. Naikodi , Praveen.B. Jhologiker, Ashok S. Alur, Aparna, Vijayshree</p> <p>28. TS2ORL28 -Spatial Prediction and Mapping of Soil Properties using Machine Learning Techniques in India -Pankaj Das, Suresh Kumar, Justin G. and Tauqueer Ahmad</p> <p>29. TS2ORL29 -Growth and maturity of Cashew Nut and apple in relation to climate variables and modified Biologische Bundesantalt, Bundessortenamt, and Chemische Industrie (BBCH) scale -Manjesh GN., Adiga JD., Shamsudheen M., Thondaiman V, Veena GL, Bhagya HP, and Babli Mog</p> <p>30. TS2ORL30 -Geospatial Assessment of Temporal Variations in Soil Erosion using RUSLE Model for Alaknanda River Basin of India from 2004 to 2018 -Bhadra, K. Chasie , M. Vese, A. Bandyopadhyay</p>	
11.00 -11.30 AM	Tea Break
11.30 – 01.00 PM	Theme 1 & 2 Online Oral / Poster Presentations Venue : NAAS lecture hall
Chairman	Dr. Shamsersingh , Commissioner of Agril. (Rtd.)
Co-Chairman	Dr SL Patil , Head, IIPR Regional Station, Dharwad
Rapporteurs	Dr B.S.Naik, IISWC Research Centre, Udhagamandalam Dr. M.Manjunath, Senior Scientist, ICAR-CRIDA, Hyderabad
Convener	Dr. Bipul Deka , Assam Agricultural University
Oral Presentations	Online presentations from abstracts from TS1ORL03 to TS1ORL21 Online presentations from abstracts from TS2ORL01 to TS2ORL30
Poster presentations	Theme 1 – From TS1POS01 to TS1POS36 Theme 2 – From TS2POS01 to TS2POS21
11.30 – 01.00 PM	Technical Sessions – Theme 3 Lead / Oral Presentations Venue : ICAR Lecture hall
Chairman	Dr. P.K.Shrivastava , Dean, NAU, Gujarat
Co-Chairman	Dr. B. S. Chaudhary , Kurukshetra University
Rapporteurs	Dr. Kuldeep Kumar, IISWC, Research Centre, Kota Dr Manjushree Singh, NAU, Gujarat
Convener	Dr. Ashok Mhaske , PDKV, Akola
Lead papers	<ol style="list-style-type: none"> 1. Management of Water Resources through Land Use Planning along the Coastal Central Western India - P K Shrivastava, NAU 2. Revival of ponds for enhancing water resilience: A policy implication - Susama Sudhishri 3. Sustainable Water Resource Management under Global Climate Change Using Geospatial Technology in KJ Watershed, North India- B. S. Chaudhary, Kurukshetra University



ORAL PRESENTATIONS

1. **TS3ORL01 - Identification and Prioritization of Water Potential and Critical Erosion Prone Areas of Manendragarh Watershed Using HEC-HMS Model** - *Karnika Dwivedi and M. P. Tripathi*
2. **TS3ORL02 -Water Resources Management in Vihokhu Watershed of Nagaland** -*Kivishe, Dhara Hareesh, and R.C. Nayak*
3. **TS3ORL03 -Impact Evaluation of Selected Farm Ponds in Hinganghat Taluka of Wardha District** - *A.R. Mhaske , Chetan Pangul , Tarang Meghare and Tushar Mhaske*
4. **TS3ORL04 -Maximizing Water Resources for Sustainable Agriculture: An Advanced Perspective on Precision Water Management** -*Tanzeel Khan, Noureen Khurshid and Rohitashw Kumar*
5. **TS3ORL05 -Evaluation of Monitored Erosion Events in the Czech Republic** -*Miroslav Dumbrovský*
6. **TS3ORL06 - Status of the World Land and Water Resource** - *Prafulla Kumar Mandal*
7. **TS3ORL07 -Integrated Nutrient Management in Onion-** *Satya Prakash*
8. **TS3ORL08 - Assessment of Sediment Load Prediction through Machine Learning Techniques** *Vinod Kumar Tripathi and Ashish Kumar*
9. **TS3ORL09 - Revitalizing Eastern Ghats Highland: How Check Dams Conserve Sediment, Organic Carbon, and Nutrients in Restored Forests** - *Partha Pratim Adhikary, M. Madhu, Benukantha Dash and Ch. Jyotiprava Dash*
10. **TS3ORL10 - Assessment of soil erosion and sediment yield using RUSLE-SDR and GIS in lower Shivalik foothills of India** -*Abrar Yousuf, MJ Singh , KB Singh, Amanpreet Kaur Benipal and Mohammad Amin Bhat*
11. **TS3ORL11- Capacity loss and sedimentation assessment of Dholbaha dam reservoir located in Kandi region of Indian Punjab using satellite remote sensing technique** -*Mahesh Chand Singh and Jaswinder Singh*
12. **TS3ORL12 -Assessment of natural perennial gravity streams for estimating crop water requirement in command areas** -*Richa Jaswal, Sanjeev Kumar Sandal and Anil Kumar*
13. **TS3ORL13 -Identification of soil erosion hot-spot areas for prioritization of conservation measures and evaluation of best management practices for sustainable watershed management in the Lower Sutlej Sub-basin, India** -*Navneet Sharma , Arun Kaushal and Abrar Yousuf*
14. **TS3ORL14 -Assessment of Ecosystem Resilience in Reference to Hydroclimatic Disruptions in Northwest India** -*Abrar Yousuf, Navneet Sharma and Mohammad Amin Bhat*
15. **TS3ORL15 -Climate Change Impact on Malampuzha reservoir inflow: a CMIP6 approach** *Vinnakota Yesubabu, Anu Varughese and Aravind P*
16. **TS3ORL16 -Use of solar energy in agriculture: Status and prospects in India** -*Subhash Chand, Arvind Kumar Sonia Chauhan and S. Manivanan*
17. **TS3ORL17 -Assessment of water quality in Chohal dam reservoir located in the Kandi region of Punjab, India using geospatial techniques** -*Mahesh Chand Singh and Jaswinder Singh*



18. TS3ORL18 - Economic Empowerment of Home-Maker: Promoting Climate-Resilient Agriculture Through Diversified Income Resources -Sarita Mishra, Roopa H Suresh, Rohini Chandrasekharan and Jay Prakash Bhatt	
19. TS3ORL19 -Vulnerability Area Identification of a Coastal River Basin of India using Hydrological Model -Uday Mandal, D. R. Sena, R. K. Singh, Gopal Kumar, M. Madhu	
01.00- 02.00 PM	Lunch
02.00 -03.30 PM	Technical Session – Theme 4 Lead / Oral Presentation Venue : ICAR Lecture Hall, NASC
Chairman	Dr. PS Brahmanand , Project Director, WTC, IARI, New Delhi
Co-chairman	Dr Satyendra Kumar , CSSRI, Karnal
Convener	Dr Susama Sudishree, WTC, IARI, New Delhi
Rapporteurs	Dr Gaurav Singh, IISWC, Vasad Dr Ragupathi, Palar Agricultural College, Tamil Nadu
Lead paper	1. Eco-friendly and Climate Resilient Water Management Interventions - P.S. Brahmanand , WTC, IARI 2. Controlling groundwater depletion: Building strategies through water management and artificial aquifer recharge in agricultural land - Satyendra Kumar , CSSRI, Karnal
ORAL PRESENTATIONS	
1. TS4ORL01 - Assessment of Ground Water Quality for their Suitability for Drinking and Irrigation Water Management in Chitradurga District, Karnataka, India - Chandrakala M., Ranabir Chakraborty, Parvathy, S., Sunil P. Maske, Karthika K.S., Srinivasan, R., Bhaskar, B.P., Ramamurthy, V., Ramesh Kumar S.C., Nirmal Kumar, Obi Reddy G. P., Patil N.G.	
2. TS4ORL02 -Assessment of Soil Nutrient Index in the Post-Flood Scenario of North Central Laterites of Kerala - <i>RiajRahaman, Bhindhu P. S.</i>	
3. TS4ORL03 - Spatio-Temporal Analysis of Groundwater Level Trends in The Coastal Region of India - Sujeet Desai, Bappa Das, Anurag Raizada	
4. TS4ORL04 - Identification of Potential Zones for Groundwater Recharge using Remote Sensing and GIS in Dediapada Block of Narmada District, Gujarat - <i>K. N. Sondarva, Lakkad, A. P., P. S. Jayswal</i>	
5. TS4ORL05 -Groundwater Problems and Management with Special Reference to Bundelkhand Region of Madhya Pradesh - <i>Deepak Patle, Manoj Kumar Awasthi</i>	
6. TS4ORL06 -GIS-Based Flux Estimation across Boundaries for Simulation of Groundwater Flow Models - Arvind Dhaliya, J.P. Sing, Samanpreet Kaur	
7. TS4ORL07 -Quantitative Analysis of Groundwater Withdrawal Pattern And Water Quality Status in Odisha - <i>Ranu Rani Sethi, A. K. Dandapat, Ankhila R. Handral , S. K. Srivastava</i>	
8. TS4ORL08 -Factors Affecting the Adoption of Salt-Tolerant Mustard Varieties in Stressed Environments - Suresh Kumar, Subhasis Mandal, Anil Kumar, Jogendra Singh, Harshit Bansal	



9. **TS4ORL09 - Status, Impact and Institutional Arrangements of Community-Based Water Storage Structures in Central Plateau and Hills Region of Rajasthan** -*Ashok Kumar, Shakir Ali, Kuldeep Kumar, G.L. Meena And Anita Kumawat*
10. **TS4ORL10 - Groundwater Quality Analysis by Geo-Spatial Approach** -*M. Nagarajan, A. Valliammai, M. Manikandan, E. Sujitha*
11. **TS4ORL11 - Demonstration of Artificial Ground Water Recharging Through Borewell** - *Dr. Dhiraj Khalkho, Ms. Yashika Rathore, Dr. M. P. Tripathi, Dr. Prafull Katre*
12. **TS4ORL12 -Artificial Groundwater Recharge through Sand based Filters in Semi-Arid Region of Western India** - *A.K. Singh, Gaurav Singh, D. Dinesh, Dinesh Jinger, Gopal Kumar, D.R. Sena, M.J. Kaledhonkar*
13. **TS4ORL13-Assessment of Groundwater Budget of a Micro-Watershed Influenced by Crop Diversification from Paddy to Vegetables – A Case Study** - *Dr Purnima Mishra, Dr R. R. Babu, Dr K. Venkata Laxmi, Ms. T. Navya Swetha, Dr Bhagyashali V.Hudge, B. Rajasekar, Dr D. Naga Harshitha, Dr R Nagarjun Kumar*
14. **TS4ORL14 - Recharge Filter for Revival of Defunct and Low Yielding Bore Well and Augmentation of Ground Water in Semi-Arid Region of Karnataka**- *B.S.Naik, Ravi Dupdal, S.L.Patil*
15. **TS4ORL15 - Field-Based Assessment of Pond Suitability To Support Implementation of Groundwater Recharge in The Ramganga Basin, India**- *Navneet Sharma, Paul Pavelic, Mohammad Faiz Alam, Alok Sikka*
16. **TS4ORL16 - Developing skimming zone curve for fluoride affected area within two line source recharging systems** - *Chhedi Lal Verma, S.K. Jha, V.K. Mishra*
17. **TS4ORL17 -A Multi-Criteria Analysis Approach for Identifying Suitable Sites for the Construction of the Sub-surface Dam in the Morni Watershed, India** -*Sangeeta, Susama Sudhishri, Man Singh, D.K. Singh, Joydeep Mukherjee, Pramod Kumar, Vijay Parajapati*

08.11.2023 02.00 -03.30 PM	Technical Session: Theme 6 Lead / Oral Presentations Venue: NAAS lecture hall
Chairman	Dr. Manoj Samuel , Executive Director, CWDRM, Calicut
Co-Chairman	Dr KV Ramana Rao , CIAE, Bhopal
Rapporteurs	Dr H. C. Hombegowda, IISWC, Koraput Dr Arvind Kumar Gupta
Convener	Dr Mukesh Kumar , IGNOU, Delhi
	<ol style="list-style-type: none"> 1. Sustainable Water Management and Climate Smart Agriculture for Livelihood and Food Security in India- Manoj P. Samuel 2. Improving Water Productivity in Arsenic Contaminated Areas of Bihar through Rainwater Harvesting and Efficient Water Delivery Systems- Anshuman Kohli 3. Model watershed planning and implementation for effective resource conservation and climate resilience: An experience from Eastern Ghats, India - H. C. Hombegowda 4. Techno-Economic Crop and Water Productivities of Different Cropping Systems for Sustainable Crop Production-K.V.Ramana Rao



ORAL PRESENTATION

1. **TS6ORL01 - Hydrologic Studies of Kadwanchi Watershed, Maharashtra, India**
-M.R.More and U.M.Khodke
2. **TS6ORL02 -Efficient irrigation management for optimization of Nagpur mandarin (Citrus reticulata Blanco) production** -DT Meshram, AK Srivastava, A. Thirugnanavel, NM Meshram, CS Pangul
3. **TS6ORL03 -Development and evaluation of sensor network based irrigation scheduling in tomato crop under different irrigation methods** -Jitendra Kumar, Neelam Patel, Pramod Kumar Sahoo, Susama Sudhishri, and T.B.S. Rajput
4. **TS6ORL04 -Simulation of Non-Point Source Pollution Processes in Song River**
-Shams Quamar, H. P Singh, Pradeep Kumar
5. **TS6ORL05 -Radiotracer 137 Cs based Measurement in Validating Soil Erosion Estimation with RUSLE model – A Case Study in a Watershed of North-West Himalayas** -Anu David Raj, Suresh Kumar and Justin George K.
6. **TS6ORL06 -Heavy metal contamination in soil and vegetables and their health risk to human health in peri-urban agriculture of central India** -Lal Chand Malav, Amrita Daripa, Abhishek Jangir, Brijesh Yadav, M. Nogiya, R.L. Meena , R.P. Sharma, B. L. Mina
7. **TS6ORL07 - Morphometric Analysis of Choral River Watershed (5D2C5) using Remote Sensing & GIS Tools** -Suryansh Mandloi
8. **TS6ORL08 -Effect of source of irrigation and fertilizer levels on forage and seed yield of berseem (*Trifolium alexandrinum* L.)** -Hardev Ram, Ghous Ali, Rakesh Kumar, Anurag Saxena and RK Meena
9. **TS6ORL09 -Conservation agriculture with precise water management helps in reclamation of sodic soils in rice-based agrifood systems in NW India** -Manish Kakraliya, HS Jat, Madhu Choudhary, Satyendra Kumar and PC Sharma
10. **TS6ORL10 - Evaluating the Sensitivity and Uncertainty of SWAT Model Parameters for Predicting Streamflow, Sediment yield, and Nutrient Losses in the Mand Catchment** -Shreeya Baghel, M K Kothari, M P Tripathi, Pradeep Kumar Singh, Sita Ram Bhakar, Vikramaditya Dave, SK Jain
11. **TS6ORL11 -Water Footprint in a village cluster around peri-urban locality of Shillong Meghalaya**- Labetshisha Kharbhih, Narendra Agrawal and Pradip Bora
12. **TS6ORL12 -Application of ‘Smart Irrigation Scheduling’ to improve Water Use Efficiency for Sustainable Agriculture in the Pacific Island of Guam** -Mohammad H. Golabi, Ferdinand P. Galsim, and Sayed Bateni
13. **TS6ORL13 -Response of *Moringa Oleifera* to Partial Rootzone Drying Irrigation and Regulated Deficit Irrigation** -Sonawane A. V, Shrivastava P. K.
14. **TS6ORL14 -Institutional innovations for the sustainable management of water resources: Empirical evidence for improved water security smallholder irrigation schemes in South Africa** -Sandile Phakathi
15. **TS6ORL15 - Effects of Natural and Prolonged Oil Pollution on Soil enzyme activities** -Shokufeh Moradi, Mohammad Reza Sarikhani, Ali Beheshti Ale-Agha , Karim Hasanpur, Jalal Shiri
16. **TS6ORL16 - Land Use Land Cover Analysis in Singareni Opencast Coalmines Area of Telangana State using RS and GIS Technique** -J. Kamalakar, G. Jayashree, T. Ramprakash, V.B. Pandit, M. Yakadri, S. Narender Reddy and Sumit Ray



17. **TS6ORL17 -Implication of land use shifting on land degradation and restoration ability of conservation tillage in the North-West Himalayan region of India -Saswat Kumar Kar , R. M. Singh, Sridhar Patra, M. Sankar**
18. **TS6ORL18 -Soil properties and Heavy metal accumulation in wastewater irrigated soils of Kota region of Rajasthan, India -Subhash Aswal, H.P. Verma, R. K. Yadav and Shipra Jaiswal**
19. **TS6ORL19 -Study to determine the efficacy of drip irrigation on Dragon (Kamlam) Fruit -Shrivastava P. K., Shah N. M., and Tandel B. M.**
20. **TS6ORL20 -Combating sub-soil sodicity constraints of Central Indo-Gangetic Plains of Uttar Pradesh for enhancing crop productivity -S.K. Jha, Sanjay Arora and C.L. Verma**
21. **TS6ORL21 -Assessment of Land use and land cover changes of river basin using Geo spatial techniques- A.Valliammai, Martha Sravani, M.Nagarajan, E.Sujitha**
22. **TS6ORL22 -Study of single economical drip fertigation layout -A.Valliammai,M. Manikandan, M.Nagarajan, E.Sujitha**
23. **TS6ORL23 -Effect of various tillage systems and irrigation scheduling on yield of wheat under different cropping sequences -Vinod Kumar and S.K. Mishra**
24. **TS6ORL24 - Automatic Irrigation System: A Tool for Timely and Efficient Irrigation-Bhavnesht Jain and Mukesh Kumar**
25. **TS6ORL25 -Current Land Use Pattern on the basis of Agro Ecological Regions of Nepal -Rishi Ram Paudel, P. K. Shrivastava**
26. **TS6ORL26 - Cultivating Community Resilience: Empowering Farm Ponds in Marathwada and Vidarbha, Maharashtra- Venkatesh Gaddikeri , Gireesh S, B Rath, EazhilKrishna N**
27. **TS6ORL27 -Mitigation of impact of Chromium on rice yield in mined areas of Odisha -Dibakar Ghosh, Madhumita Das, Ashis Maity, Partha Debroy, K. Laxminarayana, Mausumi Raychaudhuri**
28. **TS6ORL28 -Enhancement of soil hydrological properties in the Indian Himalayan Region through bioengineering measures - Deepak Singh, Prabhat R. Ojasvi, Rakesh K. Singh**
29. **TS6ORL29 -Cost Benefit Analysis Study of Projects of Micro-Irrigation Systems in Punjab State, India- O.P.S. Khola, Pankaj Panwar, Pradeep Dogra, S.K. Jha, O.P. Premi, Ram Prashad, Sharmistha Pal and Manoj Kumar**
30. **TS6ORL30 -Suitability of horticultural crops for basaltic soils of Vijayapura district of Karnataka by using GIS techniques -Biradar, I. B., Sreenatha, A., Sanjeevraddi G. Reddi, Prasanna S. M., Tuppad, G. B., Rajanand Hiremath, Ruxanabi Naragund and Maheswarappa H. P.**
31. **TS6ORL31 -Geomorphological Framework towards understanding the Evolution of Munroe Island (Kallada Delta), along western coastal stretch of Kerala, India - K.Ch.V Naga Kumar, Surendran U and Manoj P Samuel**
32. **TS6ORL32 -Study on enhancing recycled aggregate properties using mild carbonation -Anandlal M, Sunitha K Nayar, Veena Venudharan**



33. **TS6ORL33 -Impact of Conjunctive use of Farm Ponds and Groundwater on Productivity of Red Gram: Empirical Evidence from Semi-Arid Regions of Karnataka** -*B J Giridhar, Dharam Raj Singh, P Venkatesh, G K Jha, S K Srivastava, P Anbukkani , and Raghavendra K J*
34. **TS6ORL34 -Ecophysiological modulations of teak (*Tectona grandis* Linn. F) under different irrigation regimes through drip system in early growth phase** -*Balasubramanian A, Ghazanfer Abbas, K. Lalithambigai, Anjali K S, G Swathiga*
35. **TS6ORL35-Integrated Soil and Water Conservation Management of Agroecosystems across Scales: Supporting Sustainable Development and Community Resilience around the Globe – A Bid to host the ISCO Conference in West Lafayette, Indiana (USA) in 2026** -*Chris. S. Renschler,*
36. **TS6ORL36 -Assessment of heavy metals and potential health risk through consumption of vegetables grown in the flood plains of river Yamuna in Delhi** -*Mamta Prakash, Rashmi Misra, Priyanka Saxena, and S.K.Goyal*

03.30-04.00 PM	Tea
08.11.2023	04.00 – 05.30 PM
Chairman	Dr Pratap S. Birthal , Director, NIAP, Delhi
Co-chairman	Dr Munish Kumar , CSAUAT, Kanpur
Rapporteurs	Dr. Madhukar More, VNMKV, Parabanj 2. Dr. Rajesh Kumar Meena, NBSSLUP, Delhi
Convener	Dr Anchal Das, IARI, New Delhi
Lead Paper	The Value of Ecosystem Services from Sustainable Agricultural Practices in India: Implications for Re-purposing Agricultural Subsidies - Kiran Kumara T.M , NIAP, Delhi

ORAL PRESENTATION

1. **TS7ORL01 -Watershed responses to interactive connection of vitality, organization, resilience, and ecosystem services** -*Roghayeh Dezhbani, Zeinab Hazbavi, Raoof Mostafazadeh, AbazarEsmali Ouri , Nazila Alaei*
2. **TS7ORL02 -Assessment on Forest Ecosystem Health Based on Forest Types at the Watershed Scale: A Case Study of The Siahkalshenrod Watershed, Northern Iran** -*Roghayeh Jahdi*
3. **TS7ORL03 -Exploring the Potential of Agroforestry as a Natural Climate Solution in India** -*Aaheli Chaki , and Jyotsna C*
4. **TS7ORL04 -Carbon Credit Monetization through Watershed Development: A Pathway to Sustainable Development** -*N.K. Rajesh Kumar , Prakash Kumar M , C.P.Reddy*
5. **TS7ORL05 - Microbe mediated bioconversion of municipal solid waste into fortified compost** - *Anjuma Gayan ,Rimjim Sikha Bora , Dhruva Jyoti Nath*
6. **TS7ORL06 - Economic surplus and potential environmental benefits of watershed management–An impact study in semi-arid region of Tamil Nadu**-*Vanitha SM, Suresh Kumar, Kannan K,Sundarambal P, Hombegowda HC, Singh DV, Selvi V,Khola OPS Murugesan A*



7. **TS7ORL07 -Body weight prediction models of Indian barred spiny eels based on morphological traits-** Surendra Kumar Ahirwal, Jaspreet Singh, Kamal Sarma , Tarkeshwar Kumar , Vivekananda Bharti , Ravi Kumar , Shailendra Raut
8. **TS7ORL08 -The impact of *Prosopis juliflora* on the habitat conditions of Blackbuck (*Antilope cervicapra*) in Sathyamangalam Tiger Reserve, Tamil Nadu, India.-**Rajput Nikhil Balu , K. Baranidharan , Zende Jayesh Yuvraj and M. Packialakshmi
9. **TS7ORL09-Projected impacts of climate change on two range-restricted bird species of the Western Himalayan region-***Garima Kumari, Parul Bhatt Kotiyal, Hukum Singh, M. Kumar*
10. **TS7ORL10 -Rice based Integrated Farming System for resource management and livelihood - a case study under aegis of OIRDS in Assam, India -***K. Pathak, S. Barman, N. Borah, S. Kalita, MK Chauhan and M. Saikia*
11. **TS7ORL11 -Ecosystem Services Evaluation and Impact Studies of Shrimp Farms on Mangroves with Special Reference to Andhra Pradesh -***D. Rajasekar, and j. Yogalakshmi*
12. **TS7ORL12 -Assessment of Soil Carbon Stock at the Influence Zones of Soil and Water Conservation Engineering Structures at the Watershed Level -***V. Kasthuri Thilagam and S. Manivannan*
13. **TS7ORL13 -Evaluating Sustainable and Environment Friendly Growing Media Composition for Pot Mum (*Chrysanthemum morifolium* Ramat.) -***Arbind Kumar Gupta, Ajay Kumar Singh, Rakesh Kumar , Rajat Singh*
14. **TS7ORL14 - Lepidopteran Diversity of Sitamata Sanctuary, Rajasthan: An Ecological Exploration-** Shiwani Bhatnagar, Raj Kumar Suman Bundesh Kumar, K.C.Jedia and Mamta Sankhla
15. **TS7ORL15 -Pulse Crops for Ecological Restoration of Habitat, Microbial Ecology and for Increasing Agricultural Production -***S.M. Purushothaman*
16. **TS7ORL16-Preparation of Microbial Consortium and its Impact on Green Gram (*Vigna Radiata*)-** Geeta Kumari, Aman Jaiswal, Vaibhav. Upadhyay, Jyostnarani Pradhan
17. **TS7ORL17 - Diversity of Arbuscular Mycorrhizal (AM) Species in *Bambusa bambos* (L.) Voss Under Different Agro Ecosystems of Rajasthan -***Neelam Verma, Bhawana Sharma, K.C. Jedia, Nikita Choudhary*
18. **TS7ORL18 -Diversity of Arbuscular Mycorrhizal (AM) species in *Bambusa bambos* (L.) Voss Under Different Agro Ecosystems of Gujarat -***Neelam Verma, Bhawana Sharma, K.C. Jedia, Nikita Choudhary*
19. **TS7ORL19-Current and future predictions of *Dalbergia latifolia* Roxb. Distribution -***Tresa Hamalton, Divakara B. N., Sreedevi C. N. and Sandhya M.*
20. **TS7ORL20 -Integrated farming system; means of sustainable farming and biodiversity conservation -** *Pankaj Kumar Verma and Urvashi Asthana*

04.00–06.00 PM	Technical Session : Theme 3, 4, 6 & 7 – Online oral & poster presentations Venue : NAAS lecture hall
Chairman	Dr. HS Lohan , Retd Additional Director of Agriculture, Govt. of Haryana



Co-chairman	Dr. V. Sridhar , VT, USA
Rapporteurs	Dr. Rajan Bhatt, PAU, Ludhiana Dr. Shamsudheen Mangalassery, ICAR NRCC, Puttur
Lead Paper	Perspectives on Hydrologic Extremes with a Case Study from the Chamoli Basin – V. Sridhar , VT, USA
Oral presentations	Online oral presentations of theme 3, 4,6 and 7
Poster Presentations	Theme 3 – From TS3POS01 to TS3POS06 Theme 4 – From TS4POS01 to TS4POS11 Theme 6 – From TS6POS01 to TS6POS27 Theme 7 – From TS7POS01 to TS7POS17
05.30–06.30 PM	Special Session on International Soil Conservation Organisation
07.30 -09.30 PM	Gala Dinner
09.11.2023 09.30 -10.30 AM	Technical Session : Theme 10 Special Session on the application of jute geo textiles for Natural Resource Management Venue: NAAS Lecture Hall
Chairman	Dr GP Singh , Director, NBPGR
Co Chairman	Sh. Mahadeb Datta , Deputy Director, National Jute Board, Kolkata
Rapporteurs	Dr. R.L. Choudhary, ICAR –DRMR, Baratpur Dr Saswat Gaur, IISWC RC, Koraput
Convener	Dr S Manivannan , IARI Assam
Lead papers	Use of jute geotextiles as sustainable materials in construction of low volume roads and slope embankments – Mahadeb Datta & Minimoy Dass , NJB, Kolkata Application of Jute Geotextiles for erosion control and slope stabilization – Dr S Manivannan , IARI Assam
ORAL PRESENTATIONS	
<ol style="list-style-type: none"> TS10ORL01 -Jute agro textiles as a mulching tool for improving yield of Red Cherry Pepper (<i>Dalle Khorsani</i>) in Inceptisol of Sikkim - <i>Basant Tamang, Sanjay Debnath, I.P. Shivakoti, Nissi Gurung and Tshering Dorjee Tamang</i> TS10ORL02 - Use of alternate material and promotion of Green Technology to promote environmentally friendly practices in the Road Transport sector -<i>Kaushlendra Singh, R.P. Singh, Alok Kumar and Amitabh Srivastava</i> 	
10.00–10.30 AM	Tea
10.30 -12.30 PM	Technical Session- Theme 8 Lead / Oral presentations Venue : ICAR Lecture Hall
Chairman	RENSCHLER, Christian Stefan , USDA, USA
Co-chairman	Dr D Mandal , IARI, New Delhi.
Rapporteurs	Dr. Hardev Ram, NDRI Karnal Dr.Uday Mandal, IISWC Dehradun
Convener	Dr. Indu Chopra, IARI, New Delhi



Lead Papers	Soil fertility and health management for C Sequestration and Sustainable agricultural production - Debashis Mandal Carbon Footprint and Aggregation of an Alfisol in Response to Different Tillage and Maize (<i>Zea mays</i> L.)/Cowpea (<i>Vigna unguiculata</i> L.) Intercrop - Adesodun, J. K Soil Erosion Control is Key to Sustainability through C-Sequestration and Climate Resilience - D.V. Singh Precision N management using sub-surface drip fertigation in maize-wheat system- Anchal Dass S.
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ORAL PRESENTATIONS

1. **TS8ORL01 - How much potash does sugarcane in Punjab required at deficient sites for improved growth, yields, and recovery?** -*Rajan Bhatt, Sanjay Arora, Jagdish Singh, Bikramjit Singh, Raminder Kaur*
2. **TS8ORL02 -Carbon footprint and physical properties of an Alfisol in response to different tillage and maize (*Zea mays* l.)/Cowpea (*Vigna unguiculata* l.) Intercrop** -*Adesodun, J. K , Balogun, S. J. and Ijiyokun, A. O.*
3. **TS8ORL03 - Profile Distribution of Potassium in Some Soils of Sarupathar Block of Golaghat District, Assam** - *Marami Dutta, Karabi Das, Samiron Dutta and Bipul Deka*
4. **TS8ORL04 -Soil Quality Assessment of Sesame Growing Areas in Northern Telangana Zone** -*M. Deepthi, R. Sai Kumar, P. Ravi , O. Sampath*
5. **TS8ORL05 -Balanced fertilization to get better yield and economic returns from potato production** -*Prince Kumar, Anil Sharma, Jagdev Sharma and Brajesh Singh*
6. **TS8ORL06 -Carbon footprint estimation from potato production system of north-west India** -*Anil Sharma, Prince Kumar, Jagdev Sharma , Mankaran Singh and Brajesh Singh*
7. **TS8ORL07 -Soil fertility and health management for carbon sequestration and sustainable agricultural production** -*Twinkle Jena, Parmeswar Dayal, Vipin Dixit, Megha Kumari*
8. **TS8ORL08 - Critical Carbon Input and Carbon Sequestration Potential of Long-term Tillage and Residue Management Practices in Rice–Wheat System** -*Ram Kishor Fagodiya, Arvind Kumar Rai, Kailash Prajapat, Priyanka Chandra, Kamlesh Verma and Vijendra Kumar Verma*
9. **TS8ORL09 -Micropropagation and plantlets production of *Bambusa cacharensis* Mazumdar through axillary buds** -*Bebija L. Singha, Mohd. Ibrahim, Satyam Bordoloi and Sikhmoni Borah*
10. **TS8ORL10 - Assessment of carbon sequestration and soil fertility status under kapok (*Ceiba pentandra* (Linn.) Gaertn) plantation in different agroclimatic zones of Tamil Nadu** -*R. Backiyavathy and A. Sudarshan*
11. **TS8ORL11 - Soil Available Zinc and Its Relationship with Soil Properties in Rice Soils of West Bengal** - *Umalaxmi Thingujam, Swagata Malla, Animesh chowdhury and Banhisikha Roy*
12. **TS8ORL12 - Effect of potassium fertilization on crop productivity and soil potassium pools in major soils of India** -*Subhadip Paul, Mandira Barman, and Debarup Das*



13. **TS8ORL13 -Effect of Different Residue Management on Soil Organic Carbon Fractions and Carbon Sequestration under Wheat based Cropping Systems of Subtropical India** -*Dewali Roy and T. J. Purakayastha*
14. **TS8ORL14 - Impact of Biochar on Water Holding Capacity and Rice Yield in a Sandy Clay Loam Soil** -*Rajalekshmi K, Bastin B. and Krishnan S.*
15. **TS8ORL15 - Impacts of high intensity cropping on soil phosphorus fractions under the foothills of Himalayas** -*Vivak M. Arya , Tamanna Sharma and Vikas Sharma*
16. **TS8ORL16 -Soil Fertility and Health Management for C Sequestration and Sustainable Agriculture Production** -*Kalal PH , Patel PP and Yadav PP*
17. **TS8ORL17 -Nutrient Release and Dynamics in The Soil (Typic Ustropept) as Influenced by Various Nutrient Management Strategies** -*U.Bagavathi Ammal, B.Sabitha , K. Coumaravel .,R. Sankar., R.Rajakumar and Pradip Dey.*
18. **TS8ORL18 -Soil carbon sequestration potential of mango (*Mangifera indica* L.) growing orchards under rainfed region of Karnataka** -*Vasundhara. R., Dharumarajan. S., Rajendra Hegde., Ramamurthy.V and N.G Patil*
19. **TS8ORL19 -Long-Term Effects of Conservation Agriculture on Nutrient Supplying Capacity and Microbial Communities in Pearl Millet-based Cropping Systems under Rainfed Agroecology** -*A. Chaudhary, Mahesh C. Meena , R.S. Bana , S.P. Datta, A. Dey , D. Mahala , R. Mishra*
20. **TS8ORL20 -Soil organic carbon pools and aggregate associated carbon under different orchards in Hazaribagh, Jharkhand** - *Deepasree A, Manoj Chaudhary , Ranjan Bhattacharyya, Abir Dey, Bibhash Chandra Verma , Subhash Babu , S B Singh and Vishal Nath*
21. **TS8ORL21 -Sustaining nitrogen use in intensive rice wheat cropping system via integration of nano nitrogen in fertilizer management** -*Ajay Kumar Bhardwaj, Manu Rani, Kapil Malik, Ashwani Kumar, Anita Mann, Parvender Sheoran*
22. **TS8ORL22 - Effect Long-Term Application of Inorganic Fertilizers and Organic Manure on Soil Biological Properties under Soybean–Wheat Cropping System in a Vertisol** - *B.S. Dwivedi, A.K. Dwivedi and Risikesh Thakur*
23. **TS8ORL23 -Impact of integrated nutrient management on yield, nutrient uptake, protein content, soil fertility and economic performance of wheat (*Triticum astivum*) in a Typic haplustert** -*G.D. Sharma, B.L. Sharma, P.S. Kulhare and D.L. Kauraw*
24. **TS8ORL24 - Soil physico-chemical properties of 12/C1a Ban Oak Forest in Shimla District of Himachal Pradesh, India** -*Himani Kanwar, Ranjeet kumar , Parmanand Kumar , Ghanshyam Agrawal*
25. **TS8ORL25 - Residual Effect of Organic Garden Pea Cultivation on Succeeding Amaranth Yield and Soil properties under Terai Zone of West Bengal** -*Ambika Prasad Mishra, Suprava Biswal and Poonam Preeti Pradhan*
26. **TS8ORL26 - Impact of diverse nitrogen management on the nitrogen footprint in subtropical lowland rice agroecosystem** -*Dibyendu Chatterjee , Saikat Ranjan Das , Bitish Kumar Nayak, Arti Bhatia , Sangita Mohanty, Robert M Rees , Julia Drewer , Amaresh Kumar Nayak , Mark A. Sutton*
27. **TS8ORL27 -Role of cashew plantations in soil health management and carbon sequestration** -*Shamsudheen Mangalassery , Babli Mog, Manjunatha, K, Bhagya, H.P. , Adiga, J.D, Muralidhara, B.M*



- 28. TS8ORL28 -Influence of high cropping intensity on soil different nitrogen pools under plains of Jammu -Tamanna Sharma, Vivak M. Arya, Vikas Sharma and Gourav Sudan**
- 29. TS8ORL29 -Root morphology and nitrogen use efficiency of wheat genotypes using novel nitrogen fertilizers under pot culture -Ann Theresa Jose, Kapil A. Chobhe, K. M. Manjaiah, S. P. Datta, Rajeev Ranjan, Sudhir Kumar, Vijay Polonia, Anil Kumar**

09.11.2023 10.30 –12.30 PM	Technical Session : Theme 8 Online oral / poster presentations
Chairman	Dr. Andrey Zhidkin, V.V. Dokuchaev Soil Science Institute, Moscow, Russian Federation
Co Chairman	Dr. Sanjay Arora , CSSRI, Lucknow
Rapporteurs	Dr. Vikas Gupta, SKUAST-Jammu Dr. Durgesh Kumar, B.N.P.G. College Rath , Hamirpur
Convener	Dr. Sanjay Swamy, CAU, Assam
On line oral presentations	From TSORL01 to TSORL29
Online Poster presentations	From TSPOS01 to TSPOS49
12.30 -01.30 PM	Annual General Body Meeting of SCSi and Election of EC of SCSi
01.30 -02.30 PM	Lunch
02.30 -08.30 PM	Mid Conference Technical Tour
08.30 -09.30 PM	Dinner
10.11.2023	09.30 -11.00 AM
Chairman	Dr. Indra Mani Mishra , Vice Chancellor, VNMKV, Parbhani
Co-chairman	Dr. OPS Khola , IISWC Chandigarh
Convener	Dr. Deodas Meshram, CCRI, Nagpur
Rapporteurs	Dr. K.Ch. V. Naga Kumar, CWRDM, Calicut Dr. Nandlal Kushwaha, IARI New Delhi
Key Note Address	Natural Resource Management through Innovation in Mechanization, Drones, and Robotics under Climate Change Situation – Dr. Indra Mani Mishra

ORAL PRESENTATIONS

- 1. TS5ORL01 - Assessment of land suitability and capability for Agriculture in Gwalior district of Madhya Pradesh, India. -Shashi S Yadav, P.A. Khambalkar, Akhilesh Singh, T.C. Yadav and S. K. Trivedi**
- 2. TS5ORL02 -Crop Diversification for increasing farm productivity and Farmers Income in Bundelkhand Region: A Success Story -O. P. Singh, S. Naresh Kumar and R. N. Padaria**



3. **TS5ORL03 -Calibration and Validation of HEC-HMS Model for Simulating Runoff and Sediment Yield from an Agricultural Watershed of Upper Hasdeo Subbasin in Chhattisgarh** - *M. P. Tripathi and Karnika Dwivedi*
4. **TS5ORL04 -Nature-based Solutions for Agricultural Sustainability, Food Security and Climate Resilience in NEH Region, India** -*Sanjay-Swami*
5. **TS5ORL05 -Soil degradation by water erosion and proposals for landscape restructuring using strip cropping** -*Bořivoj ŠARAPATKA and Marek BEDNÁŘ*
6. **TS5ORL06 - Sapota (Achras zapota) based Bio-engineering Measures for Ravine Slope Stabilization and Sustainable Productive Utilization in Mahi Ravines of Gujarat** -*Gaurav Singh, D. Dinesh, Dinesh Jinger, Raj Kumar, V.D. Kakade, A.K. Singh, M.J. Kaledhonkar, M. Madhu*
7. **TS5ORL07 - Conservation agriculture based diversified cropping system optimization for improve productivity, profitability and environmental security in Western IGP** -*Radheshyam, Shankar Lal Jat, M L Jat, C.M. Parihar, H.S. Jat and Deepak Bijarniya*
8. **TS5ORL08 -Planning Soil and Water Conservation Structures for the Painkanoor Watershed from the Midlands of Kerala** -*A. P. Bowlekar and K. K. Sathian*
9. **TS5ORL09 - Introducing a new methodology to identify the intrinsic potential plasticity index of different types of mulch used for dune stabilization** -*H. Rouhipour*
10. **TS5ORL10 - Effect of Conservation Agriculture with Precise Irrigation on Yield and Resource Use Efficiency in a Rice-based Cropping System** - *Sanatan Pradhan, B. Behera, P. Panigrahi, K. K. Bandyopadhyay, B.S. Satapathy, R.K. Panda and A. Sarangi*
11. **TS5ORL11 - Forest Soil Health Cards: A pioneering tool for Sustainable Forest Management in Madhya Pradesh** -*Jangam Deepika and Avinash Jain*
12. **TS5ORL12 - Soil surface management for enhanced productivity, income and resource conservation in semi-arid regions of South-eastern Rajasthan**-*Anita Kumawat, Kuldeep Kumar, I. Rashmi, Shakir Ali and Ashok Kumar*
13. **TS5ORL13 -Land suitability assessment for cultivation of rice in a semi-arid ecosystem in Telangana, India** - *Karthika, K. S., Anil Kumar, K. S., Srinivasan, R., Chandrakala, M. and Lalitha, M.*
14. **TS5ORL14 - Construction of Soil fertility indices using soil health card data for Andhra Pradesh: An illustration of Bio-economic model** -*Ankhila R H , Alka Singh, Pramod Kumar, Rashmi Singh, M.C.Meena, Suresh Kumar, Dinesh Kumar and Prabhakar Kumar*
15. **TS5ORL15 -Effect of Conservation Techniques on Soil Erosion In Lower Shivaliks of Jammu** - *Vivak M. Arya, Meena Yadav, Vikas Sharma*
16. **TS5ORL16 - Development of agricultural drone technology for resource conservation and yield enhancement in agriculture production.**-*Raghupathi Matheyarasu, Yashwanth Rajaram*
17. **TS5ORL17 - Development of concrete mixes with wastewater for sustainable construction**-*Rohit Ubnare, Sunitha K Nayyar, Divya P V*
18. **TS5ORL18 - Synergizing Agroforestry Practice: Sustainable Land Management, Ecological Resilience and Socio-Economic Prosperity** -*Suren Murmu, Gayatri Kumari Padhi*



19. TS5ORL19 - Assessment of Water Budget in Andaman and Nicobar Islands along with Projections and Suitable Augmentation Measures -Sirisha Adamala, T. Subramani, E.B. Chakurkar	
20. TS5ORL20 -Effective Management Plan for A Small Watershed Using Hydrologic Model AVSWAT -Vinay K. Pandey	
10.11.2023	09.30 -11.00 AM
Chairman	Dr. Nemi Chandrappa , UAS, Raichur
Co-chairman	Dr. G Manoj Kumar , PJTAU, Hyderabad
Rapporteurs	Dr. Sirisha Adamala, ICAR-CIARI,,Port Blair, Dr. Manjushree Singh, NAU, Gujara
Convener	Dr. Hombegowda, IISWC RC, Koraput
ORAL PRESENTATIONS	
1. TS9ORL01 -Weed Suppression and Yield Response of Vegetable Pea (Pisum sativum L.) to Integrated weed management approaches -Ramanjit Kaur, Prabhu G and Rishi Raj	
2. TS9ORL02 -Role of nitrogen supply in uptake and agronomic re-translocation of macronutrients in coriander at various phenological stages -O.P. Aishwath, R.S. Mehta, P.N. Dubey and Harisha, C.B.	
3. TS9ORL03 -Effect of Organic sources of nutrients and bio stimulants on quality and yield of Onion (Allium cepa L.) -Satya Prakash, Bijendra Singh, Vipin Kumar and Jagraj Singh	
4. TS9ORL04 -Weed Dynamics and Productivity of Wheat as Influenced by Different Tillage and Weed Management Practices -Parmeswar Dayal, Arun Kumar, Shashank Tyagi, Mahendra Singh, Twinkle Jena, Ravikesh Kumar Pal, Sumit Sow and Shivani Ranjan	
5. TS9ORL05 -Chemical and biological based interventions for better root development of Hybrid Bt cotton under various tillage conditions in North India -Amarpreet Singh, Rishi Kumar, S. K. Sain, Debashis Paul and Subhash Chandra	
6. TS9ORL06 - Conservation tillage based broad bed and furrow system for resource conservation and higher income in rainfed regions of South-eastern Rajasthan -Kuldeep Kumar, B L Mina, Shakir Ali, Ashok Kumar and Anita Kumawat	
7. TS9ORL07 -Utilization of seaweed extract-based products in improving soil and plant health under suboptimal NPK fertilization - Bijan Kumar Mondal, Abir Dey, Debarup Das, MC Meena and Deepak	
8. TS9ORL08 - Impact of Nano-urea on Productivity, Nitrogen Use Efficiency and Sustainability of Maize -Satyam Rawat, Rajiv K Singh, Pk Upadhyay	
9. TS9ORL09 - Effect of Rhizobium isolates on nodulation and plant growth parameters of black gram (Vigna mungo L.) genotypes -M. Manjunath, M. Vanaja, V. Maruthi, P.C. Latha, V.K. Singh M. Prabhakar and S. Savita and M Srinivasa Rao	
10. TS9ORL10 -Drumstick based Agri-horticultural Systems under rainfed condition -N. I. Patel, C.K. Patel and Brijal R. Patel	



11. **TS9ORL11 -Soil quality and crop productivity under 34 years old rainfed rice-lentil cropping system in Indo-Gangetic Plain - Sunanda Biswas, Priya Singh, Nirmal De**
12. **TS9ORL12 - Impact of thirty-four years of fertilization and manuring on nutrients status and yield under rainfed rice-lentil system of India -Priya Singh, Sunanda Biswas, Nandita Ghoshal, Nirmal De**
13. **TS9ORL13 -Crop residue recycling through integrated nitrogen management (INM) to enhance rice-wheat system productivity -Ajay Kumar Bhardwaj, Kapil Malik, Manu Rani**
14. **TS9ORL14-Long term effect of nutrient management on productivity of Soybean and Wheat -B.S. Dwivedi, B.K. Dixit and Abhishek Sharma**
15. **TS9ORL15 - Effect of Integrated Nutrient Management on soil properties and productivity of pulses based cropping system in semi arid climatic condition - Amit Mishra, Vishal Singh, Dinesh Sah, Jaggannath Pathak Mukul Kumar and G.S. Panwar**
16. **TS9ORL16 -Effect of varietal diversification on nutrient content and uptake of Indian mustard under diverse production systems - Shashank Patel, SS Rathore, SD Mishra, Anamika Burman, Satyam Rawat**
17. **TS9ORL17 -Enhancing Yield and Nutrient Quality of Summer Greengram (*Vigna radiata* L.) through Sulphur, Organic Manures and Biofertilizer Applications -N. M. Chaudhari , K. K. Patel, B. J. Chaudhary and M. K. Gamit**
18. **TS9ORL18 - Formulation of customized multi micronutrient mixture for rubber and accessing its effect in mature and immature rubber plantations -Rekha V.R.Nair and Usha Mathew**
19. **TS9ORL19 - Enhancing Sustainable Wheat Cultivation in Uttar Pradesh, India: A Biofortified Perspective Roopa - Roopa H.S, Amit Sharma, Neha Singh , Rajni Kant Prasad**
20. **TS9ORL20 - Different Dimensions of Natural Farming in India: Evidence on Soil Health and Crop Productivity - Ajay Kumar Mishra, Piyush Kumar Maurya and Sheetal Sharma**
21. **TS9ORL21 - Morpho-physiological Characterization of Rice (*Oryza sativa* L.) Genotypes in Response to Potassium Application under Water Stress -Thaware Bhimrao Gena, Ajay V Narwade, Kirti Bardhan, P. B. Patel, Nilima Karmakar, Kamal Kant**

10.11.2023	11.00 -11.30 AM
11.30 -01.30 PM	Technical session : Theme 9 online oral and poster presentations
Chairman	Sh. RAS Patel , Ministry of Agriculture & Farmers Welfare
Co Chairman	Dr. A.K. Singh , IISWC RC, Vasad
Rapporteur	Dr. S.M. Vanitha, IISWC RC, Udthagamandalam
Convener	Dr. Subash Chand, NIAP, Delhi
01.30 -02.30 PM	Lunch
02.30 -04.00 PM	Valedictory session



10.0. SCHEDULE OF POSTER PRESENTATION

Date: 08.11.2023

Time: 11.30 to 01.00 PM

Venue : NAAS lecture hall

THEME 1- NATURAL RESOURCE MANAGEMENT TOWARDS ACHIEVING SUSTAINABLE DEVELOPMENT GOALS (SDGS)

- 1. TS1POS01- Is Natural Farming can be Used as a Mitigation and Adaptation Strategies for Global Climate Change?**-*Subhash Chand, J.A.Wani, SumatiNarayan,S.A. Wani,S.K. Raina, S.A. Mir, Sandeep Kumar, Shaista Nazir*
- 2. TS1POS02-Climate Change Impacts on Water Supply and Demand in Nuh Watershed (Haryana), with Potential Adaptation Strategies** *Smita Jaiswal, Susama Sudhishri, Man Singh, Vinay K. Sehgal, Anil K. Mishra, AnchalDass, Dinesh Sharma, P. Venkatesh ,Prashant Singh*
- 3. TS1POS03 Seaweed Bio-Stimulant Foliar Application for Improving Crop Productivity and Soil Health Under Climate Change: A Comprehensive Review** *Neha Toppo, Arun Alfred David,Iska Srinath Reddy*
- 4. TS1POS04 Climate Variability and Crop Planning in Narmada District of Gujarat***K. N. Sondarva ,P. S. Jayswal,Lakkad, A. P., Shrivastava, P. K.*
- 5. TS1POS05 Natural Resource Management towards achieving Sustainable Development Goals: Global warming, increased atmospheric CO₂ changes in rain fall patterns** *Sampat Choudhary and Amit Kumawat*
- 6. TS1POS06 Land Resources Inventory is Key Component for Drought Mitigation: A Case Study in Kudumalakunte Sub-Watershed, Karnataka** *R. Srinivasan, V. Ramamurthy, M. Lalitha, B. Kalaiselvi , R. Vasundhara , K.S. Karthika, M.S. Vivek , C.V. Nichitha, C. Sharath Babu, G.R. Charankumar,N.G. Patil*
- 7. TS1POS07 Water-Efficient Rice Farming in the Face of Climate Change: Challenges and Solutions** *NishthaSharnagat, Rahul Kumar, Lakey Radha*
- 8. TS1POS08 Building a Sustainable Future: The Role of Water Harvesting in Natural Resource Management***Lakey Radha and NishthaSharnagat*
- 9. TS1POS09 Temporal and Spatial Variation in Rainfall Pattern and Drought Frequency Measure in Haryana over a Period 1990-2020** *Manjeet, Anamika Sharma, Gaurav Papnai, Bharat Singh, Krishan Kumar , L. N. Yadav*
- 10. TS1POS10 Evaluating the Water Resource Management in an Agricultural Sector Under Climate Change Using a Risk-Based Hydro-Economic Model** *GhaderDashti, Fatemeh Sani, JavadHosseinzadFiroozi, AbolfazlMajnooniHeris*
- 11. TS1POS11Evaluating the Impact of Land Application of Biochar on Soil Carbon Dynamic and its Role as Climate Resilient Farming Tool - Case Study in Northern Guam** *Mohammad H. Golabi, Ferdinand Galsim, AlanFranzluebbers*



12. **TS1POS12 Sustainable Drought Management: Adapting to Arid Challenges** Lalchand Kumawat, J. Choudhary, Ganpat Lal Kumawat
13. **TS1POS13 Effect of Climate Change on the Western Himalayan Vegetation** Ankush Thakur
14. **TS1POS14 Effect of Global Warming due to Increase in Carbon Dioxide on the Rainfall Pattern of Meerut District, UP** Sanjay Kumar, Rakesh Tiwari, Ashish Taygi
15. **TS1POS15 Analysis of Rainfall Variability and Land Use Changes on Non-Monsoon River Flow from A Catchment of Semi-Arid Region of India** Benukantha Dash, M.P. Tripathi, Dhiraj Khalkho, Narendra Agrawal, R.K. Naik
16. **TS1POS16 Influence of Ambient Temperature on Soil Temperature in Rabi Maize (Zea Mays)** Pratishruti Behera, Pratistha Pradhan Sweta Nanda, Khagen Kurmi
17. **TS1POS17 Shree Anna: A Sustainable Answer to Food Security and Environmental Resilience** Soumyajeet Pradhan, R K Sahu, P K Samant, K K Rout
18. **TS1POS18 Effect of Terminal Heat Stress on the Nutritional Qualities in Lentil (Lens culinaris Medik) Cultivars** Sayantani Basu, Dr. Y.V Rao, Dr. Jhuma Datta
19. **TS1POS19 Potential of Bio-Inoculants in Mitigating Drought Stress in Tomato (Solanum Lycopersicum L.)** Preeti, Pradeep K Rai, VM Arya
20. **20. TS1POS20 Exploring Rainfall Probability Distributions and Trends of Navsari, Gujarat** - D. K. Dwivedi, P. K. Shrivastava
21. **TS1POS21 Arboreta and the Sustainable Developmental Goals – Case Study of the Western Himalayan Temperate Arboretum, Shimla** Vaneet Jishtu, Dharam Dev, Brij Bhushan, Minakshi, Monika Chauhan
22. **TS1POS22 Balancing Carbon Management for the Sustainability of Food Systems** Deepak, Abir Dey, Debarup Das, Bijan Kumar Mondal
23. **TS1POS23 Trend Analysis of Long-Term Rainfall Data for Monsoon Season of Kharun Catchment** Vipin Kumar Mishra, Dhiraj Khalkho, Shruti Verma
24. **TS1POS24 Impact of Climatic Changes Associated with the Flowering of Jasminum Sambac** - Khanchana, K. and, M. Jawaharlal
25. **TS1POS25 Impact of Climate Resilient Agriculture Practices on the Marginal Farmers of Bihar** Sripriya Das, Sunita Kushwah, Prem Prakash Gautam, Kumari Namrata, Kavita Verma, Swapnil Bharti, Anup Kumar Singh, Madhu Sudan Kundu, Raj Kumar Jat
26. **TS1POS26 Runoff and Soil Loss at High Rainfall Intensity Using Mini Rainfall Simulator** Gauri Unesh Rao Bhagole, A. K. Mishra, D. K. Singh, S. Sarkar
27. **TS1POS27 Moderation Effect of Mulch Thickness on Hydro-Thermal Regimes, Biological Properties and Yield of Cauliflower (Brassica oleracea L. var. botrytis L.)** Komal and R S Spehia
28. **TS1POS28 Efficacy of Zero Tillage Potato for Climate Change Mitigation in Begusarai** Sushma Tamta, Ram Pal, Abhay Ranjan, Nagnagouda Patil, R. K. Jha, Vipin
29. **TS1POS29 Enhancing Farming Practices and Building Agricultural Resilience in Drought-Afflicted Regions of Maharashtra** Gireesh S, Praveen Kumar, N.V. Kumbhar
30. **TS1POS30 Analysis of Dry and Wet Spells for Crop Planning in the Gariyaband District of Chhattisgarh Plain** B. L. Sinha and Rajendra Kumar Deo



31. **TS1POS31 Achieving Sustainable Development Goals (SDGs) by Means of Watershed Development Program.** *Raghupathi Matheyarasu and, Yashwanth Rajaram*
32. **TS1POS32 Sustainable Natural Resource Management** *Beenish Khuroo, Quadri Javeed Ahmad Peer, O. P. Singh*
33. **TS1POS33 Biochar Effect on Climate Change for Sustainable Agriculture** *Iska Srinath Reddy, Neha Toppo, Arun Alfred David*
34. **TS1POS34 Design and Installation of Rooftop Rainwater Harvesting Structures** *Gayatri Mohanty and Susanta Kishore Pattanaik*
35. **TS1POS35 Global warming and climate change: a phenomenon** *Mayank Goyal*
36. **TS1POS36 A study on temperature shifts and rainfall pattern in Karnataka State in India during the period 1979-2019** *Seedari Ujwala Rani, Pramod Kumar, Naveen P. Singh, S.K. Srivastava, Ranjit Kumar Paul, R.N. Padaria*

THEME 2- SCIENTIFIC TOOLS FOR LAND RESOURCE INVENTORY, HYDROLOGIC ASSESSMENT AND DECISION SUPPORT SYSTEMS FOR EFFECTIVE MANAGEMENT OF NATURAL RESOURCES

1. **TS2POS01 Geospatial Analysis and simulation pattern of Land use/ cover changes using Remote Sensing and Geographic Information System (GIS) in Northern Iran** *Roghayeh Jahdi*
2. **TS2POS02 GIS - Based Site Suitability Study for Pineapple Cultivation in South Garo Hills, Meghalaya** *C. Shylla, C. Goswami, F. Dutta, B.K. Handique, K.K. Sarma and S.P. Aggarwal*
3. **TS2POS03 Comparison of Spectral Indices for Nitrogen Prediction in Ginger cultivated areas of Meghalaya** *Chayanika Baishya and Naorem Janaki Singh*
4. **TS2POS04 GIS - Based Site Suitability Study for Pineapple Cultivation in South Garo Hills, Meghalaya** *C. Shylla, C. Goswami, F. Dutta, B.K. Handique, K.K. Sarma and S.P. Aggarwal*
5. **TS2POS05 Morphometric analysis of shel dedumal watershed using remote sensing** *remote sensing and GIS* *Sondarva, K. N., Jayswal, P. S. And Dhodiya, J.*
6. **TS2POS06 ,Assessment of soil quality indicators of Khutala village of Chandrapur district, Maharashtra.** *Suhas Potdar, Pallavi Ghorpade, S. S. Balpande and S.D. Jadhao*
7. **TS2POS07 Utilizing remote sensing for agricultural applications** *Shubham Yaduwanshi*
8. **TS2POS08 Importance of GIS for Soil Fertility Management: Preparation of Soil Fertility Maps of District Karnal, Haryana using GPS and GIS** *Kiran Kumari, Ankur Chaudhary, Ankit Kamboj*
9. **TS2POS09 Rainfall-Runoff Estimation in the Watersheds of South Gujarat using SCS-CN and Geospatial Approach** *V. T. Shinde; M. Singh; Y. A. Garde; A. V. Sonawane*
10. **TS2POS10 Spectral Characterization of Soils in Northern Karnataka** *Charishma, D. S. and V. B. Kuligod*
11. **TS2POS11 Mapping of iron status of groundnut growing soils of Cuddalore district** *Porkodi, G and R. Shanmugasundaram*



12. **TS2POS12 Quantifying Spatial Variability of the physico-chemical properties and available Zinc of soil from fourteen firkas in Melur block, Madurai district, Tamil Nadu, India.** P. Ramamoorthy, G. Porkodi and P. Christy Nirmala Mary
13. **TS2POS13 Phytolith and PhytOC for climate change mitigation in maize eco systems** S. Prabha, P. Christy Nirmala Mary, P. Ramamoorthy and R. Murugaravan
14. **TS2POS14 Assessment of land suitability for selected horticultural crops in Kuruvanaka-1 micro- watershed, Arasikere Taluk, Hassan District, Karnataka by using geo-spatial techniques** Nithin, G. P. Sathish, A, Jagadeesha, G. S, Shivakumara, M. N, Manjunath, M. H
15. **TS2POS15 Integrating IoT and LiDAR techniques into Digital Soil Mapping** Brishmrita Mahanta Das, Shivani Barman, Lumbini Kalita, Meghna Sarkar
16. **TS2POS16 Delineation of physical and chemical properties of surface soils of Navanagar block of Ballia district, U.P., India** Ashok Kumar Singh, Depatnshu Kumar, Anil Kumar Singh and Mandhata Singh
17. **TS2POS17 Soil characterization of KVK farm, Hamirpur using Geo-statistical tools** Deo Kumar, Arbind Kumar Gupta and Ranu Mishra
18. **TS2POS18 Soil fertility assessment for improvement of soil health using GIS techniques in Bommanahalli sub watershed area for sustainable agriculture** Biradar, I. B., Sreenatha, A., Sanjeevraddi G. Reddi, Prasanna S. M., Tuppad, G. B., Rajanand Hiremath, Ruxanabi Naragund and Maheswarappa H. P.
19. **TS2POS19 Soil resource inventory of jhum cultivated lands in part of the Purvanchal Range of Eastern Himalayas Rameshwar** Dayal Meena, Nayan Ahmed, Prasenjit Ray, Binder Singh, Shrila Das, C.M. Parihar and Shiv Prasad
20. **TS2POS20 Linseed varieties developed for Chhattisgarh fit for agro climatic resilience** Nandan Mehta, S.S.Rao, B.P. Katlam, S.K. Dwivedi, K.P. Verma, Ashulata Kaushal, M.K.Singh, P.K. Chandrakar and Sonal Upadhyay
21. **TS2POS21 Artificial intelligence: A potential technology for accelerating efficiency of agri-food systems** Halley Okasa, Tanishq Garg, Kirti Singh and Anchal Dass

Date: 08.11.2023

Time: 04.00 to 06.00 PM

Venue : NAAS lecture hall

THEME 3 : VULNERABILITY, RESILIENCE AND MITIGATION OF CLIMATE CHANGE IMPACT ON WATER RESOURCES SYSTEMS

1. **TS3POS01 Watershed flood vulnerability modeling applying incorporative Entropy-COPRAS technique**
Elham Azizi, Mohammad Reza Nikoo, Raoof Mostafazadeh , Zeinab Hazbavi
2. **TS3POS02 A Study on Integrated Water Resources Management of Pamaluru Watershed Project, Kadapa District, Andhra Pradesh**
Dhara Hareesh, R.C. Nayak, and Kivishe
3. **TS3POS03 Optimization of Farm Pond Capacity for Saline Tract of Purna Valley**
A.R. Mhaske, Chetan Pangul, Vaibhav Bhute and Tushar Mhaske



4. **TS3POS04 Advancements in Hydrological Modeling: Rainfall-Runoff Simulation of Upper Jhelum Basin Using HEC-HMS**
Tanzeel Khan, Rohitashw Kumar
5. **TS3POS05 Evaluation of few reference evapotranspiration equations against standardized FAO56-PM model for semi-arid region of Ludhiana**
Abhishek Shukla and Arvind Singh Tomar
6. **TS3POS06 Spatio-temporal trend analysis of satellite-derived near-surface soil moisture content over Madhya Pradesh**
Alka Rani, Nishant K. Sinha, Jitendra Kumar, Seema Bhardwaj, R.S. Chaudhary, R.K. Singh, and N.K. Lenka
7. **TS3POS07 Hydromulching -Tomorrow's Technology For Sustainable Agriculture**
B Gouthami and D S Gurjar

THEME 4 SUSTAINABLE MANAGEMENT OF GROUNDWATER

1. **TS4POS01 Community based Management of Groundwater: A Case Study of Northern Gujarat**
Bhupendra Joshi , V. K. Chandola
2. **TS4POS02 Fluoride Contamination in Groundwater: A Comprehensive Review and Effective Management Strategies**
Anjali Prajapati, Dr.SomvirBajar
3. **TS4POS03 Integrated Coupled Groundwater Hydrologic Modelling for Aquifer Recharge and Discharge Estimation**
Noureen Khurshid ,Rohitashw Kumar
4. **TS4POS04 Poor Yield of Paddy in Salt Affected Soils**
Trilok Nath Rai, Sanjay Arora, KN Rai, SK Rai , Anjali Yadav
5. **TS4POS05 Institutional Arrangement and Impact of Community Based Water Storage Structures in Tamil Nadu** *P.Sundarambal, D.C.Sahoo , Pradeep Dogra , S.M.Vanitha, A.Murugesan*
6. **TS4POS06 Performance of Warm Season Turf Grasses under Treated Waste Water Irrigation**
Babita Singh, Balaji N., S. S. Sindhu, M. K. Singh, Ritu Jain, Ajai Tiwari
7. **TS4POS07 Design and Development of A Spiral Tube Water Wheel Pumping System: A Review**
Fanesh Kumar, Jitendra Sinha , Khilesh Kumar, Anish Kumar Ekka
8. **TS4POS08 Impact of Urbanisation and Industrialization on Surface Water bodies in Coimbatore City using GEE**
Akshaya M, Dr. Balaji Kannan
9. **TS4POS09 Feasibility of *Conocarpus Erectus* (Button wood) along the Coastal South Gujarat**
P K Shrivastava, M B Tandel and Dileswar Nayak
10. **TS4POS10 Soil Salinity Patten Along the Distance Gradient in Coastal Region soils of Southern Saurashtra of Gujarat**
Sakarvadia, H. L., Bhorania Nirali C., and Savalia S. G.



11. TS4POS11 Block wise Spatial Variation of Crop Water Foot Print for an Aspirational District Bagraich of North Agro Climatic Zone of India

S.S. Chaudhari, S. Sudhishri, Anchal Dass, M. Khanna, P. Kumar, V. K. Sehgal, R. Padaria and p. Sachan

THEME 6: HYDROLOGY AND DIGITAL APPLICATION FOR MANAGEMENT OF WATERSHEDS

1. TS6POS01 LULC change detection using RS & GIS in the catchment area of Umiam reservoir, Meghalaya

Rameez R. Gazi, Shiva Shankar Chaturvedi, and Suchandra Bardhan

2. TS6POS02 Development of App for the designing of location specific sprinkler irrigation system

Narendra Agrawal, Chesta Deshmukh, D. Khalkho and M. P. Tripathi

3. TS6POS03 Assessment on Availability of Macro and Micro Nutrients in Soils and their Management of Mining Areas of Mayurbhanj District, Odisha

Satya Ranjan Mohanta, Tarence Thomas, Taniya Mistri

4. TS6POS04 Physico-chemical characterization of sewage water from different sewage water discharge outlets in Haryana

Kiran Kumari, Sushil, K.K Bhardwaj , Rajesh Kathwal

5. TS6POS05 Estimation of Evapotranspiration and Land Surface Temperature of Different Land Uses in Unai Watershed using MODIS Satellite data

Nirav Pampaniya, Dileswar Nayak and P K Shrivastava

6. TS6POS06 Analysis of microbial community structure in prolonged oil-contaminated soils using metagenomic approach

Shokufeh Moradi, Mohammad Reza Sarikhani, Ali Beheshti Ale-Agha, Karim Hasanpur, Jalal Shiri, Mohammad Ali Malboobi

7. TS6POS07 Improving Water Productivity in Agriculture with Special Reference to Lift Irrigation in Chhattisgarh

Rathore A.L., Abhay Bisen, Avinash Yadu and Jeet Raj Sahu

8. TS6POS08 Current Drip Irrigation Scenario in Meerut District for Horticulture and Sugarcane Crop

Sanjay Kumar, Rakesh Tiwari and Ashish Taygi

9. TS6POS09 Development and Performance Evaluation of Low-Cost IoT Based Smart Irrigation System for Home Kitchen Garden

Alok Thakre and Jitendra Sinha

10. TS6POS10 Growth and Physiological adaptations of Teak (*Tectona grandis* Linn. F) under varied irrigation regimes using drip system during initial growth stage

Ghazanfer Abbas, Balasubramanian A, Anjali K S, G Swathiga

11. TS6POS11 Soil moisture, temperature and water productivity of cotton affected as different irrigation levels and mulches

Shri Rakesh, S. R. Bhunia and N. K. Pareek



12. **TS6POS12 Impact of iron-modified parthenium biochar on chromium uptake in rice in a tannery effluent irrigated soil**
Sayon Mukherjee and S.K. Singh
13. **TS6POS13 Assessment of Rice Water Requirements under Inceptisol in Raipur district using CROPWAT 8.0**
Nilima Jangre and Jitendra Sinha
14. **TS6POS14 Impacts of Land use Change and Climate Change on Water Yield in Arpa Catchment**
Shruti Verma, Dhiraj Khalkho and M. P. Tripathi
15. **TS6POS15 Mitigation of Aluminium toxicity in Acid Soils using Biochar amendment**
Shivani Barman, Brishmrita Mahanta Das, M. Bhargava Narasimha and Chittadeep Nath
16. **TS6POS16 Subsurface drip irrigation unveiled: Reviewing its influence on crop yield, soil attributes, and water productivity**
Varsha Rattan and S.K Sandal
17. **TS6POS17 Impact assessment of different land use systems on soil physical parameters in soils of Anand district**
Bhavik J. Prajapati, Sanket A. Prajapati, Aakash Mishra and S. H. Patel
18. **TS6POS18 Effect of irrigation methods on maize (*Zea mays* L.) yield and water productivity under mulched conditions**
M.S.Kahlon, Madhu Dhingra and Jeevan Dhaliwal
19. **TS6POS19 Impact of wastewater irrigation on tuberose (*Polianthes tuberosa* L.)**
D S Gurjar, R Kaur and K P Singh
20. **TS6POS20 Horticulture crops suitability assessment for Hunagund taluk landscape of Bagalkot district using GIS techniques**
Prasanna S. M., Biradar, I. B., Sreenatha, A., Sanjeevreddi G. Reddi, Tuppad, G. B., Rajanand Hiremath, Sushma Patil and Maheswarappa H. P.
21. **TS6POS21 Soil primary nutrient status and carbon stock in different forest types of Western Himalayas**
Sagun Mahajan
22. **TS6POS22 Economic Analysis of Sprinkler Irrigation System In Groundnut Cultivation**
B. Harini and M. Anjugam
23. **TS6POS23 Effect of Irrigation levels and sowing methods on Soil Nutrient status and yield of European Carrot in Mid Hills of Western Himalayas, India**
Prikkrit
24. **TS6POS24 Smart irrigation scheduling to improve water use efficiency in garden pea**
K Arunadevi, Singh M, Khanna M, Mishra AK, Prajapati VK, Denny F, Ramachandran J, Maruthi Sankar GR
25. **TS6POS25 Point and non-point sources of water pollution**
Rishabh Singh
26. **TS6POS26 Spatio-temporal Analysis of Landuse/Landcover Changes in Cuddalore Coastal Area, Tamil Nadu**
T.German Amali Jacintha, J. Sriganesh, S.R Radhika Rajasree, T.Y.Suman



27. TS6POS27 Farmers' Adaptation Strategies to Combat Climate Change: A Study from Paddy Growing Tracts of Eastern Coastal Andhra Pradesh

Jobin Sebastian , Pramod Kumar, Nalini Rajan Kumar, Rabindra Nath Padaria and Ranjit Kumar Paul

THEME 7 – ECOSYSTEM AND THEIR VALUATION INCLUDING BIODIVERSITY CONSERVATION AND MANAGEMENT

1. TS7POS01 Machine Learning Technique Says That All Metals or Heavy Metals Concerning to 'Cec And 'Tds' Inhibit Largely in Growths and Reproductions Found in all Species of Animals, Fisheries and Mankind

Debabrata Das, Aranya Das, Prakriti Das , Santa Ana Das

2. TS7POS02 Biochar for Carbon Sequestration and Soil Environment Management

Samar Pal Singh and Brijesh Yadav

3. TS7POS03 Phenotypic Characterization of Plant Growth Promoting Microbial isolates from Maize Rhizosphere and Phyllosphere

Gayatri PralhadTurkar and Deepak Kumar Dwivedi

4. TS7POS04 Bambusa tulda-Based Agroforestry System

R Bezbaruh1 , AA Ahmed , D. Dwibedi , S. K. Baruah, B.Yadav

5. TS7POS05 Assessment of Resistance and Resilience of Microbial Populations under Conservation Agriculture-Based Rice-Wheat System in Indo-Gangetic Plain

Saloni Tripathy, Sunanda Biswas, T.J. Purakayasth , Nayan Ahmed , R. N.Pandey, T.K.Das,B. Ramakrishnan

6. TS7POS06 Unravelling Plant Biodiversity Conservation through Genomic Innovations

Shreya, Arjoo, Rajat , Vikas

7. TS7POS07 Plant DNA Barcoding: Advancing Taxonomy, Conservation, and Biodiversity Exploration

Arjoo , Rajat , Shreya

8. TS7POS08 Unlocking Biodiversity Conservation Potential: Omics-Assisted Techniques for a Sustainable Future

Rajat ,Arjoo and Shreya

9. TS7POS09 Possibilities and Potential of Microbial Inoculants for Mitigating Biotic and Abiotic Stresses in Seed Spices

Asmita Mondal and O.P. Aishwath

10. TS7POS10 Ecosystem Services of Arbuscular Mycorrhizal Fungi in Citrus reticulata

Ankita Kumari ,Anjuma Gayan , Dhruva Jyoti Nath

11. TS7POS11 Biodiversity Resource Conservations and Ecological of Habitat in Meerut District, UP

Sanjay Kumar, Rakesh Tiwari , Ashish Taygi

12. TS7POS12 Knowledge and Adoption of Sheep Management Practices by Sheep Farmers in District Baramulla (J&K)

Nitin, Quadri Javeed Ahmad Peer, S.A.Saraf, S.H.Bhat , O. P. Singh



13. **TS7POS13 Biodiversity Conservation**
Farah Farooq, Quadri Javeed Ahmad Peer , O. P. Singh
14. **TS7POS14 Effect of Different Levels of Phosphorus and Molybdenum on Microbiological Properties of Soil in an Acid Alfisol**
Shweta Sharma
15. **TS7POS15 Effect of Soil Application of Panchagavya on Quality of Soil**
S. Hemalatha, N. Arunkumar, C. Nandhini, Kiruthika L N, Lissadevi S, Mohankumar S, Nagalakshmi P , Ragavi C
16. **TS7POS16 Effect of Soil Properties on Regulating Soil Dehydrogenase Activity in Inceptisol**
Suman Kumar Surendra, S.R. Patil, Ritu S. Thakare, A.G. Durgude
17. **TS7POS17 Evaluation of Performance of Agriculture Infrastructure Fund Scheme**
Adrita Dam and Pramod Kumar

Date: 09.11.2023

Time: 10.30 to 12.30 PM

Venue : NAAS lecture hall

THEME 8 : MITIGATION OF CLIMATE CHANGE IMPACT ON SOIL HEALTH AND CARBON SEQUESTRATION

1. **TS8POS01 Effect of biofertilizer and hydrogel on growth and yield of linseed under rainfed condition**
Arushi Yadav, Munish Kumar, Sumit Raj and Bimlesh Kumar
2. **TS8POS02 Identification of the suitable organic acid extractants to extract the potentially available insoluble inorganic phosphorus (P) pools in acidic soils under organic farming system**
Pritisha Patgiri and Sanjay-Swami
3. **TS8POS03 Zinc biofortification of French bean (*Phaseolus vulgaris* L.) in acid Inceptisol**
Sultana Jerifa Ullahand Sanjay-Swami
4. **TS8POS04 Interactive effect of lime, biochar, and FYM on soil acidity indices under rice in acid Inceptisol**
Shubham Singh, Sanjay-Swami, MSS Charan Satya, Pritisha Patgiri and Ventina Yumnam
5. **TS8POS05 Evaluation of phosphorous extractants for organically managed acid Inceptisol under pea (*Pisum sativum* L.) cultivation**
Vinukonda Abhishek Raj and Sanjay-Swami
6. **TS8POS06 Soil quality index of Zabo farming system**
Shilpa Mohanty and Sanjay-Swami
7. **TS8POS07 Nano Fertilizer: A Modern Tool to Increase Crop Production Through Nutrient Use Efficiency**
Gayatri Pralhad Turkar and Deepak Kumar Dwivedi



8. **TS8POS08 Role of Silicon In Abiotic Stress**
Deepak Kumar Dwivedi and Gayatri Pralhad Turkar
9. **TS8POS09 Recent Trends in Improving Nutrient Use Efficiency**
Chayanika Baishya and Naorem Janaki Singh
10. **TS8POS10 Soil Carbon Sequestration Enhancement Through Agricultural Practices**
Deepak Kumar Dwivedi and Gayatri Pralhad Turkar
11. **TS8POS11 Soil Properties and Yield of Lakadong Turmeric under Integrated Nutrient Management**
Ventina Yumnam and Sanjay-Swami
12. **TS8POS12 Soil bio-chemical properties of groundnut rhizosphere and crop performance under Panchagavya and Jeevamrutha**
Teeka Ram Meena and Sanjay-Swami
13. **TS8POS13 Integrated Nutrient Management for improving soil properties**
Ventina Yumnam
14. **TS8POS14 Soil Acidity and Nutrient Management through Azolla Integration in Acid Inceptisol of Meghalaya**
Shubham Singh and Sanjay-Swami
15. **TS8POS15 Study of soil nutrient deficiency for management of soil health**
Tushar Lata, Shabir Ahmed Bangroo, Mohammad Iqbal Bhat
16. **TS8POS16 Soil nutrient dynamics as influenced by berseem based intercropping systems in transitional tract of peninsular India**
Vidyashree B. S., Kubsad V. S., Shivakumar B. G., Anil Kumar G. K., Manjunatha Hebbara and Rundani V
17. **TS8POS17 Soil health and crop productivity under long-term rice-wheat cropping system in Indo- Gangetic Plains**
Sunanda Biswas, Priya Singh and Debashish Dutta
18. **TS8POS18 Soil Nutrients Deficiency and its Management in Meerut District, UP**
Rakesh Tiwari, Sanjay Kumar and Ashish Taygi
19. **TS8POS19 Characterization and Classification of Vertisols, Ultisols and Alfisols of Northern Karnataka**
Charishma, D. S. and V. B. Kuligod
20. **TS8POS20 Effect of different decomposition enhancers on transformation of Lignin and Holocellulose of different crop residues during residue management**
P. Nagaseshi Reddy and J. Aruna Kumari
21. **TS8POS21 Impact of synthesized bio-organo-chemical fertilizer on soil properties under maize cultivation**
P. K. Patel and V. J. Zinzala
22. **TS8POS22 Study on impact of brick kiln emissions on Apple leaves (*Malus pumila* L. var. Red Delicious) in orchards of Budgam District of Kashmir Himalaya**
Javeed I. A. Bhat 1 and Humayun Azad



23. **TS8POS23 Soil fertility status in rice growing areas of Golaghat district, Assam (India)**
Sukritee Hazarika , Nilay Borah and Bhabesh C. Deka
24. **TS8POS24 Incubation study on kinetics and mineralization rate of Phosphorous from organic sources in Ultisol: A Case Study in North East India**
Lumbini Kalita, N. J. Singh
25. **TS8POS25 Suitability of DTPA and Mehlich-3 for determination of available zinc in rice growing soils of West Bengal**
Umalexmi Thingujam, Animesh Ghosh Bag , G.C.Hazra, Debapriya Dey
26. **TS8POS26 A comparative study of soil physico-chemical parameters in varied agricultural fields of Hazipur, Bihar**
Anima Jha, Debaaditya Mukhopadhyay, Harshavardhan Kumar
27. **TS8POS27 Response of wet season rice (*Oryza sativa* L.) to varying levels of potassium humate**
Megha Kumari, Twinkle Jena, Vipin Kumar
28. **TS8POS28 Effect of organic sources of nutrition and Biochar on soil health in foothill Shivaliks of Jammu**
Sweetea Manhas, Vikas Sharma and Vivak M. Arya
29. **TS8POS29 Influence of cropping intensity on soil nitrogen pools under sub-tropical zone of Jammu**
Tamanna Sharma , Vivak M. Arya and Vikas Sharma
30. **TS8POS30 Organic Farming: A way to sustainable agriculture**
Raghvendra Singh and Munish Kumar
31. **TS8POS31 Approaches to mitigate micronutrient deficiencies in North-western Himalaya soils**
Nagender Pal Butail, Pardeep Kumar , Pratibha Thakur, Munish Kumar , Ayushi Singh, Himshikha, Arvind K. Shukla 4 and Sanjib Kumar Behera
32. **TS8POS32 Natural farming practices for sustainable agriculture and soil regeneration**
Chandrashekhar Rathore, R S Meena, P S Chauhan
33. **TS8POS33 Reconsidering the global breakthrough- Carbon Sequestration**
Meghna Sarkar and Brishmrita Mahanta Das
34. **TS8POS34 Effect of Continuous Application of Inorganic Fertilizers and Organic Manure on Soil Nutrient Status in a TypicHalpustert**
Risikesh Thakur, B.S. Dwivedi and A.K. Dwivedi
35. **TS8POS35 Evaluating Carbon Stability in Rice-Wheat Cropping Systems: A Comparative Analysis of Inorganic and Integrated Management Practices**
Binder Singh, Nayan Ahmed, T. J. Purakayastha, Prasenjit Ray, Abir Dey, Govind Gupta, Abhishek Das and Ashok Kumar
36. **TS8POS36 Ensuring Okra Productivity, Soil Health and Nutrient Use Efficiency Through Integrated Nutrient Management Technology in Subtropics of Himachal Pradesh**
Rishabh Pawar , Anil Kumar , Swapana Sepehya and Shiv Pratap Singh



37. **TS8POS37 Relative Efficiency of Zinc Sulphate and Chelated Zinc on Zinc Biofortification of Rice Grains**
Sarabdeep Kour, Yahiya Akram, Vikas Gupta, Vivak Arya and Meenakshi Gupta
38. **TS8POS38 Studies on Zinc uptake in Rice Soil of Birbhum district in West Bengal**
Swagata Malla, Goutam Kumar Ghosh
39. **TS8POS39 Influence of long-term application of fertilizers and amendments on soil chemical quality**
Priyanka
40. **TS8POS40 Biogranule technology for Soil fertility and health management for C sequestration and sustainable agricultural production.**
Raghupathi Matheyarasu, Yashwanth Rajaram
41. **TS8POS41 Impact of Rice Residue and Halo-CRD Bio decomposer with Inorganic fertilizers on Physical and Bio-Chemical Properties of Soil in Wheat (*Triticum aestivum* L.)**
Manjul Kumar, Arun Alfred David and Tarence Thomas
42. **TS8POS42 Short-term Influence of High Cropping Intensity on Soil Organic Carbon**
Sugandha Khajuria, Vikas Sharma, Vivak M. Arya and B. C. Sharma
43. **TS8POS43 Assessment of soil quality in different cropping systems of eastern plateau and hill region of India**
Abshiba, Manoj Chaudhary, Sarvendra Kumar, Sushanta K. Naik, Preeti Singh, Teekam Singh
44. **TS8POS44 Moisture Sensitivity of Carbon in Sludge Amended Inceptisol**
Mayurakshi Chanda, Ruma Das, Tapan Jyoti Purakayastha
45. **TS8POS45 Efficacy of Multiwalled Carbon Nano Tube (MWCNT), Nanoscale Zerovalent Iron (nZVI) and Nanocomposites in remediation of arsenic contaminated soils.**
Shruti Kumari, Nintu Mandal, Vivak.M.Arya, Vikas Sharma and Vikas Abrol
46. **TS8POS46 Effect of Pusa Decomposer for Enhancing the Nutrient Availability in Bioslurry**
Sidhartha Gaddam, Susama Sudhishri, Manoj Khanna, Khajanchi Lal, Rajiv Kumar, Arti Bhatia, Livleen Shukla, Anupama Singh, K K Bandyopadhyay
47. **TS8POS47 Comparative analysis of raw and modified clay for cationic dye removal from simulated effluents**
Chakrapani Saikrishna Kishore, Indu Chopra, Thungashan Kikon, V.K. Sharma and Amrender Kumar
48. **TS8POS48 Assessing the Interplay between Total Organic Carbon and Soil Carbon Pools under different forest types of Mizoram**
Debaaditya Mukhopadhyay, Gaurav Mishra
49. **TS8POS49 Impact of Long-Term Organic Fertilization on Boron Fractions In Soils Under Rice-Wheat Cropping System**
Prince Kumar, Ruma Das, S.P. Datta, Mandira Barman, Abir Dey and Y.S. Shivay



THEME 9- CLIMATE CHANGE ADAPTATION IN AGRICULTURE AND ALLIED SECTORS

1. **TS9POS01 Effect of cropping techniques and mulches on crop growth, yield, water use effectiveness, and economics under rainfed conditions**
Sumit Raj , Munish Kumar , Arushi Yadav, Bimlesh Kumar and Amit Raj Singh
2. **TS9POS02 Resource Conservation Technology in Rice-Wheat Cropping System: An Ecological and Sustainable Approach**
Samar Pal Singh and Brijesh Yadav
3. **TS9POS03 Response of black gram (*Vigna mungo* L. Hepper) to phosphorus and boron fertilization and their temporal availability in acid Inceptisol**
Muddana Sri Sai Charan Satya and Sanjay-Swami
4. **TS9POS04 Response of Liquid Biofertilizer And Their Mode of Application on Growth and Yield of Finger Millet (*Eleusine coracana* L.)**
Balram Yadav, Deepak Kumar Dwivedi and Santanu Kaushik Borah, Ranjita Bezbaurah
5. **TS9POS05 Effect of Zinc Based Fertilizer in Combination with Zinc Mobilizing bacteria and Jeevamrit for Soil Application Under Maize Crop**
Deepak Kumar Dwivedi, Gayatri Pralhad Turkar , Ranjita Bezbaurah
6. **TS9POS06 Mid-season nitrogen management in wet direct seeded sali rice through LCC, green seeker and nano urea**
Santanu Kaushik Borah and Kalyan Pathak
7. **TS9POS07 Nutrient Management through Organics for Higher Yield of Black Turmeric in Acidic Soil**
Tridisha Deka and Sanjay-Swami
8. **TS9POS08 Bioavailability of Cadmium to Indian Mustard as influenced by Rice Residue Biochar under Combined Lead and Cadmium Spiking in a Loamy Sand Soil**
Kalyani Patil, Rajeev Sikka
9. **TS9POS09 Yield, Economics and Nutrient Uptake in French bean (*Phaseolus vulgaris*) as influenced by nitrogen management in French bean in lowland rice fallow**
Shashidhar, M.P., A K Singh, Lala I P Ray and Sanjay-Swami
10. **TS9POS10 Effect of varied crop geometry and nutrient sources on Buckwheat (*Fagopyrum esculentum*)**
Lalramuanna, A K Singh and Lala I P Ray
11. **TS9POS11 Effect of natural nutrient sources on performance of lowland rice in Mid Hills of Meghalaya**
A. Rojita Devi, A K Singh, Lala I P Ray and N. J. Singh
12. **TS9POS12 Studies on Incidence, Severity and Management of Leaf Rust of Wheat (*Triticum aestivum* L.) caused by *Puccinia triticina* Kriks.**
Harshit Singh, Deepak Kumar Dwivedi, Snata Kaushik, Gayatri Pralhad Turkar, Ankit Kumar Singh



13. **TS9POS13 Performance of summer mung bean as influenced by cow based organic nutrient sources**
Bhawesh Kumar, A K Singh, Lala I P Ray and Sanjay-Swami
14. **TS9POS14 Diseases of pearl millet and disease resistance mechanism**
Harshit Singh, Deepak Kumar Dwivedi, Ankit Alok, Basant Tamang, Snata Kaushik
15. **TS9POS15 Effect of crop residues and nutrient management in pulse-based cropping sequence**
T. Sunil Kumar, H.M. Virdia, K.G. Patel
16. **TS9POS16 Study on Performance of Dragon Fruit at Hnahthial, Mizoram, India**
Timothy Lalrinfela and Zosangliani Varte
17. **TS9POS17 Root responsiveness in common bean (*Phaseolus vulgaris* L.) to rhizobia and plant growth-promoting rhizobacteria along with biochar.**
Pooja Nain and K.P. Raverkar
18. **TS9POS18 Mycorrhiza and Zinc Fertilization affect Quality parameters of Pearl Millet (*Pennisetum glaucum* L.) in Hot Arid Region**
Ramniwas, S.M. Kumawat
19. **TS9POS19 Nanomaterial Engrafted Urea: A Novel Approach for Enhancing Wheat (*Triticum aestivum* L.) Growth and Soil Properties**
Mubashir Sadiq V, Shri Ram, Subhaum Anil Durgude
20. **TS9POS20 Effect of different agronomic practices on productivity of wheat cultivars under late sown conditions**
Sintu Malik, Pawan Kumar, Parveen Kumar and Pooja
21. **TS9POS21 Assessment of Organic and Inorganic Fertilizers on Growth and Yield Attributes of Tomato (*Solanum lycopersicum* L.) var: Pusa Ruby**
Taniya Mistri, Tarence Thomas, Satya Ranjan Mohanta
22. **TS9POS22 Effect of Organic Sources and Fertilizer Levels on Physiological Response of Garlic by using Infrared Gas Analysis (IRGA) in Western Rajasthan.**
Suresh Kumawat, S.R. Yadav, P.S. Shekhawat and Sumitra Kumawat
23. **TS9POS23 An Effective Surface Sterilization Protocol for *Schizostachyum dullooa* - A thin wall bamboo**
Bebija L. Singha, Mohd. Ibrahim and Shikhamoni Borah
24. **TS9POS24 Profitability, productivity and Nutrient use efficiency of Double Zero Indian mustard (*Brassica juncea* L.) as influenced by different nutrients**
Gajjela Indira R.B. Yadav Archana Verma
25. **TS9POS25 Response of Indian mustard (*Brassica juncea* L.) to precise Nitrogen management in western U.P.**
Archana Verma, R.B. Yadav, Gajjela Indira
26. **TS9POS26 Evaluation of blended manure-fertilizer mixture on soil fertility and yield of tomato after winter rice with low energy planting**
Nilay Borah, Mrinal Saikia, Samiron Dutta, Sailen Gogoi, Shilpi Gupta, Rini Borah and A. Kanagavalli



27. **TS9POS27 Impact of Crop Residue Mulching, Potassium Application and Potassium Solubilizing Bacteria on Pearl millet Productivity**
Ashok Kumar, Binder Sing, R D Meena, KS Rana, RS Bana, Anchal Das and MC Meena
28. **TS9POS28 Response of Maize Varieties to Varying Levels of Fertilizer Nitrogen Under Rainfed Conditions**
Mohammad Amin Bhat, Harmeet Kaur, MJ Singh, K. B. Singh, Anil Khokhar, Abrar Yousuf, Balwinder Singh Dhillon
29. **TS9POS29 Effect of nano nitrogen in conjunction with urea on yield and nitrogen uptake by mustard (*Brassica juncea* L.) in Northern Telangana Zone**
Navya. K, Sai Kumar. R, Krishna Chaitanya. A, Sampath. O
30. **TS9POS30 Effect of continuous application of fertilizer and FYM on pattern of nutrient uptake in Soybean and Wheat crops**
Abhishek Sharma, B.K. Dixit and B.S. Dwivedi
31. **TS9POS31 Effect of organic sources of nutrition on growth and yield attributes of wheat under eucalypts based agroforestry system in Haryana**
Parvinder Kumar, Chhavi Sirohi, K.K. Bhardwaj, Sumedha, Kapil
32. **TS9POS32 Impact of zinc-boron application on growth and yield of Maize (*Zea mays* L.) in Red and Lateritic Soils of West Bengal**
Banhisikha Roy, Goutam Kumar Ghosh
33. **TS9POS33 Effect of plant geometry and age of the seedlings on growth and yield of mustard (*Brassica juncea* L.) under system of mustard intensification (SMI)**
Sushma. N, Sampath. O, Mahesh. N and Sai Kumar. R
34. **TS9POS34 Influence of Different Levels of Phosphorus and Citric Acid on Root Growth Parameters of Soybean in an Alfisol**
Shilpa Kumari
35. **TS9POS35 Optimizing Growth, Yield and Quality of Blackgram (*Vigna mungo* L.) Through Planting Techniques and Nutrient Management**
P. S. Raut, Krutika Subodh Patel, N. M. Chaudhari and K. K. Patel
36. **TS9POS36 Effect of Foliar Application of Nano-fertilizers on Soil health, Growth and Yield Attributes of Transplanted Rice (*Oryza sativa* L.)**
Dev Narayan Yadav, Robin Kumar and Rishikesh Yadav
37. **TS9POS37 Response of nutrient management (NPK) on growth, yield and N, P and K uptake in potato based cropping system**
Vikas Yadav, Alok Kumar Pandey
38. **TS9POS38 Rice (*Oryza sativa* L.) residue management: Key to sustainable wheat (*Triticum aestivum* L.) production in the rice-wheat cropping system**
Ajay Kumar Baheliya, Ram Ratan Singh and Krishna Kumar Patel
39. **TS9POS39 Effect of different mulch materials on soil hydrothermal regime and weed control in rainfed nectarine orchard**
Altaf Hussain, J.C. Sharma, Vivak M. Arya



40. TS9POS40 Real-time nitrogen adjustment improves transplanted rice yield and water productivity in North-Eastern India

Ayekpam Dollina Devi, Anchal Dass, Jayenta Layek, Shiv Dhar, Subhash Babu, Susheel Sarkar, Shiv Prasad, Arjun Singh

Date: 10.11.2023

Time: 11.30 to 01.30 PM

Venue : NAAS lecture hall

THEME 5 - SUSTAINABLE PLANNING AND UTILIZATION OF NEW AND RENEWABLE ENERGY AND SOIL AND WATER RESOURCES

1. **TS5POS01 Driving forces behind the human disturbance in the Samian Watershed, Northwest Iran**
Vahideh Moradzadeh, Zeinab Hazbavi, Abazar Esmali-Ouri, Raoof Mostafazadeh, Shirin Zarei, Nazila Alaei
2. **TS5POS02 Success and Sustainability issues in Water Resources Development and Management projects**
Bankey Bihari and M. Madhu
3. **TS5POS03 Comparative analysis of exotic and local earthworm species for sustainable waste management: Implications for vermicomposting**
Thokchom Dorenchand Singh and Sanjay-Swami
4. **TS5POS04 Water budgeting of farm pond under conservation bench terraces cultivation**
Jitendra Kumar and Ambrish Kumar
5. **TS5POS05 Role of bio-formulations in paddy production & soil reclamation**
Trilok Nath Rai, Sanjay Arora, KN Rai, SK Rai, Anjali & S.Yadav
6. **TS5POS06 Silviculture system improves soil microbial health of degraded salt affected lands**
Pooja Maurya, Arjun Singh, Yash Pal Singh, Sanjay Arora
7. **TS5POS07 Impact Assessment of Tourism on Kempty Micro Watershed Tehri Gharwal, Uttarakhand**
Jyoti, Santosh Birman, Vishavjit Kumar
8. **TS5POS08 Factors affecting the adoption of Conservation Agricultural practices by the wheat growing farmers in Northern India**
Tannishtha Bardhan, Neelam Bhardwaj and Abir Dey
9. **TS5POS09 Soil Organic Carbon and Available Nutrient Content as Influenced by Erosion Control Measures in Lower Shivaliks of Jammu**
Vivak M. Arya, Meena Yadav, Vikas Sharma, Rajeev Bharat, M. Iqbal Jeelani Bhat, Anil Bhat and Rakesh Sharma
10. **TS5POS10 Soil and Water Management Strategies for Sustainable Vegetable Production**
Jagraj Singh, Satya Prakash, Vipin Kumar, Mohit and Amit Kumar



11. **TS5POS11 Watershed Management: A tool for Sustainable Development**
Meenu Verma, Mukesh Kumar and Vijayakumar P
12. **TS5POS12 Soil and Water Conservation in Horticulture**
Rupesh Kumar, Satya Prakash, Harshit Tomar, Mohit Kumar, Upendra Maurya, Veersain, Abhishek Chandra
13. **TS5POS13 Response of bt cotton (*Gossypium hirsutum* l.) To sowing time and spacing**
K. K. Patel, P. M. Patel, N. M. Chaudhari and M. K. Gamit
14. **TS5POS14 Agri-Startups in India: Unearthing the Potential of Entrepreneurial Ecosystem**
S. K. Saurav and O. P. Singh
15. **TS5POS15 Thermochemical organic fertilizer for solid waste management and sustainable crop production**
Amrutha S. Ajayan, Manorama Thampatti K. C., Naveen Leno
16. **TS5POS16 Understanding the Factors Contributing to the Overuse of Chemical Fertilizers: Insights from Qualitative Research**
Ramandeep, Manmeet Kaur and Dalbeer Singh

11.0. LISTS OF DELEGATES

S.No	Name & Designation	Address
1	Pooja Maurya	SRF, CSSRI, RRS, LUCKNOW
2	Shubham Yaduwanshi	M.Sc. Student, Division of Agronomy IARI, N.D
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6	Miss. Preeti	SKUAS&T, Jammu
7	Jaswinder Singh	Deptt. SWE, PAU, Ludhiana, Punjab
8	Shrivastava P. K.	College of Forestry NAU Navsari, Gujarat
9	Vinod Kumar	Scientist, Agronomy, AICRP, JNKVV, Narmda Puram
10	Samar Pal Singh	Krishi Vigyan Kendra, UJWA New Delhi
11	Amarpreet Singh	ARS, Scientist (Agronomy), ICAR-CICR, Haryana
12	Dr. K. Khanchana	Teaching Associate (Hort.) Dr. YSRHU
13	Dr. G. Porkodi	Assistant Professor (SS&AC), TNAU, Cuddalore
14	Dr. P. Ramamoorthy	Assistant Professor (SS&AC)PAC - Vellore.
15	Chongtre Shylla	North Eastern Space Applications Centre, Umiam



16	Abhishek Shukla	Student, G. B. Pant University of Agril. & Tech., Pantnagar
17	Dr. K. Arunadevi	Assistant Professor (SWCE), TNAU, Coimbatore
18	Richa Jaswal	SRF, CSKHPKV, Palampur (H.P.)
19	Dr. Vaneet Jishtu,	Scientist, ICFRE-HFRI, Panthaghathi, Shimla
20	Dr. Manmohanjit Singh	Dean PAU-College of Agriculture, Punjab
21	Ms. Shreeya Baghel	CTAE, MPUAT, Udaipur
22	Mrs. Anima Jha	Student, IGNOU, New Delhi
23	Debapriya Dey	Student, Deptt. of Soil Science Palit Sikha Bhavana, W.B.
24	Himani Kanwar	Scientist, ICFRE-HFRI, Panthaghathi Shimla
25	Mr. Yesubabu Vinnakota	Ph.D. Scholar KCAET, K.A.U., Kerala
26	Dr. Suhas Potdar	Anand Niketan College of Agriculture, Warora, MS
27	Ms. Sripriya Das	SMP (Crop Production) KVK, Vaishali Bihar
28	Dr. Ajay Kumar	Scientist, IRRI, ISARC, Varanasi, UP
29	Er. A. P. Bowlekar	Ph.D. Scholar, Kerala Agricultural University, Kerala
30	Mr. Deepak	ICAR- IARI, New Delhi
31	Mr. Prikxit	Student, CSKHPKV Palampur, H.P.
32	B. Kumar Mondal	Student, Divison of SSAC. ICAR-IARI New Delhi
33	Ms. Shweta Sharma	PG Vageshwari Girls Hostel, CSKHPKV, Palampur, H.P.
34	Mr. Sagun Mahajan	V.P.O SARI MOLAG, Jaisinghpur, Kangra, H.P
35	Ms. Priyanka	CSK, HPKV, Palampur, Himachal Pradesh
36	Dr. Ashok Kumar	Principal Scientist, HRD & SSS, IISWC, Kota, Rajasthan
37	Iska Srinath Reddy	Deptt. of SS& AC, NAI, Shuats, Prayagraj
38	Ms. Neha Toppo	Deptt. of SS& AC, NAI, Shuats, Prayagraj
39	Dr. Roopa. H. Suresh	Sr. Program Manager, Project Agri, Path. HR
40	Ms. Shilpa Kumari	Vageeswari PG Girls Hostel, CSKHPKV, Palampur H.P
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43	Dr. Anil R. Pimpale	Head, Agril. Engg. Section, College of Agriculture, Nagpur



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45	Binder Singh	PhD Scholar Div. of SS&AC ICAR-IARI, New Delhi
46	Shashank Patel	Shishir Hostel, Ajantha AVE, Pusa Institute
47	Mr. Satyam Rawat	Shishir Hostel, Ajantha AVE, Pusa Institute
48	Dr. Sarita Mishra	T12C- Rudra Royal Apartment Manduadin Varanasi
49	Dr. Rekha V.R. Nair	Assistant Professor, SSAC, Collge. of Agril, Vellayani
50	Dr. S. Hemalatha	Ph.D., Associate Professor (SSAC) KIA Erode
51	Dr. Alka Rani	Scientist, Division of Soil Physics, ICARIISS Bhopal
52	Dr. Vasundhara. R	ICAR-NBSS&LUP, Bangalore
53	Dr. N. M. Chaudhari	Ph. D. Scholar Deptt. of SS&AC, NAU, Gujarat,
54	Dr. K. K. Patel	Ph. D. Scholar, NAU, Navsari, Gujarat
55	Vikas Yadav,	Dept. of SSAC, ANDUAT, Kumarganj, Ayodhya, U.P.
56	Dr. K.S. Patel	Ph.D. Scholar Department of Agronomy NAU, Gujarat,
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58	Siva	Phd Scholar, IARI, New Delhi
59	Mayurakshi Chanda	PhD student ICAR-IARI
60	Mr. S.K. Surendra	Division of SS& AC, ICAR-IARI, Pusa, New Delhi
61	Mr. P.B Naikodi	Lead Scientist, College of Horticulture, Bidar
62	Dr. Dibakar Ghosh	Scientist (Agronomy) ICAR-IIWM Bhubaneswar,
63	Ms. Ann Theresa Jose	Student, IARI, New Delhi
64	Dr. Varsha Rattan	Ph.D. Scholar, CSKHPKV, Palampur, H.P.
65	Dr. S. M. Vanitha	Sr. Scientist (Agricultural Economics), ICARIISWC, T. N.
66	Prof. Dr. Bořivoj Šarapatka	Head of Department President of the Czech Society of Soil Science Palacky University Olomouc Czech Republic Faculty of Science Department of Ecology and Environmental Sciences
67	Dr. B. Singh Naik	Principal Scientist (SWCE), ICAR-IISWC, R.C., Ballari,
68	Dr. Kuldeep Kumar	Sr Scientist (Agronomy) IISWC, Kota, Rajasthan.
69	Mubashir Sadiq V	Ph.D. SCHOLAR (SS& AC) IARI, New Delhi
70	Dr. Zhidkin	Leading Researcher, Head of Laboratory of Soil Erosion, V.V. Dokuchaev Soil Science Institute, Moscow, Russia.
71	Dr. Rajan Bhatt	Associate Professor (Soil Science), KVK, Amritsar. PAU



72	Mr. G. K. Reddy	M.Tech SWCE
73	Mr. S. Pradhan	Student, Deptt. of Soil Science, OUAT, Bhubaneswar
74	Bharti	(Scientist), ICAR-IASRI, Library Avenue, Pusa
75	Dr. R. Srinivasan	NBSS&LUP, Hebbal, Bangalore, Karnataka
76	M. Manjunath	Senior Scientist, ICAR-CRIDA, Hyderabad.
77	Dr. Rajendra Singh Negi	Professor & Head, Deptt. of RTSA&AS, HNBGU
78	Dr. Meenu	Student, Deptt. of Environmental Science, MDU, Rohtak
79	Dr. MR Backiyavathy	Professor and Head Deptt. of NRM HCRI, Periyakulam
80	Dr. Tushar Lata,	SKUAS&T, Kashmir, J&K
81	Mr. S.K. Pattanaik	Departmental Engineer, NHP Odisha, Dept & WR
82	Mr. Anu D Raj	JRF, Indian Institute of Remote Sensing
83	Dr. Anchal Dass	Pr. Scientist, Division of Agronomy ICAR-IARI, Pusa
84	Dr. Satya Prakash	Professor & Head Horticulture SVPUA&T Meerut, UP
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86	Prog. P. P. Dabral	Department of Agril. Engg., NERIST, Nirjuli-, A.P.
87	Dr. Ramniwas	Ph.D. Agronomy Research Associate, IIMR, PUSA
88	Dr. Abrar Yousuf	Scientist (SWE)) PAU. Ballawal Saunkhri, Punjab
89	Dr. Md. Amin Bhat	Regional Research Station, PAU, Ballawal Saunkhri
90	Prof. Munish Kumar	Head, Dept. of SCWM, C.S. AUAT, Kanpur
91	Dr. Saswat Kumar Kar	Scientist, ICAR- IISWC, RC, Sunabeda, Koraput, Odisha
92	Dr. P.P. Adhikary	Senior Scientist (Soil Physics), ICAR IIWM, Odisha
93	Mr. Rajput Nikhil Balu	Ph.D. Scholar, TNAU, Coimbatore
94	Dr. D.V. Singh	Principal Scientist (Soils), ICAR-IISWC, Dehradun
95	T. Paul Lazarus	Asst. Prof. & Head, Dept of Agril Economics, K.A.U.
96	Dr. Umalaxmi Thingujam	Assistant Professor. Dept of SS&AC PSB, West Bengal
97	Dr. Ashish Vasant Sonawane	Assistant Professor and Head (I/C), NAU, Gujarat
98	Dr. Krishan Kumar	Agromet Observer(AO) K.V.K. Shikohpur Gurugram



99	Dr. Mamta Prakash	CSIR- NEERI Delhi Zonal Centre
100	Ajay V Narwade	Associate Professor Dept. of PPNM, NAU, Gujarat
101	Ms. Mathangi Deepthi	Student, Dept of soil science, Pedapalli Telangana
102	Mr. Parmeswar Dayal	Division of agronomy, IARI, New Delhi
103	Dr. Seedari Ujwala Rani	SAU-Agricultural Economics, ANGRAU, A.P.
104	Kalyani Vishwas Patil	Ph.D. Scholar, IARI, New Delhi - 110012
105	Mr. Rameez Raja Gazi	Deptt. of Environmental Studies, NEHU, Shillong
106	Dr. Arushi Yadav	Kude Khurd , Mughalsarai Chandauli, Uttar Pradesh
107	Ms. Muluvolu Vese	B.P.O Lozaphuhu Vilege Phek, Nagaland
108	Mr. Jobin Sebastian	PhD Scholar, IARI, New Delhi.
109	Peram Nagaseshi Reddy	PhD Scholar, Dr. RPCAU, PUSA, Samsthipur, Bihar
110	Ms. Munuvele Veses	Research Fellow ,Nerist, Nirjuli, Itanagar
111	Dr. R.N. Garg	IARI, New Delhi
112	Riaj Rahaman	Ph.D. Scholar, ICAR-IARI, N.D.
113	Dr. Karthika KS	Scientist, ICAR-NBSSLUP, Hebbal, Bangalore 560 024
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118	Dr Vikas Gupta	Scientist Agronomy (ACRA), SKUAST-J, J&K
119	Dr. Uma Bagavathi Ammal	Professor and Head, PJNCARI, Karaikal
120	Dr. Pankaj Das	Scientist, Division of Sample Surveys, ICAR-IASRI
121	Dr. Sujeet Desai	Scientist (LWME), ICAR-CCARI, Ela, Goa
122	Dr. Amit Mishra	Assistant Professor Deptt. of SS & Ag. Ch. BUAT, Banda
123	Ms. Nilam Vijay Surve	Department of NRM, NAU, Navsari
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125	Mr.Ghazanfer Abbas	Ph.D. FFCRI, TNAU, Coimbatore
126	Subhadip Paul	Research Scholar, ICAR-IARI, New Delhi
127	Asmita Mondal	Student, ICAR NRCSS, Ajmer
128	Prince Kumar	ICARIARI, New delhi.



129	Dr. Ajeet Kumar	Assistant Professor-BAU, Sabour, Bhagalpur
130	Dr. Navneet Sharma	Consultant, IWMI, New Delhi
131	Dr. Marami Dutta	Assistant Professor, A.A.U. Jorhat
132	Dr. Bipul Deka	Principal Scientist Deptt. of Soil Science AAU, Jorhat
133	Dr. Jitendra Kumar	Scientist (LWME), ICARVPKAS Almora
134	Deepak Singh	Scientist, ICARIISWC, Dehradun
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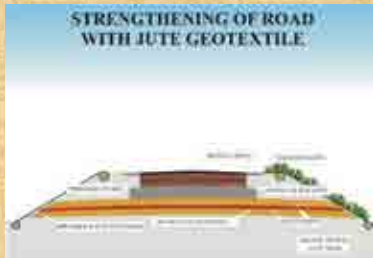


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