

# **Global Soils Conference 2024**

## **Caring Soils Beyond Food Security:** *Climate Change Mitigation & Ecosystem Services*

**19-22 November 2024**  
**NASC Complex, New Delhi**



*Organized by*



International Union of Soil Sciences®



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**Indian Society of Soil Science, New Delhi**  
*under the aegis of*  
**International Union of Soil Sciences, Italy**  
*in collaboration with*  
**Indian Council of Agricultural Research, New Delhi**  
**National Academy of Agricultural Sciences, New Delhi**

## Tentative Programme

<b>19 November 2024</b>	
8.30-10.00	Registration
10.00-11.30	Inaugural function
11.30-12.00	Tea
12.00-01.00	<b>41<sup>st</sup> Prof. J.N. Mukherjee Foundation Lecture</b> by Dr. D.R. Biswas, Former Principal Scientist, ICAR-IARI, New Delhi <b>Topic:</b> Revitalizing Soil Phosphorus Fertility: The Transformative Potential <b>Chairperson: (To be decided, TBD)</b>
01.00-02.00	Lunch
02.00-06.00	<b>Poster session 1</b>
02.00-03.30	<b>Concurrent session 1</b>
	<b>Sub-theme 1.1: Assessment of Soil Health &amp; Ecosystem Services</b>
	<b>Chairperson:</b> Dr A.K. Nayak, ICAR-NRRI, Cuttack
	<b>Co-Chairperson:</b> Dr. Pradip Dey, ICAR-ATARI, Kolkata
	<b>Lead lecture</b> by Dr. Gupta Vadakattu V.S.R., CSIRO Agriculture & Food, Australia <b>Topic:</b> Functional microbiomes for resilient production systems and ecosystem health
	<b>Plenary lecture 1</b> by Dr. Haripriya Gundimeda, IIT, Mumabi <b>Topic:</b> Biodiversity/ecosystem services scenario exercises from the Asia-Pacific
	<b>Plenary lecture 2</b> by Ajay Bhardwaj, ICAR-CSSRI, Karnal <b>Topic:</b> Soil Health and Ecosystem Services
	<b>Plenary lecture 3</b> by Dr. P.S. BIRTHAL, ICAR-NIAP, New Delhi <b>Topic:</b> Valuation of Eco System Services
	<b>Plenary lecture 4</b> by Prof. Nathaniel Bayode Eniolorunda, Usmanu Danfodiyo University, Sokoto <b>Topic:</b> Development of gully erosion prediction model in Sokoto state Nigeria using remote sensing and geographical information system techniques
	<b>Plenary lecture 5</b> by Dr. Yashpal S. Saharawat, IFDC, New Delhi <b>Topic:</b> Innovating Fertilizer Management through Mechanization and Deep Placement for Improved Nutrient Use Efficiency Sustainable Production and Environmental Resilience
	<b>Plenary lecture 6</b> by Dr. Debarati Bhaduri, ICAR-NRRI, Cuttack <b>Topic:</b> Explaining Soil Quality from different dimension – An inclusive and novel approach tested for diverse Rice ecologies
	<b>Plenary lecture 7</b> by Prof. Keshav Raj Adhikari, Nepal Polytechnic Institute, Bharatpur, Chitwan, Nepal <b>Topic:</b> Organic agriculture in Nepal: What a farmer says from his four-decade of experience
	Concurrent session 2
	<b>Sub-theme 1.2: Soil Biodiversity and Nutrient Cycling</b>
	<b>Chairperson:</b> Dr A.K. Patra, ICAR-IISS, Bhopal

	<b>Co-Chairperson:</b> Dr. K. Sammi Reddy, ICAR-NIASM, Baramati and Dr. Alok K. Srivastava, ICAR-NBAIM, Mau
	<b>Lead lecture</b> by Dr Balwant Singh, Sydney Institute of Agriculture, Australia <b>Topic:</b> Nutrient cycling, biodiversity and carbon sequestration in soil under the lens of a safe operating space for humanity
	<b>Plenary lecture 1</b> by Prof. N. Raghuram, GGS Indraprastha University, New Delhi <b>Topic:</b> Nutrient pollution, biodiversity, nutrient use efficiency and nutrient recycling for sustainable agriculture
	<b>Plenary lecture 2</b> by Prof Tim Clough, Lincoln University, New Zealand <b>Topic:</b> Nitrogen cycling in grazed pasture soils: problems and solutions
	<b>Plenary lecture 3</b> by Dr. A. Velmurugan, ICAR, KAB-II, New Delhi <b>Topic:</b> Soil management effects on soil microbial diversity and soil health
	<b>Plenary lecture 4</b> by Dr. Prakash Nagabovanalli B, UAS, Bangalore <b>Topic:</b> Role and Recycling of Silicon in Ecosystem Functioning and Services – A systematic perspective
	<b>Plenary lecture 5</b> by Prof. Yashbir Shivay, ICAR-IARI, New Delhi <b>Topic:</b> Recent developments in zinc agronomic biofortification in India and the way forward
	<b>Concurrent session 3</b>
	<b>Sub-theme 2.1: Climate Change and Soil Health</b>
	<b>Chairperson:</b> Dr Alok Kumar Sikka, IWMI, New Delhi
	<b>Co-Chairperson:</b> Dr. A.K. Biswas, ICAR-IISS, Bhopal
	<b>Lead lecture</b> by Dr Tafadzwa Mabhaudhi, LSHTM, UK & Institute of Natural Resources in South Africa <b>Topic:</b> Linking soil health to water and food under climate change: a planetary health perspective
	<b>Plenary lecture 1</b> by Dr V.K. Mishra, ICAR RC for NEH Region, Umiam <b>Topic:</b> Water Management Strategies for Sustainable Agriculture in Northeastern India during the Era of Changing Climate
	<b>Plenary lecture 2</b> by Dr Vilas K. Kharche, Dr. PDKV, Akola <b>Topic:</b> Options and Strategies for Soil Health Sustenance under Climate Change Scenario
	<b>Plenary lecture 3</b> by Dr Gopal Kumar, IWMI, New Delhi <b>Topic:</b> Agroecological soil health management: A pathway to climate resilience, adaptation, and mitigation
	<b>Plenary lecture 4</b> by Dr. Birendra Nath Ghosh, ICAR-NBSS&LUP, RC, Kolkata <b>Topic:</b> Recent development and extent of soil degradation in India for food security in battling climate crisis
	<b>Plenary lecture 5</b> by Ms. Kanika Chawla, IIT Delhi, New Delhi <b>Topic:</b> Unravelling the potential of plant growth promoting rhizobacteria in controlling <i>Klebsiella pneumoniae</i> populations in Indian arable land

	<b>Plenary lecture 6</b> by Dr. Uttam Kumar Mandal, ICAR-CSSRI, Karnal <b>Topic:</b> Monitoring the transformation of coastal ecosystem: A remote sensing assessment in the Indian Sundarbans
03.30-04.00	Tea
04.00-05.30	<b>Concurrent session 4</b>
	<b>Sub-theme 2.2: Impact of Climate Change on Carbon, Water, Nitrogen and Energy Foot Prints</b>
	<b>Chairperson:</b> Dr Ch. Srinivasa Rao, ICAR-NAARM, Hyderabad
	<b>Co-Chairperson:</b> Dr. K.P. Patel, Former Dean, AAU, Anand
	<b>Lead lecture</b> by Dr J.K. Ladha, University of California, United States <b>Topic:</b> The 4p 1000 Initiative: Mitigating Climate Change through Carbon Sequestration and Sustainable Agricultural Practices
	<b>Plenary lecture 1</b> by Dr Alok Sikka, IWMI, New Delhi <b>Topic:</b> Hydrological Implications of Climate Change and Water Management Solutions for Adaptation
	<b>Plenary lecture 2</b> by Dr K.V. Rao, ICAR-CRIDA, Hyderabad <b>Topic:</b> Preparedness and Real Time Response in managing weather aberrations with agricultural contingency plans in India
	<b>Plenary lecture 3</b> by Dr Rajbir Singh, ICAR, KAB-II, New Delhi <b>Topic: TBD</b>
	<b>Plenary lecture 4</b> by Dr. Kalikinkar Bandyopadhyay, ICAR-IIWM, Bhubaneswar <b>Topic:</b> Development of tillage and residue mulching module in InfoCrop for simulating wheat yield water and nitrogen productivities under changing climate
	<b>Plenary lecture 5</b> by Dr. Sangam Bhanudas Chavan, ICAR-NIASM, Baramati <b>Topic:</b> Does rehabilitation of degraded lands through fruit-based systems enhance the net greenhouse gas mitigation?
	<b>Plenary lecture 6</b> by Dr. Jurisandhya Barik Bordoloi, Nagaland University, Medziphema <b>Topic:</b> Assessing land management impact on carbon sequestration potential and soil health vis-À-vis climate change
	<b>Concurrent session 5</b>
	<b>Sub-theme 2.3: Climate Change Adaptation and Mitigation Strategies</b>
	<b>Chairperson:</b> Dr M.L. Jat, ICRISAT, Hyderabad
	<b>Co-Chairperson:</b> Dr. S.S. Rathore, ICAR-IARI, New Delhi
	<b>Lead lecture</b> by Dr Rebbie Harawa, Regional Director-Africa, ICRISAT, Nairobi, ICRISAT, Nairobi, Kenya <b>Topic:</b> Restoring degraded Land of Africa's Drylands: Innovative and Regenerative Soil Health Solutions for Building Resilience and Transforming Food Systems
	<b>Plenary lecture 1</b> by Dr Vinod Kumar Singh, Director, CRIDA, ICAR-CRIDA, Hyderabad <b>Topic:</b> Climate resilient agriculture: Status and Strategies
	<b>Plenary lecture 2</b> by Dr Sieg Snapp, Director, CIMMYT Mexico, CIMMYT, Mexico

	<b>Topic:</b> Advances in Soil Health & Fertility Management: Global to hyper-local
	<b>Plenary lecture 3</b> by Dr HS Jat, ICAR-IIMR, Ludhiana <b>Topic:</b> Resilient maize agri-food systems for achieving industrial (feed and energy) security in changing environment
	<b>Plenary lecture 4</b> by Prof. Shilpi Sharma, IIT Delhi, New Delhi <b>Topic:</b> Healthy microbiome for healthy soil for healthy plant: The One Health perspective
	<b>Plenary lecture 5</b> by Dr. Rupa T.R., ICAR-IIHR, Bengaluru <b>Topic:</b> Long-term conservation horticulture in mango orchards: Comparative carbon and energy efficiencies of conventional vs. conservation management practices
	<b>Plenary lecture 6</b> by Dr. Debashis Chakraborty, CIMMYT, New Delhi <b>Topic:</b> Conservation agriculture is not one-size-fits-all: An evidence-based synthesis
	<b>Concurrent session 6</b>
	<b>Sub-theme 3.1: Degraded Soils &amp; Innovative Restoration Practices</b>
	<b>Chairperson:</b> Dr M. Madhu, ICAR-IISWC, Dehradun
	<b>Co-Chairperson:</b> Dr. Debashis Mandal, ICAR-IARI, New Delhi
	<b>Lead lecture</b> by Dr Rattan Lal, The Ohio State University, Columbus, USA <b>Topic:</b> Transforming India by Protecting, Restoring and Managing Soil Health
	<b>Plenary lecture 1</b> by Dr Pratap Narain, CAZRI, Dehradun <b>Topic:</b> Sustainable soil and land management practices for combating land degradation in diverse agro-climatic conditions in india
	<b>Plenary lecture 2</b> by Dr. G. Kar, ICAR-CRIJAF, Kolkata <b>Topic:</b> Wasteland Problems and Management: A success story of conversion of under utilized waterlogged Area into productive and profitable proposition
	<b>Plenary lecture 3</b> by Dr. Bhaskar Narjary, ICAR-CSSRI, Karnal <b>Topic:</b> Efficient Salinity Management through Resource conservation with Micro-Irrigation technology (RCT) in saline environment
	<b>Plenary lecture 4</b> by Prof. Palanisamy Balasubramaniam, TNAU, Coimbatore <b>Topic:</b> Screening crop varieties suitable for various sodic soil environments
	<b>Plenary lecture 5</b> by Dr. Pravin Vaidya, VNMKV, Parbhani <b>Topic:</b> Soil Sodidity as a Causative Factor for Cultivation of Turmeric in Cracking Clay Soils of Semi-arid Tropic Maharashtra
	<b>Plenary lecture 6</b> by Dr. Gajender Yadav, ICAR-CSSRI, Karnal <b>Topic:</b> Reduced soil salinity and improved mustard performance through Cut-soiler constructed preferential shallow sub-surface drainage under saline-arid regions
	<b>Plenary lecture 7</b> by Dr. G.P. Obi Reddy, ICAR-NBSS&LUP, Nagpur <b>Topic:</b> Mapping and assessment of land degradation in the coastal ecosystem of India

06.00-08.00	Cultural Programme
08.00	Dinner
<b>20 November 2024</b>	
09.00-10.00	<b>Dr. R.V. Tamhane Memorial Lecture</b> by Dr. K.S. Reddy, Director, ICAR-NIASM, Baramati <b>Topic:</b> Managing Edaphic Stress Interactions for Sustainable Agriculture under Changing Climate <b>Chairperson:</b>
10.00-05.30	<b>Poster session 2</b>
10.00-11.00	Industry meet
11.00-11.30	Tea
11.30-01.00	<b>Concurrent Session 7</b>
	<b>Sub-theme 3.2: Soil Management in Challenged Ecosystems</b>
	<b>Chairperson:</b> Dr Parveen Kumar, ICAR-CCARI, Goa
	<b>Co-Chairperson:</b> Dr. R.K. Yadav, ICAR-CSSRI, Karnal
	<b>Lead lecture</b> by Dr O.P. Yadav, ICAR-CAZRI, Jodhpur <b>Topic:</b> Resilient soil management practices in the arid ecosystem
	<b>Plenary lecture 1</b> by Dr A.K. Nayak, ICAR-NRRI, Cuttack <b>Topic:</b> Ecological resilience through sustainable soil management: Coastal Ecosystem Prospective
	<b>Plenary lecture 2</b> by Dr. R.K. Yadav, ICAR-CSSRI, Karnal <b>Topic:</b> Achieving Land Degradation Neutrality through Managing Salt-affected Ecologies
	<b>Plenary lecture 3</b> by Dr. Samarendra Hazarika, ICAR RC for NEH Region, Umiam <b>Topic:</b> Resilient soil management practices for the North Eastern Hills (NEH) ecosystem
	<b>Plenary lecture 4</b> by Dr. Somasundaram Jayaraman, ICAR-IISWC, RC, Udhagamandalam <b>Topic:</b> Effect of different Tillage Nutrient doses and Residue Management on Soil Organic Carbon and Physical properties in Vertisols of Central India
	<b>Plenary lecture 5</b> by Dr. I. Rashmi, ICAR-IISWC, RC, Kota <b>Topic:</b> Ravine restoration with multipurpose tree species and their impact on soil health
	<b>Plenary lecture 6</b> by Dr. Yam Gaihre, IFDC, Alabama, USA <b>Topic:</b> Fertilizer optimization for increasing crop productivity in sub-Saharan countries
	<b>Plenary lecture 7</b> by Dr. Dr.Karthikeyan Karunakaran, ICAR-NBSS&LUP, Nagpur <b>Topic:</b> Diverse Implications of Palygorskite In Use and Management of Agricultural Crops In Indian Vertisols
	<b>Concurrent session 8</b>
	<b>Sub-theme 3.3: Agricultural and Industrial Waste and Waste Water Utilization</b>
	<b>Chairperson:</b> Dr D.R. Biswas, ICAR-IARI, New Delhi

	<b>Co-Chairperson:</b> Dr. P.P. Mahendran, Vice President, ISSS
	<b>Lead lecture</b> by Dr J.S. Samra, NRAA, New Delhi <b>Topic:</b> Ecosystem services of managing agriculture residues in India
	<b>Plenary lecture 1</b> by Dr P.S. Brahmanand, ICAR-IARI, New Delhi <b>Topic:</b> Technological and policy options for management of wastewater for its safe use in agriculture
	<b>Plenary lecture 2</b> by Dr Binoy Sarkar, University of South Australia, Adelaide, Australia <b>Topic:</b> Agricultural and Industrial Waste and Waste Water Utilization
	<b>Plenary lecture 3</b> by Dr. Tapan Adhikari, ICAR-IISS, Bhopal <b>Topic:</b> Industrial Waste and Effluent Water in Agriculture - A Way Forward
	<b>Plenary lecture 4</b> by Dr. Pholosho M Kgopa, University of Limpopo, South Africa <b>Topic:</b> The relationship between accumulated pathogenic bacteria from treated wastewater used for irrigation and selected soil fertility variables
	<b>Plenary lecture 5</b> by Dr. Biraj Bandhu Basak, ICAR-IARI, New Delhi <b>Topic:</b> Nutrient supplying potential of enriched organo-mineral fertilizer developed from recycling of low-grade minerals and waste biomasses
	<b>Plenary lecture 6</b> by Dr. Syed Hujjat ul Baligah, SKUAST-K, Srinagar <b>Topic:</b> Recycling of different biowastes to microbe enriched vermicompost and its impact on soil properties and nutrient uptake in common bean ( <i>Phaseolus vulgaris</i> L.) •
	<b>Plenary lecture 7</b> by Dr. Hiteshkumar Vasava, University of Guelph, Canada <b>Topic:</b> Characterizing solidified industrial waste for greenhouse crop production
	<b>Concurrent session 9</b>
	<b>Sub-theme 3.4: Soil Pollution and Remediation</b>
	<b>Chairperson:</b> Dr S.P. Datta, ICAR-IISS, Bhopal
	<b>Co-Chairperson:</b> Dr. S.K. Singh, BHU, Varanasi
	<b>Lead lecture</b> by Dr S.P. Datta, ICAR-IISS, Bhopal <b>Topic:</b> Recent advances in risk assessment and remediation of metal and metalloid contaminated soils
	<b>Plenary lecture 1</b> by Dr. K.Ramasamy, TNAU, Coimbatore <b>Topic:</b> Remediation of Chromium Contaminated Soils - Challenges
	<b>Plenary lecture 2</b> by Dr. S. Mahimairaja, TNAU, Coimbatore <b>Topic:</b> Soil pollution due to heavy metals and remediation - with case studies on chromium and arsenic
	<b>Plenary lecture 3</b> by Prof. Sudesh Yadav, JNU, New Delhi <b>Topic: Metal stress on surface soils due to informal e-waste recycling: Chemical speciation and remediation</b>
	<b>Plenary lecture 4</b> by Mr. David Ricardo Simbolon, IPB University, Bogor-Indonesia <b>Topic:</b> The Solubility of Nickel on Mixed Ultramafic Soil with Peat Soil at Saturated and Unsaturated Water Condition
	<b>Plenary lecture 5</b> by Prof. Michael A. Fullen, The University of Wolverhampton, United Kingdom <b>Topic:</b> Phytoremediation of cadmium-contaminated soils in Yunnan

	Province (China) using carnation flowers ( <i>Dianthus caryophyllus</i> )
	<p><b>Side event of Indian Association of Soil and Water Conservationists, Dehradun</b></p> <p><b>Theme:</b> Combating Land Degradation: Global Challenge, Local Solutions</p> <p><b>Chairperson:</b> Dr. A.K. Sikka, Country Representative and Principal Researcher International Water Management Institute (IWMI)</p> <p><b>Co-Chairperson:</b> Dr SK Dhyani, Country Director, CIFRO-ICRAF, Asia Continental Program World Agroforestry</p>
11:30-11:45	<p><b>Plenary lecture 1</b> by Dr. Prashanta Kumar Mishra, Former Director ICAR-IISWC, Dehradun</p> <p><b>Topic:</b> Framing land degradation and restoration policy in india following the IPBES pathway</p>
11:45-12:00	<p><b>Plenary lecture 2</b> by Dr. Rajive Kumar Singh, Former Head, ICAR-IISWC, RC, Kota</p> <p><b>Topic:</b> Revitalizing Ravine lands for Advancing Land Degradation Neutrality</p>
12:00-12:15	<p><b>Plenary lecture 3</b> by Er Sushila Yadav, Joint Director, Watershed Development &amp; Soil Conservation Department, Govt of Rajasthan</p> <p><b>Topic:</b> Smarter Solutions for Planning, Execution, and Monitoring of Watershed Projects: The Rajasthan Experience</p>
12:15-12:30	<p><b>Plenary lecture 4</b> by Sh Biweswar Rath, Former Technical Expert, NRAA, New Delhi</p> <p><b>Topic:</b> Transforming Rural landscapes through Watershed Development: Strategies, Success Stories, and Future Directions</p>
12:30-12:45	<b>Remarks by Co-chairperson of the Session</b>
12:45-01:00	<b>Remarks by Chairperson of the Session</b>
01.00-02.00	Lunch
02.00-03.30	<b>Concurrent session 10</b>
	<b>Sub-theme 4.1: Tree-based Ecological Restoration</b>
	<b>Chairperson:</b> Dr A. Arunachalam, ICAR-CARI, Jhansi
	<b>Co-Chairperson:</b> Dr Sonya Dewi, CIFOR-ICRAF, Indonesia
	<p><b>Lead lecture</b> by Dr J.C. Dagar/Dr Sonya Dewi</p> <p><b>Topic:</b> TBD</p>
	<p><b>Plenary lecture 1</b> by Dr K.T. Parthibon, TNAU, Coimbatore</p> <p><b>Topic:</b> A value chain on Agroforestry - A land use system for climate change mitigation and ecosystem services</p>
	<p><b>Plenary lecture 2</b> by Dr. B.P. Bhatt, ICAR, KAB-II, New Delhi</p> <p><b>Topic:</b> Integrated crop-livestock-forestry systems as a nature based solutions for sustainable agriculture</p>
	<p><b>Plenary lecture 3</b> by Dr R.S. Gill, PAU, Ludhiana</p> <p><b>Topic:</b> Agroforestry models in North Western India and their impact on Carbon sequestration and soil health</p>
	<p><b>Plenary lecture 4</b> by Prof. Gunindra Nath Chattopadhyay, Seacom Skills University, Kendradangal</p> <p><b>Topic:</b> Potential of blue-stock carbon sequestration by mangrove soils of the Sundarbans forest India</p>
	<p><b>Plenary lecture 9</b> by Dr. P Raja, ICAR-IISWC, Dehradun</p> <p><b>Topic:</b> Sustainable management practices to reduce the agricultural</p>

	carbon footprint in the high altitude Western Ghats Region, Southern India
	<b>Concurrent session 11</b>
	<b>Sub-theme 4.2: Natural and Organic Farming System</b>
	<b>Chairperson:</b> Dr Sunil Kumar, ICAR-IIFSR, Meerut
	<b>Co-Chairperson:</b> Dr. V.K. Singh, ICAR-CRIDA, Hyderabad
	<b>Lead lecture</b> by Dr. T. Vijay Kumar, Government of Andhra Pradesh <b>Topic:</b> TBD
	<b>Plenary lecture</b> 1 by Dr. Ravikant Avasthe, ICAR RC for NEH Region, ICAR Sikkim Centre, Gangtok <b>Topic:</b> Organic farming: status and potential to rejuvenate in agricultural production systems
	<b>Plenary lecture</b> 2 by Dr. Rajeshwar Singh Chandel, Dr. YSPUHF, Solan <b>Topic:</b> Climate Resilient Natural Farming Practices for Sustaining Mountain Agroecosystem:
	<b>Plenary lecture</b> 3 by Dr SK Sharma, ICAR, KAB-II, New Delhi <b>Topic:</b> Universal and scientific dimensions in organic and natural farming
	<b>Plenary lecture</b> 4 by Dr( Mrs) Vandana Dwivedi, Ministry of Agriculture & Farmers Welfare, GoI, New Delhi <b>Topic:</b> Nature-friendly farming for soil health restoration
	<b>Plenary lecture</b> 5 by Dr RA Marathe, ICAR-NRC on Pomegranate, Solapur <b>Topic:</b> Challenges and opportunities of nature positive farming in fruit crops
	<b>Plenary lecture</b> 6 by Dr. Aqeel Hasan Rizvi, World Agroforestry <b>Topic:</b> Biochar: A carbon negative and nature positive soil management technology- A case study
	<b>Concurrent session 12</b>
	<b>Sub-theme 5.1: Soil Survey, Digital Soil Mapping &amp; Land Use Planning</b>
	<b>Chairperson:</b> Dr N.G. Patil, ICAR-NBSS&LUP, Nagpur
	<b>Co-Chairperson:</b> Dr. P.L. Patil, UAS, Dharwad
	<b>Lead lecture</b> by Dr. Budiman Minasny, The University of Sydney <b>Topic:</b> The Imperative of Soil Carbon Sequestration: Addressing Planetary Crises Through Soil-Centric Strategies
	<b>Plenary lecture</b> 1 by Dr. Phillippe Lagacherie, University Montpellier, INRAE <b>Topic:</b> Operational Digital Soil Mapping: Achievements, challenges and future strategies to go beyond
	<b>Plenary lecture</b> 2 by Dr. S. Dharumarajan, ICAR-NBSS&LUP, RC, Bengaluru <b>Topic:</b> Gridded Soil Information of South India for Sustainable Land Use Planning
	<b>Plenary lecture</b> 3 by Alison Laing, CIMMYT, Bangladesh <b>Topic:</b> Long-term experiment into conservation agriculture in India:

	Benefits below and above ground
	<b>Plenary lecture 4</b> by Mr. Harnoordeep Singh Mann, University of Guelph, Guelph <b>Topic:</b> Measuring Ephemeral Gully Morphology Using a Portable Gullimeter and Image- based Techniques
	<b>Plenary lecture 5</b> by Mr. Justin George Kalambukattu, Indian Institute of Remote Sensing, ISRO <b>Topic:</b> Machine Learning based Geospatial Modelling for Digital Mapping of Soil Organic Carbon in the Himalayan region
	<b>Plenary lecture 6</b> by Dr. Oludotun Augustus Ilori, Federal University Oye-Ekiti, Nigeria <b>Topic:</b> Exploring the Sustainable Management of Fadama in Derived Savannah Nigeria: A Characterization Classification and Land Evaluation Approach
	<b>Plenary lecture 7</b> by Dr. Priyabrata Santra, ICAR-CAZRI, Jodhpur <b>Topic:</b> Rapid estimation of soil properties across different agro-ecological subregions of India using hyperspectral signatures in visible-near infrared-short wave infrared (VIS-NIR-SWIR) region through machine learning approach
	<b>Plenary lecture 8</b> by Mr. Kora Simperegui, International Fertilizer Development Center, Ghana <b>Topic:</b> Methodology towards site specific crop strategies under data poor conditions – the case of Ghana
03.30-04.00	Tea
04.00-05.30	<b>Concurrent session 13</b>
	<b>Sub-theme 5.2: Digital Tools and Artificial Intelligence for Sustainable Soil Management and Decision Making</b>
	<b>Chairperson:</b> Dr. S.K. Ambast, Chairman, Central Ground Water Board
	<b>Co-Chairperson:</b> Dr A. Sarangi, IIWM, New Delhi and Dr. R.N. Sahoo, ICAR-IARI, New Delhi
	<b>Lead lecture</b> by Dr. S.K. Ambast, Chairman, Central Ground Water Board <b>Topic:</b> Ground Water Scenario of India and Dr Ashim Biswas, University of Guelph, Guelph <b>Topic:</b> Information-driven soil management for sustainability
	<b>Plenary lecture 1</b> by Prof. Sekhar Muddu, Professor, Dept of Civil Engg., Indian Institute of Science (IISc), Bengaluru, IISc, Bengaluru <b>Topic:</b> Mapping of soil moisture and soil hydraulic properties for watershed management
	<b>Plenary lecture 2</b> by Dr. Somsubhra Chakraborty, Associate Professor, AGFE Dept., IIT-KGP, Kharagpur, IIT-KGP, Kharagpur <b>Topic:</b> From Data to Decision: The Role of AI and Sensors in Transforming Soil Management Practices
	<b>Plenary lecture 3</b> by Dr Rabi. N. Sahoo, Principal Scientist and PI NePPA, ICAR-IARI, New Delhi, ICAR-IARI, New Delhi <b>Topic:</b> Scaling-up Soil Sensing from Lab to Field for Intelligent Soil Management

	<p><b>Plenary lecture 4</b> by Ms. Anshu Beri, University of Guelph, Canada  <b>Topic:</b> Evaluating performance of various ML algorithms for minimizing soil moisture effect from in-situ soil spectra to enhance soil organic matter prediction</p>
	<p><b>Plenary lecture 5</b> by Dr. Panneerselvam Peramaiyan, IRRI, Chennai  <b>Topic:</b> Leveraging Digital Soil Maps for Precision Zinc Fertilization in Rice Cultivation</p>
	<p><b>Plenary lecture 6</b> by Dr. Jagadish Timsina, IFDC, United States  <b>Topic:</b> Status and potential of perennial rice research and modelling perennial rice for enhanced food security resource-use efficiency and soil sustainability</p>
	<p><b>Plenary lecture 7</b> by Mr. Koushik Bag, ICAR RC for NEH Region, Umiam  <b>Topic:</b> Scalable Field Scale Strategy of Nitrogen Fertilizer Application in Wheat using Satellite Remote Sensing and Crop Simulation Modelling</p>
	<b>Concurrent session 14</b>
	<b>Sub-them 6.1: Innovative Soil Science Education</b>
	<b>Chairperson:</b> Dr R.C. Agrawal, Indian Council of Agricultural Research, New Delhi
	<b>Co-Chairperson:</b> Dr. Seema Jaggi, ICAR, New Delhi
	<p><b>Lead lecture</b> by Dr R.C. Agrawal, Indian Council of Agricultural Research, New Delhi  <b>Topic:</b> Innovative soil science education for sustainable agriculture</p>
	<p><b>Plenary lecture 1</b> by Prof. Nazir Ahmad Ganai, SKUAST-K, Srinagar  <b>Topic:</b> Expanding Horizons: Indian Agricultural Universities and Globalization</p>
	<p><b>Plenary lecture 2</b> by Dr. V. Geetalaxmi, TNAU, Coimbatore  <b>Topic:</b> Burgeoning Strategies for Sustainable Soil Health Management</p>
	<p><b>Plenary lecture 3</b> by Dr P.L. Patil, UAS, Dharwad  <b>Topic:</b> Establishing Centres of Excellence on Natural Recourse Management in Agricultural Universities – Success and Way Forward</p>
	<p><b>Plenary lecture 4</b> by Dr. Nageswara Rao DVK, ICAR-IIRR, Hyderabad  <b>Topic:</b> Study of soils in close proximity to their nature adds more to precision in agriculture</p>
	<p><b>Plenary lecture 5</b> by Mr. Ashok Kumar, Transforming Rural India Foundation  <b>Topic:</b> Sustainable soil fertility and nutrient management: Special considerations for smallholders</p>
	<p><b>Plenary lecture 6</b> by Dr. Dharani Dhar Patra, BCKV, Mohanpur  <b>Topic:</b> Soil Science Education: Multi-functionality Nexus</p>
	<p><b>Plenary lecture 7</b> by Dr. Gopal Mahajan, ICAR-CCARI, Ola Goa  <b>Topic:</b> Reviving Heritage and Promoting Soil Science Education Through Eco-Friendly Soil Art: A Case Study of Kaavi Art</p>
	<b>Concurrent session 15</b>
	<b>Sub-theme 7.1: National and Global Soil Management Policies and Implications</b>
	<b>Chairperson:</b> Dr Anil Kumar Singh, Former VC, RVSKVV, Gwalior
	<b>Co-Chairperson:</b> Dr. B.D. Bhakare, Former Dean, Mahatma Phule

	Krishi Vidyapeeth, Rahuri, Maharashtra
	<b>Lead lecture</b> by Dr. Caon Lucrezia, Food and Agriculture Organization <b>Topic:</b> Soil governance frameworks and policies in Asia
	<b>Plenary lecture 1</b> by Dr JC.Katyal, Formerly DDG (ED), ICAR and VC, CCS HAU <b>Topic:</b> Fine Tuning Soil Health Mission for SDG # 15
	<b>Plenary lecture 2</b> by Dr P. Sheoran, ICAR-ATARI, Ludhiana <b>Topic:</b> Paddy Straw Management: Status, Challenges and Potential Solutions
	<b>Plenary lecture 3</b> by Dr S.P. Datta, ICAR-IISS, Bhopal <b>Topic:</b> National Soil and Land Use Policy - Need of the hour
	<b>Plenary lecture 4</b> by Dr. Kadirvel Govindasamy, ICAR-ATARI, Guwahati <b>Topic:</b> TBD
	<b>Plenary lecture 5</b> by Ms. Moumita Baishya, ICAR-IARI, New Delhi <b>Topic:</b> Enhancing Precision in Wasteland Surveys: Application of Adaptive Cluster Sampling and Re-scaling Bootstrap Methods for Inland Wastelands in Northeastern India
	<b>Plenary lecture 6</b> by Dr. Srinivasan Ramasamy, ICAR-NBSS&LUP, RC, Bengaluru <b>Topic:</b> Mapping fallow lands using Sentinel-2 images to improve Agriculture productivity in Tamil Nadu India
	<b>Plenary lecture 7</b> by Dr. R.P. Sharma, ICAR-NBSS&LUP, RC, Udaipur <b>Topic:</b> Optimizing Sustainable Agriculture through Land Resource Inventory and Land Use Planning: A Case Study of South Gujarat India
	<b>Plenary lecture 8</b> by Dr. Sumanta Bhattacharya, <b>Topic:</b> Regulatory Framework and Policy Implications for Sustainable Soil Management: Building Resilience in a Changing Climate
	<b>Side event of International Rice Research Institute</b> <b>Theme:</b> Methane Emission and GHG Measurement and Monitoring
	<b>Session Overview (10 minutes)</b> An introduction to methane emissions in rice cultivation, key measurement advancements, and the role of innovative GHG mitigation strategies.
	<b>Panel 1: Advanced Modeling and GHG Measurements (20 minutes)</b> <ul style="list-style-type: none"> <li>Advanced GHG modeling and innovations in remote sensing.</li> <li>Application of drone technology and satellite for methane monitoring.</li> </ul>
	<b>Panel 2: Bio-innovations for GHG Mitigation (20 minutes)</b> <ul style="list-style-type: none"> <li>Bio-innovative approaches in low-emission rice farming.</li> <li>Research breakthroughs in natural solutions for GHG reduction.</li> </ul>
	<b>Panel 3: Carbon Credit Methodology for Low-Methane Rice (20 minutes)</b> <ul style="list-style-type: none"> <li>Practical steps for farmers to access carbon credits through sustainable practices.</li> <li>Standards and guidelines for carbon crediting.</li> </ul>
	<b>Q&amp;A and Discussion (20 minutes)</b> A concluding session inviting audience questions and interactive

	dialogue with panelists on practical applications and future directions in sustainable rice cultivation.
05.30-06.00	Tea
06.00-07.30	Annual General Body Meeting of the Society
08.00	Dinner
<b>21 November 2024</b>	
09.00-10.00	<b>Invited Lecture by Dr. Rattan Lal</b>
10.00-1.30	<b>Poster Session 3</b>
10.00-11.30	Concurrent session 16 ( <b>ISSS Best Doctoral Award Presentation</b> ) <b>Chairperson: TBD</b>
	<b>Concurrent session 17</b>
	<b>Sub-theme 7.2: Community Engagement and Local Governance in Soil Care</b>
	<b>Chairperson:</b> Dr J.S. Samra, NRAA, New Delhi
	<b>Co-Chairperson:</b> Dr. Jagdish Prasad, Past President, ISSS
	<b>Lead lecture</b> by Dr Pradip Dey, ICAR-ATARI, Kolkata <b>Topic:</b> Community Engagement, Local Governance and Policy Integration for Sustainable Soil Management
	<b>Plenary lecture 1</b> by Dr. Eleanor Jew, University of York, Wentworth Way, Heslington, York <b>Topic:</b> Climate Smart Agriculture: Stakeholder insights on methods to futureproof soil and yields
	<b>Plenary lecture 2</b> by Dr Ch Srinivasa Rao, ICAR-NAARM, Hyderabad <b>Topic:</b> Participatory Soil Care Aliening Local Governance
	<b>Plenary lecture 3</b> by Dr Ranjay K. Singh, Indian Council of Agricultural Research, New Delhi <b>Topic:</b> Diversity of Social-Ecological Systems in Sustaining Natural Resources: Grassroots Insights from Northeast India
	Concurrent session 18
	<b>Sub-theme 7.3: Public-Private Partnership for Advancing Sustainable Soil Management</b>
	<b>Chairperson:</b> Dr A.K. Singh,
	<b>Co-Chairperson:</b> Dr. R.R. Burman, ICAR, New Delhi
	<b>Lead lecture</b> by Dr. K.K. Singh, Zuari Farmhub Ltd -Adventz Group, Bengaluru <b>Topic:</b> Managing Fertilizers to Improve Soil Health
	<b>Plenary lecture 1</b> by Dr. Soumitra Das, Zinc Nutrient Initiative, New Delhi <b>Topic:</b> Micronutrients in Abiotic & Biotic Stress Management for Food and Nutrition Security
	<b>Plenary lecture 2</b> by Dr. S.K. Dhyani, CIFOR-ICRAF, New Delhi <b>Topic:</b> Soil Spectroscopy for Rapid Soil Health Assessment: A Successful Model of Public-Private Partnership for Sustainable Soil Management
	<b>Plenary lecture 3</b> by Dr. Chilamkurthi Sreenivas, Acharya N G Ranga Agricultural University <b>Topic:</b> Quantifying the GHG emissions from paddy rice fields under both conventional flooding and intermediate irrigation : A success story

	of ANGRAU- Nurture.farm Partnership
	Concurrent session 19 (IFDC sponsored session)
11.30-12.00	Tea
12.00-01.30	Concurrent session 20(Meeting with the different Chapters of the ISSS)
	Concurrent session 21 (Meeting with the Other Societies of NRM)
	<b>Side event of ICRISAT</b> <b>Theme:</b> Multifunctional landscapes for building resilience and land degradation neutrality in drylands of Global South
	<b>Chair:</b> Dr Stanford Blade, Deputy Director General Research, ICRISAT, HYDERABAD
	<b>Context :</b> Dr. M.L. Jat, Global Research Program Director, Resilient Farm and Food Systems, ICRISAT, Hyderabad, India
	<b>Keynote speaker:</b> Dr. Ramesh Singh, Cluster Leader, ICRISAT, Hyderabad
	Panel Discussion <b>Moderator:</b> Dr. M.L. Jat, Global Research Program Director, Resilient Farm and Food Systems, ICRISAT, Hyderabad, India
	<b>Panellists</b> <ol style="list-style-type: none"> <li>1. Mr Krishna Vatsa, IAS, Member, NDMA, Govt of India</li> <li>2. Dr. Arbinda K Padhee, IAS, Principal Secretary, Agriculture, Govt. of Odisha</li> <li>3. Mr. Nitin Khade, IAS, Joint Secretary, DOLR, Ministry of Rural Development, Govt. of India</li> <li>4. Mr Junaid Ahmad, IAS, CDO, Jhansi</li> <li>5. Dr. Saumya Srivastava, World Bank</li> <li>6. Dr. Rajbir Singh, ADG, ICAR</li> <li>7. Dr. Suman Saraswathi, Deputy Director, Dr Reddy's Foundation</li> <li>8. Dr. Rebbie Harawa, Director ICRISAT Africa Program, Kenya</li> </ol>
01.30-02.30	Lunch
03.00-04.00	Valedictory Function
<b>22 November 2024</b>	Field Trip (Optional)

### *Accommodation*

Due to non availability of Guest house facility, delegates will be accommodated in nearby hotels only.

**Regarding Accommodation, please contact:** Dr. P.S. Brahmanand, PD, WTC, ICAR-IARI (Mobile: 97762 07101, Email: accogsc24@gmail.com), Dr. Debasish Golui (Mobile: 91-99114 65935), and Dr. Vijay Prajapati (91 95600 49739)

### *Transport Facility*

Transport facility will be provided only for the identified hotels to venue.

### *Tour packages for 22 November 2024*

1. Delhi-Agra	Rs 1000/- (per person)
2. Delhi-Jaipur	Rs 1350/- (per person)
3. Delhi-Kurukshetra	Rs 1300/- (per person)
4. Delhi-Bharatpur	Rs 1000/- (per person)
5. Delhi sight	Rs 400/- (per person)

**Regarding transport facility and tour packages, please contact:**

Dr. Jaya N. Surya , Head, ICAR-NBSS&LUP, Regional Centre Delhi, New Delhi & Chairman of the transport committee, ( Email : jayansurya@yahoo.com: M -9818141358 )  
Dr. Abir Dey (Mobile: 9014025469)  
Dr. Ashok Kumar (Mobile: 7838530740)  
Dr. Debasis Guloui (Mobile: 99114 65935)

**Regarding tour packages, please contact:** Dr. R.K. Meena (Mobile: 9509466836), Sh. Sabu Samuel (Mobile: 9868214289)

New Delhi  
Dated 7 November 2024

Ranjan Bhattacharyya  
Secretary

**For the use of members of the  
Indian Society of Soil Science  
only**

# 88<sup>th</sup> Annual General Body Meeting Notice

**Date:** 20 November 2024 (Wednesday)

**Time:** 6:00 PM

**Venue:** NASC Complex, New Delhi

## AGENDA

1. Confirmation of the proceedings of the 87th Annual General Body Meeting held on 04-10-2023 at Bhopal.
2. Presentation and adoption of the Annual Report of the Society for 2023-2024.
3. Presentation and adoption of the audited statement of accounts for the year ended 31st March, 2024.
4. Presentation and adoption of the budget estimates for 2025-2026.
5. To consider and adopt, if approved with or without modification, the following amendments of the Rules and Regulations of ISSS in the matter of institution of a memorial lecture and others. The two new paragraph proposed for inclusion and one change in paragraph numbering are as under:

### **"12.14. Dr. D.K. Das (IARI) Memorial Lecture**

12.14.1. This lecture instituted in 2024 out of a donation received from the family of Late Dr. D.K. Das, will also be arranged by a Chapter of ISSS in the same manner as described for Dr. S.P. Raychaudhuri Memorial Lecture above. To meet all the expenses a token amount as fixed by the Council will be given by the ISSS to the Organizing Chapter."

### **"12.15. Dr. D.K. Das (BCKV) Memorial Lecture**

12.15.1. This lecture instituted in 2024 out of a donation received from the family of Late Dr. D.K. Das, will also be arranged by a Chapter of ISSS in the same manner as described for Dr. S.P. Raychaudhuri Memorial Lecture above. To meet all the expenses a token amount as fixed by the Council will be given by the ISSS to the Organizing Chapter."

To change the existing paragraph number "12.13" as "12.16" in view of the insertion of the above para.

6. Election of Office Bearers and Councillors in the Council of the Society to the offices falling vacant during 2025 and 2026.
7. Any other matter with the permission of the Chair (*Members of ISSS desirous of raising any point under this item are required to send the same in writing to the Secretary on or before 15 November 2024*).
9. Presidential address.
10. Vote of thanks.

New Delhi  
Dated: 19 October 2024

Ranjan Bhattacharyya  
Secretary

# Indian Society of Soil Science

National Societies Block, National Agricultural Science Centre Complex,  
Dev Prakash Shastri Marg, Pusa, New Delhi -110012

## **Proceedings of the 87<sup>th</sup> Annual General Body Meeting of the Indian Society of Soil Science (ISSS) held on 4 October, 2023 at ICAR-IISS, Bhopal**

Dr. D.R. Biswas, President ISSS, chaired the meeting attended by 110 members of the Society. Dr. Biswas extended a formal welcome to the Members. He informed the house that Dr. Himadri Sekhar Sen, Dr. Amal Kumar Maji and Dr. C.J. Thampi had left for their heavenly abode after the last general body meeting of the Society held on 16 November 2022. After obituary references, one minute silence was observed as a mark of respect to the departed souls.

Subsequently the agenda items as circulated earlier were taken up for consideration.

### **1. Confirmation of the proceedings of the 86<sup>th</sup> Annual General Body Meeting held on 16-11-2022 at Rahuri.**

The Secretary, ISSS briefly highlighted the salient features of the proceedings of the 86<sup>th</sup> Annual General Body Meeting already circulated among the members and the actions taken thereon. After deliberations, the proceedings were confirmed.

### **2. Presentation and adoption of the Annual Report of the Society for 2022-2023.**

The Annual Report of the Society for the year 2022-2023, as approved by the Council in its meeting held on 1 September 2023 and circulated among the members, was presented by the Secretary of the ISSS. Dr. D.R. Biswas, President asked for suggestions from the members. The Annual Report as presented by the Secretary was adopted without any modifications.

### **3. Presentation and adoption of the audited statement of accounts for the year ended 31st March, 2023.**

The audited statement of accounts of the Society for the year ended 31st March 2023 was presented by Dr. K.K. Bandyopadhyay, Secretary, ISSS. After a brief discussion the audited statement was adopted.

### **4. Presentation and adoption of the budget estimates for 2024-2025.**

Dr. Bandyopadhyay presented the budget estimates for 2024-2025 which had been drawn and approved earlier by the Council. With this brief discussion, the budget estimates were adopted by the house without any modifications.

### **5. To consider the revision of travelling allowance to attend the Council's meeting from existing 3rd AC rail fare to 2nd AC Rail fare.**

After discussion, it was approved by the house.

### **6. To consider the institution of new memorial awards/lectures as requested by the Chapters of ISSS by donating the corpus money to the Society fixed by the Council.**

After discussion, it was approved by the house.

### **7. Election of Office Bearers and Councillors in the Council of the Society to the offices falling vacant during 2024 and 2025.**

The Secretary informed the house that following the procedure enshrined in the Rules and Regulations, Council in its meeting held on 1 September 2023 had elected the following Office-bearers and recommended the same to the Annual General Body Meeting:

President	:	Dr. Himanshu Pathak
Vice President	:	Dr. A.K. Biswas
Secretary	:	Dr. Ranjan Bhattacharyya
Joint Secretary	:	Dr. Manoj Shrivastava

The Secretary informed that postal ballots for electing 10 Councillors received at Headquarters, New Delhi were counted by a team led by Dr. A.K. Patra as chairperson and Dr. D.P.S. Dudi, Dr. B.K. Dixit, Dr. S.K. Trivedi, Dr. M. Elayarajan and Dr. Dileep Kumar. The ten Councillors elected for the years 2024 and 2025

were: Dr D.R. Chaudhary, Dr Dinesh, Dr R.N. Khandare, Dr (Mrs.) Sangeeta Lenka, Dr (Mrs.) Pragati P. Maity, Dr (Mrs.) Suchhanda Mondal, Dr Satendra Kumar, Dr K.M. Sellamuthu, Dr G.P.S. Sodhi, Dr R. Srinivasan.

President informed the house that around 200 postal ballots dispatched to the members whose email id/mobile number is not available with us and we received only 38 ballots after casting vote. It was unanimously decided that no paper ballots will be sent to the members henceforth.

The house approved the results and congratulated all the members elected to the Council.

- 8. Any other matter with the permission of the Chair (*Members of ISSS desirous of raising any point under this item are required to send the same in writing to the Secretary on or before 26 September 2023*).**

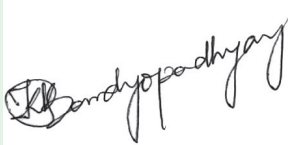
Nil

**9. Presidential Address**

Dr. D.R. Biswas, President, ISSS delivered the presidential address.

**10. Vote of thanks**

The meeting came to a close with a vote of thanks by Dr. Ranjan Bhattacharyya, Assistant Secretary, ISSS.



(K.K. Bandyopadhyay)  
Secretary, ISSS

**Indian Society of Soil Science**  
1<sup>st</sup> Floor, National Societies Block  
National Agricultural Science Centre Complex  
Dev Prakash Sastri Marg, Pusa, New Delhi -110 012

**ANNUAL REPORT 2023-24**

This report includes the salient features of the different activities of the Society during October 2023 – September 2024 and is being presented by the Council at the 88<sup>th</sup> Annual General Body Meeting on 20<sup>th</sup> November, 2024.

**COUNCIL (OCTOBER–DECEMBER 2023)**

*President:* Dr. D.R. Biswas; *Vice-Presidents:* Dr. A.L. Pharande and Dr. P.P. Mahendran; *Secretary:* Dr. K.K. Bandyopadhyay; *Joint Secretary:* Dr. V.K. Sharma; *Assistant Secretary:* Dr. Ranjan Bhattacharyya; *Treasurer:* Dr. M.C. Meena (up to October 2023), Dr. B.B. Basak (November-December 2023)

*Members:* Dr. S.S. Khanna, Dr. I.P. Abrol, Dr. N.N. Goswami, Dr. G. Dev, Dr. D.K. Das, Dr. M. Velayutham, Dr. G. Narayanasamy, Dr. J.S. Samra, Dr. J.C. Katyal, Dr. A.K. Singh, Dr. B.P. Singh, Dr. R.K. Rattan, Dr. Jagdish Prasad, Dr. S.K. Chaudhari and Dr. A.K. Patra (Past Presidents; Ex-officio)

Dr M.L. Dotaniya, Dr M. Elayarajan, Dr G.K. Ghosh, Dr R.K. Gupta, Dr S.D. Jadhao, Dr G.G. Kadalli, Dr (Mrs.) Kiran Kumari Khokhar, Dr Monoranjan Mohanty, Dr Sarvendra Kumar, Dr Y.V. Singh, Dr (Mrs.) Shriila Das, Dr Somasundaram Jayaraman, Dr Manish C. Kasture, Dr Ramawatar Meena, Dr M.V.S. Naidu, Dr K.C. Patel, Dr Ram Prakash, Dr P. Raja, Dr (Mrs.) T.R. Rupa and Dr Mahendra Singh  
*Chief Editor:* Dr. S.K. Chaudhari

**COUNCIL (JANUARY 2024–SEPTEMBER 2024)**

*President:* Dr Himanshu Pathak; *Vice-Presidents:* Dr P.P. Mahendran and Dr A.K. Biswas; *Secretary:* Dr Ranjan Bhattacharyya; *Joint Secretary:* Dr Manoj Shrivastava; *Assistant Secretary:* Dr (Mrs.) Shriila Das; *Treasurer:* Dr B.B. Basak

*Members:* Dr. S.S. Khanna (expired on 11 February 2024), Dr. I.P. Abrol, Dr. N.N. Goswami, Dr. G. Dev, Dr. M. Velayutham, Dr. G. Narayanasamy, Dr. J.S. Samra, Dr. J.C. Katyal, Dr. A.K. Singh, Dr. B.P. Singh, Dr. R.K. Rattan, Dr. Jagdish Prasad, Dr. S.K. Chaudhari and Dr. A.K. Patra (Past Presidents; Ex-officio)

Dr (Mrs.) Shriila Das, Dr Somasundaram Jayaraman, Dr Manish C. Kasture, Dr Ramawatar Meena, Dr M.V.S. Naidu, Dr K.C. Patel, Dr Ram Prakash, Dr P. Raja, Dr (Mrs.) T.R. Rupa, Dr Mahendra Sing, Dr D.R. Chaudhary, Dr Dinesh, Dr R.N. Khandare, Dr (Mrs.) Sangeeta Lenka, Dr (Mrs.) Pragati P. Maity, Dr (Mrs.) Suchhanda Mondal, Dr Satendra Kumar, Dr K.M. Sellamuthu, Dr G.P.S. Sodhi, Dr R. Srinivasan  
*Chief Editor:* Dr. S.K. Chaudhari

**Editorial Board (2024)**

**Chief Editor:** Dr. S.K. Chaudhari

**Editors:** Dr B.B. Basak, Dr Nirmalendu Basak, Dr S.K. Behera, Dr Debashis Chakraborty, Dr Dibyendu Chatterjee, Dr Pramod Jha, Dr P. Kannan, Dr M.C. Kasture, Dr Gopal R. Mahajan, Dr P.P. Mahendran, Dr Mahesh Kumar, Dr M.C. Meena, Dr S.R. Mohanty, Dr M.V.S. Naidu, Dr N.B. Prakash, Dr S.K. Ray, Dr T.R. Rupa, Dr J. Somasaundaram, Dr Ranjan Bhattacharyya (Ex-officio) and Dr Manoj Shrivastava (Ex-officio)

**International Consulting Editors:** Dr. Balu Bumb, Dr. Eric T. Craswell, Dr. Rattan Lal and Dr. Prabhakar Tamboli

**MEMBERSHIP AND SUBSCRIBERS**

*The membership position at close of the year 2023 was as follows:*

Honorary Members 22; Life Members 810; Members 1092; Student Members 739; Donor Members 14; and the total being **2677**.

*As on 15<sup>th</sup> October, 2024 the position is:*

Honorary Members 21; Life Members 817; Members 1065; Student Members 589; Donor Members 14; and the total being **2506**.

### *Subscription for the Journal*

*During 2023:* Indian 39, and Complimentary 11; total = 50

*As on 15<sup>th</sup> October, 2024:* Indian 49, and Complimentary 11; total = 60

### **87th ANNUAL CONVENTION**

The 87th Annual Convention of the Indian Society of Soil Science (ISSS) was held at the ICAR-Indian Institute of Soil Science, Bhopal during October 3-6, 2023. A brief report on the Convention is presented hereunder.

#### **Inaugural Session**

The inaugural session was held on 3<sup>rd</sup> October 2023 at the Silver Jubilee Hall, ICAR-CIAE Bhopal. At the outset, two minutes silence was observed to pay homage to the departed soul of Dr. M.S. Swaminathan, Father of the Green Revolution in India. On behalf of the Bhopal Chapter of the ISSS, Dr. S.P. Datta, Director of ICAR-Indian Institute of Soil Science, Bhopal welcomed the delegates and expressed this event as a unique platform for interaction in their domain of contemporary research. Dr. D.R. Biswas, President, ISSS, extended a warm welcome to the Chief Guest, Shri Kamal Patel Ji, Hon'ble Minister of Farmers' Welfare and Agriculture Development, Govt. of Madhya Pradesh; Special Guest, Dr. Himanshu Pathak, Hon'ble Secretary, DARE and Director General, ICAR; Guest of Honour, Dr. S.K. Chaudhari, DDG (NRM), ICAR; Dr. S.P. Datta, Director, ICAR-IISS, Bhopal; Dr. A.K. Biswas, Organizing Secretary; Dr. K.K. Bandyopadhyay, Secretary of the ISSS, New Delhi; Hon'ble Past Presidents, ISSS present in the inaugural ceremony, members of the Council of the ISSS, Institute Officials, Delegates from all parts of the country; and other distinguished guests.

Chief Guest, Shri Kamal Patelji presented the Honorary Memberships, Fellowships and various Awards of the ISSS for 2023. Dr. K.K. Bandyopadhyay, Secretary read the citations. Honorary Membership of the ISSS, the highest award of the Society, was conferred on Dr. Himanshu Pathak, Secretary, DARE and Director General, ICAR and Dr. S.K. Chaudhari, DDG (NRM), ICAR. Dr. D.R. Biswas, New Delhi was awarded the Platinum Jubilee Commemoration Award of the ISSS-2023. Fellowship of the ISSS was conferred in person on Dr. P.P. Mahendran, Madurai, Dr. M.V.S. Naidu, Tirupati, Dr. Rajendra Mohan Karmakar, *Jorhat and* Dr. S.K. Gangopadhyay, Kolkata. Dr. Ritesh Saha, Barrackpore was awarded the Dr. J.S. Kanwar 12<sup>th</sup> International Congress Commemoration Award. Dr. Santosh Ranjan Mohanty, Bhopal was awarded the ISSS-Dr. J.S.P. Yadav Memorial Award for Excellence in Soil Science. Dr. Mahesh Chand Meena, New Delhi, was awarded Prof. Sant Singh Memorial Award for Excellence in Education and Research in Soil Science. Dr. Nintu Mandal, Sabour and Dr. Gopal Ramdas Mahajan, Goa were jointly awarded the Golden Jubilee Commemoration Young Scientist Award. A set of publications brought out on the occasion of the Convention were released during the inaugural ceremony.

Chief Guest, Shri Kamal Patel Ji, in his address, stressed improving soil health and the quality of agricultural products through natural farming. Dr S.K. Chaudhari, DDG (NRM) said that it is time for introspection on what the society has achieved and what is the future of the society to meet the new challenges of climate change. Dr. Himanshu Pathak, Hon'ble Secretary, DARE and Director General, ICAR addressed that the ISSS acted as a think tank and spread science-based facts. He pointed out that climate change and one health are two important global aspects of research, and Soil Science is the central theme of both. He said that new thinking is required in soil science research and prioritized some areas of research. Inaugural function formally came to a close with a vote of thanks by Dr. A.K. Biswas, Organizing Secretary.

#### **National Seminar**

The National Seminar on '**Developments in Soil Science - 2023**' was organized, in which a total of **117** papers in **oral** and **125** papers in **poster** sessions were presented on 3<sup>rd</sup> October afternoon, 4<sup>th</sup> October afternoon and 5<sup>th</sup> October 2023 forenoon. Out of the poster presentations spread over three sessions, following were selected for the **Best Poster Presentation Award**:

1. (a) Impact of soil beneficial microorganisms through different liming techniques in blackgram for increasing productivity under some acidic soils of Dakshin Dinajpur district - Nakul Mandal, Bisweswar Mahato, Indranil Das, Sandip Hembram, Partha Sarathi Patra and Bappa Paramanik  
(b) Mitigation of methane emission from submerged rice by application of different nutrient and mitigation sources - Avadhut Walekar, Sagar More and Manish Kasture
2. (a) Performances of dry- and fresh- municipal sludge in mesocosm column experiment with spinach - Jitendra Kushwaha, Abhijit Sarkar, Shashi S. Yadav, Sangeeta Lenka, D.K. Yadav, Madhumonti Saha, Ajay Kumar, B.L. Lakaria, Asit Mandal, J.K. Thakur, J.K. Saha and M.V. Coumar

- (b) Effect of a new strain of potassium solubilizer isolated from mica mines of Jharkhand on release of potassium from waste mica - Khushboo Rani, Dipak Ranjan Biswas, Ranjan Bhattacharyya, Sunanda Biswas, Tapas Kumar Das, Kali Kinker Bandyopadhyay and Rajeev Kaushik
3. (a) Efficacy of heavy metals-tolerant plant growth promoting bacterial consortium for alleviating heavy metals toxicity in spinach - Dileep Kumar, Arpitaben Padhiyar, K.C. Patel, V.J. Patel and Ravi Patel
- (b) Soil test values prediction and fertilizer calibration equations for aerobic rice (*Oryza sativa* L) under integrated plant nutrition system in Alfisols of Southern India –N. Bhavya, R. Krishna Murthy, K. Govinda, S.N. Uday Kumar and P.K. Basavaraja

### **Chapter Activities**

Following an encouraging response during the previous years, Chapters of ISSS were invited to display their activities of the preceding one year in the form of posters. These posters remained on display during 3-5 October 2023 with one of the Chapter representatives available for discussion for a limited time fixed each day. The Chapters participating in this programme were: Anand, Dapoli, Gwalior and Parbhani. Poster presentations were informative, interesting and well laid-out. Visitors appreciated the efforts of the Chapters.

### **Cultural Programme**

Cultural programme, performed by the great music, were very marvellous in this technically-rich convention on the evening of 3<sup>rd</sup> October 2023. All the delegates enjoyed and appreciated this programme.

### **Concluding Session**

The concluding session was held on 5<sup>th</sup> October 2023 with Dr. D.R. Biswas, President of the ISSS as the chair. In-depth review of all the special and technical sessions including Special symposium on “*Nature Resources Management for Sustainable Millet Production in India*” was made. Members were requested to offer their comments on the several activities carried out during the preceding three days. Members made many useful suggestions. Dr. Avijit Ghosh was awarded the ISSS Best Doctoral Research Presentation Award for the year 2023, while the other contestants, namely, Dr. R. Abishek, Dr. Abinash Das, Dr. Prava Kiran Dash and Dr. M. Jagadesh were given Commendation Certificates. Ms. Madhulika, Ms. Kriti Sharma, Ms. Saloni Tripathy and Mr. Manimaran G. were awarded the Zonal Awards from East Zone, West Zone, North Zone and South Zone, respectively. Dr. D.R. Biswas presented the ISSS Best Doctoral Research Presentation Award and the Commendation Certificates and Zonal Awards. Efforts made by the Members of the Bhopal Chapter in making the Convention a memorable and grand success were highly commended; the delegates gave the standing ovation to the organizers. At the end of the concluding session, the annual convention was declared formally closed by Dr. D.R. Biswas, President of the ISSS.

## **BUSINESS MEETINGS**

### **86<sup>th</sup> Annual General Body Meeting**

The 87<sup>th</sup> Annual General Body Meeting of the ISSS was held on 4<sup>th</sup> October 2023. Dr. D.R. Biswas, President of the ISSS, chaired the meeting attended by 119 members of the Society. The business of the meeting as per the listed agenda, was transacted. The proceedings of the 86<sup>th</sup> Annual General Body Meeting held on 16<sup>th</sup> November, 2022 at Rahuri, were considered and confirmed by the house. Dr. K.K. Bandyopadhyay, Secretary presented the Annual Report of the Society for the period November 2022 – September 2023; it was adopted by the house. The audited statement of the accounts for the year ended 31<sup>st</sup> March 2023 and budget estimates for 2024-2025 were presented by Dr. K.K. Bandyopadhyay, Secretary. These were adopted by the house after some discussion and clarifications. The results of election for filling the offices falling vacant for 2024 and 2025 were announced; Dr. Himanshu Pathak, Hon’ble Secretary, DARE and Director General, ICAR, New Delhi was elected as the President; Dr. A.K. Biswas, Bhopal was elected as the Vice President; Dr. Ranjan Bhattacharyya, New Delhi and Dr. Manoj Srivastava, New Delhi were elected as the Secretary and Joint Secretary, respectively. The 10 Councillors, declared elected are: Dr. D.R. Chaudhary, Dr. Dinesh, Dr. R.N. Khandare, Dr. (Mrs.) Sangeeta Lenka, Dr. (Mrs.) Pragati P. Maity, Dr. (Mrs.) Suchhanda Mondal, Dr. Satendra Kumar, Dr. K.M. Sellamuthu, Dr. G.P.S. Sodhi, Dr. R. Srinivasan. The members elected were felicitated in the Annual General Body meeting. Dr. D.R. Biswas delivered the Presidential address. The meeting came to a close with a vote of thanks by Dr. Ranjan Bhattacharyya, Assistant Secretary, ISSS.

## Council Meetings

The Council met four times in 2024, on 6 January, 24 February, 1 June, and 19 October to transact the business of the Society. All the meetings were chaired by Dr Himanshu Pathak, President. Members of the Council attended these meetings in large numbers and contributed substantially to the proceedings of these meetings.

## FINANCE

The financial position of the Society continues to be satisfactory. The Society was sanctioned Rs. 2,00,000/- as grant-in-aid by ICAR during 2023-2024 for the publication of the Journal of the Society and Rs. 5,00,000/- for organizing the Convention in Bhopal. The audited statement of accounts for the year ended 31<sup>st</sup> March, 2024; and the budget estimates for the year 2025-2026 drawn by the Council are being placed for approval at the 88<sup>th</sup> Annual General Body Meeting.

## PUBLICATIONS

*Journal*: The third (September 2024) and fourth issue (December 2023) of the Journal of the Indian Society of Soil Science, Vol. **71** was brought out. Volume **71** for the year 2023 covered **466** pages. So far September 2024 issue of the Journal (Vol. **72** for 2024) has been brought out and it run into **364** pages.

## EDITORIAL BOARD REPORT

Editorial Board continued a comprehensive analysis of publications in the JISSS *vis-a-vis* leading journals in the world. For improving the visibility of its Journal and enhancing the quality of the papers published in the JISSS, it was decided that the editor may scrutinize the manuscript carefully before assigning to a reviewer. Editors may give complete comments at one time only, no fresh comments at second time. Members of ISSS are requested to cite the references of JISSS in their paper.

## LINKS WITH THE INTERNATIONAL UNION OF SOIL SCIENCES

The Indian Society of Soil Science is Full Member in the Category of Nations in Development. Society's subscription to the IUSS has to be sent for the current year.

## CHAPTER ACTIVITIES

Most of the Chapters of the Society located at Annamalainagar, Akola, Allahabad, Anand, Bangalore, Bapatla, Bhopal, Bichpuri (Agra), Bhubaneswar, Coimbatore, Cuttack, Dantiwada, Dapoli, Delhi, Dharwad, Faizabad, Gwalior, Hisar, Hyderabad, Indore, Imphal, Jabalpur, Jammu, Jobner, Jodhpur, Jorhat, Kalyani, Kanpur, Karnal, Killikulum, Kolkata, Kota, Lucknow, Ludhiana, Modipuram, Nagpur, Navasari, Palampur, Pantnagar, Parbhani, Pusa (Bihar), Rauri, Raipur, Ranchi, Sabour, Shillong, Shimoga, Srinagar, Sriniketan, Thrissur, Tirupati, Udaipur and Varanasi remained active in promoting the aims and objectives of the Society by organizing conferences, meetings, seminars, group discussions, special lectures, etc. A number of Chapters are bringing out Newsletters periodically and also the Annual Reports. Following an encouraging response during the previous years, Chapters of ISSS were invited to display in the form of posters their activities of the preceding one year. These posters remained on display on 3-5 October 2023 with one of the Chapter representatives available for discussion for a limited time fixed each day. The Chapters participated in this programme were: Anand, Dapoli, Gwalior and Parbhani. Poster presentations were informative, interesting and well laid-out. Visitors appreciated the efforts of the Chapters. Invitation to the Chapters has also been extended this year.

**Memorial Lectures:** Following chapters who were assigned the responsibility of organizing the different lectures did/are doing a commendable job in organizing these lectures as is evident from the following table.

Memorial lecture	Organizing chapter	Speaker	Delivered on/ to be delivered
Dr. SP Raychaudhuri	Thrissur	Dr. G. Byju	25-09-2024
Dr. DP Motiramani	Sriniketan	Dr. K.K. Rout	23-09-2024
Dr. BV Mehta	Bapatla	Dr. V. Murugappan	30-09-2024
Dr. NS Randhawa	Jodhpur	Dr. S.C. Datta	20-09-2024
Dr. RS Murthy	Ayodhya	Dr. Sanjay Arora	27-09-2024
Dr. RR Agarwal	Jorhat	Dr. S.P. Datta	Date yet to be finalized
Dr. TD Biswas	Nagpur	Dr. P.R. Kadu	Date yet to be finalized
Prof. SK Mukherjee	Udaipur	Dr. O.P. Choudhary	17-09-2024
Dr. GS Sekhon	Navsari	Dr. Anil R. Chinchmalatpure	13-09-2024
Dr. NP Datta	Pantnagar	Dr. Raj Kumar	20-09-2024
Dr. S.N. Saxena	Modipuram	Dr. A.K. Bhardwaj	07-09-2024

**ISSS Best Doctoral Research Presentation Award:** During 2024 the first round of this contest was organized in South Zone by **Hyderabad** Chapter on 8 October 2024, West Zone by **Gwalior** Chapter on 5 October 2024 and North Zone by **Palampur** Chapter on 17 October, 2024. In the East Zone, only one candidate had applied so there was no need to organize the contest.

**Zonal Award Contests:** The ISSS Zonal Award Contests were organized for the West, North and South Zones at Gwalior, Palampur and Hyderabad, respectively. In the East Zone, since only one candidate had applied so there was no need to organize the contest.

#### **ACKNOWLEDGEMENTS**

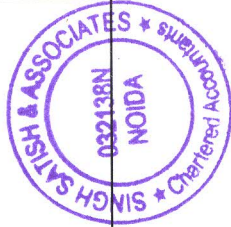
Sincere thanks are placed on record to the Indian Council of Agricultural Research for the grant of financial support of Rs 200,000/- for the publication of Journal of the Society and Rs. 5,00,000/- for organizing the Convention in Rahuri. Help and support extended by the Bhopal Chapter of ISSS and ICAR-IISS, Bhopal in organizing the 87th Annual Convention of ISSS are gratefully acknowledged. The assistance of various kinds received for the smooth and effective functioning of the Society from its members and a large number of institutes, organizations, associations and individuals are gratefully acknowledged.

# INDIAN SOCIETY OF SOIL SCIENCE

F-1, A Block, NASC Complex, DPS Marg, Pusa, New Delhi - 110012

## RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2024

RECEIPTS	AMOUNT (Rs) 31-03-2024	AMOUNT (Rs) 31-03-2023	PAYMENTS	AMOUNT (Rs) 31-03-2024	AMOUNT (Rs) 31-03-2023
<b>To Opening Balance</b>					
- Cash in Hand	1,200.00	-	By Annual Convention / Conference Exp.	321,000.00	260,000.00
- Canara Bank	350,857.63	669,534.03	- Secretariat Assistance	181,789.00	127,850.00
- Postal Stamps in hand		-	- Printing of Circular/ Souvenir	38,304.00	63,225.00
<b>Long Term Investments</b>			- Stationary & Photocopies	208,000.00	186,775.00
Unit Trust of India	974,680.72	974,680.72	- Incidental Expenses	249,367.00	206,228.00
ICICI	1,164,020.25	1,164,020.25	- TA & DA to the invited speakers		
Fixed Deposits	10,818,213.85	9,577,244.85	By Accounting Charges	12,000.00	12,000.00
		-	By Audit Fees & UC Fee	35,400.00	32,400.00
		-	By Award & Fellowship	48,687.00	28,837.00
		-	By Bank Charges	7,138.25	1,164.00
<b>To Collection from Members</b>			By Cost of Journals	493,447.00	314,034.00
- Life Membership Subscription	78,500.00	33,290.00	By Council meeting Expenses	207,698.00	233,688.40
- Membership Subscription	1,650,915.00	1,677,685.00	By IUSS Membership Fees	133,535.00	125,747.00
To ICAR Grant for Annual Convention/ Symposium	500,000.00	500,000.00	By Lecture and Medals	120,000.00	82,715.00
			By Office Rent	75,000.00	75,000.00
To ICAR Grant Receipts for Publication of Journal	200,000.00	200,000.00	By Postal Exp.	83,248.00	61,720.00
To Journal Receipts	576,050.00	652,838.00	By Printing & Stationery	15,240.00	26,767.00
To Publication Receipts	1,050,428.00	828,300.00	By Repair & Maintenance	32,206.00	70,110.00
To Interest on saving bank	12,789.00	18,341.00	By Salary	1,277,800.00	1,126,500.00
To Interest on fixed deposit	794,373.00	587,820.00	By Staff welfare	22,750.00	18,725.00
To Annual Convention			By Staff Insurance	28,285.00	24,853.00
-Registration	520,000.00	355,600.00	By Telephone & Fax	23,671.00	44,642.00
-Sponsorship	150,000.00	200,000.00	By Travelling Expenses	32,275.00	29,650.00
Net changes in current liabilities		(18,000.00)	By Website	64,050.00	20,060.00
Net changes in current Assets	(172,946.22)	(147,610.00)	By Fundamental of Soil Science	496,761.00	-
			By Soil Science- an Introduction	-	791,417.00
			By Mics Expenses	-	664.00
			By Purchase of fixed Assets	88,264.00	-





# INDIAN SOCIETY OF SOIL SCIENCE

## BUDGET ESTIMATES FOR 2025-2026

RECEIPT	AMOUNT (Rs)	EXPENDITURE	AMOUNT (Rs)
Membership subscription	16,00,000	Publication of Journal	7,00,000
Journal subscription	5,00,000	Publication of miscellaneous	50,000
Sale of publications	7,00,000	Postal expenses	2,00,000
ICAR Grant	2,00,000	Establishment (Salary)	16,00,000
Interest & Dividends	6,00,000	Stationery	70,000
Revenue from Annual Convention	2,00,000	Audit Fee	35,000
		Telephone, Mobile & Internet	70,000
		Conveyance (Local Travelling)	30,000
		Contingency (Staff welfare)	35,000
		Annual Convention	2,00,000
		Awards & Fellowship	
		- Honorary Member	20,000
		- Platinum Jubilee	20,000
		- Fellowship	20,000
		- 12th International	10,000
		- Golden Jubilee	10,000
		- Dr. J.S.P. Yadav Memorial Award	10,000
		- Zonal/ISSS Best Doctoral Presentation Award	40,000
		- Prof. Sant Singh Memorial Award	10,000
		- Dr. S.P. Raychaudhuri Gold Medal	10,000
		Dr. S.P. Raychaudhuri Memorial Lecture	10,000
		Prof. J.N. Mukherjee-ISSS Foundation Lecture	10,000
		Dr. R.V. Tamhane Memorial Lecture	10,000
		Dr. D.P. Motiramani Memorial Lecture	10,000
		Dr. B.V. Mehta Memorial Lecture	10,000
		Dr. N.S. Randhawa Memorial Lecture	10,000
		Dr. R.S. Murthy Memorial Lecture	10,000
		Dr. R.R. Agarwal Memorial Lecture	10,000
		Dr. T.D. Biswas Memorial Lecture	10,000
		Prof. S.K. Mukherjee Memorial Lecture	10,000
		Dr. G.S. Sekhon Memorial Lecture	10,000
		Dr. N.P. Datta Memorial Lecture	10,000
		Dr. S.N. Saxena Memorial Lecture	10,000
		TA to Office-Bearers	80,000
		TA to Past-Presidents	80,000
		Council Meetings including TA	5,00,000
		Office Rent	75,000
		IUSS Membership	1,50,000
<b>Total</b>	<b>38,00,000</b>	<b>Total</b>	<b>41,55,000</b>