



SOIL AND WATER CONSERVATION

Today

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FROM THE PRESIDENT'S DESK



Sustainable soil management without impairing soil health is the prerequisite for achieving higher productivity from agriculture land. The arable soils of tropics and subtropics are poor in organic matter due to high temperature and intense microbial activity. The importance of organic matter in improving soil fertility through maintenance of optimum levels of soil organic matter as well as plant nutrients are well recognized.

The chemical inputs in crop production are cost effective and inadequate supply, moreover, the use of mineral fertilizers and pesticides do not necessarily lead to better agriculture farming than the use of natural methods of farming. There is a need to encourage more productive and environment friendly farming practices,

For sustainable farming it must produce adequate quantity of high quality food, protect its resources and environmentally safe and profitable. Instead of depending on purchased materials, chemical fertilizers and pesticides, sustainable farming practices rely generally on beneficial natural processes and resources from the farm itself.

Sustainable agriculture does not represent a return to pre-industrial revolution methods, rather it combines traditional conservation farming practices with modern technologies and relies as increasingly renewable sources. Sustainable systems of agriculture include use modern equipments, certified seed, soil and water conservation practices and the latest innovations in feeding and handling livestock. Emphasis is given on rotation of crops including legumes building up soil fertility, diversifying crops and livestock and controlling pest naturally. Another feature of sustainable farming is a regular addition of crop residues, manures/compost and sources of other organic materials to soil.

The conventional method of farming helped the developing countries to raise the agricultural production but it has shown undesirable effects such as dominance of chemical fertilizers and pesticides, lesser use of organic manures, compost, crop residues. biological inputs and neglect of mixed cropping.

 **International Decade of Soils**
2015-2024

Wishing You Happy and Prosperous New Year 2021

The green revolution has helped India to produce sufficient food so as to stand on its own feet. Agriculture for many rich farmers has become agri-business. But the conventional (modern) agriculture has its price. It is heavily dependent on high fossil fuel inputs which is expensive and non-renewable and tends to deplete non-renewable soil fertility and leads to environmental and food pollution. Being 'expensive' agriculture, it is beyond

the reach of marginal and poor farmers resulting in malnutrition and hunger.

However, a growing number of farmers, ecologists, and scientists are coming to conclusion that conventional farming can not be sustained, because in the end it does more harm than benefits and it is high time to think of sounder ways of farming practices which are healthy for the soil, environment, plants, animals and human beings.

GYPKIT: A KIT FOR RAPID SODIC SOIL ASSESSMENT DEVELOPED FOR FARMERS

In India, the total salt affected soils is estimated to be 67.3 lakh hectares out of which 37 lakh hectare are sodic (usar) soils of which 13.7 lakh hectare sodic soil exists in Uttar Pradesh alone extending in over 31 districts of the state. As per the projections made by ICAR-CSSRI, Karnal, the salt affected soils will constitute about 15.5 million ha area in the country by 2030 engulfing more than 15 states of the country.

Gypsum being the cheapest, easily available and easy to handle have been widely used for reclamation of these sodic lands. It is very essential to estimate the gypsum requirement of sodic soil before going for chemical reclamation to avoid any over or under use of the amendments. The laboratory method for determination of gypsum requirement of sodic soils is very tedious and time consuming. As most of the labs lack expertise and facility for gypsum requirement estimation, therefore a kit was devised for quick assessment of soil sodicity and estimation of gypsum requirement.

The GypKIT was developed for estimation of gypsum requirement of sodic soils by team of scientist under leadership of Dr. Sanjay Arora, Principal Soil Scientist at ICAR-CSSRI, Regional Research Station, Lucknow in association with Dr. Atul K. Singh, Dr. Y.P. Singh, Dr. V.K. Mishra and Dr. D.K. Sharma after extensive efforts in the three years project. This kit is user friendly and can be useful for field functionaries, researchers, line department officials as well as farmers desirous of assessing soil sodicity and quantum of mineral gypsum

required for chemical reclamation of sodic soil to optimize crop production. This kit is very cheap to estimate appropriate quantities of required gypsum so that input cost can be minimized. GypKIT has been approved for commercialization by ICAR. Each kit is supplied with all required chemicals that can be refilled and the vials and bottles required for procedure. Also an operational manual is supplied with the kit. This field kit is devised in such a way that it can be easily used at the farm itself and does not require electricity or any power source. It instantly estimates the gypsum requirement of sodic soils. It has been tested and validated with traditional laboratory method.

The Institute has licensed this technology after approval from Indian Council of Agricultural research, New Delhi through Agrinnovate India, New Delhi to a private firm for commercial scale production and supply to farmers and other stakeholders. This technology can bring in revolution to adopt gypsum based sodic soil reclamation that will help to getting substantial contribution of foodgrains to the national food basket.



JAMMU & KASHMIR STATE CHAPTER OF SCSI CELEBRATED WORLD SOIL DAY ON 5TH DECEMBER 2020 AT SKUAST, JAMMU

Jammu & Kashmir State chapter of SCSI celebrated World Soil Day at SKUAST, Jammu on "Healthy Soil for Sustainable Horticulture" at Advanced Centre for Horticulture Research (ACHR), Udheywalla under the leadership of Dr. J. P. Sharma, Vice Chancellor of SKUAST-Jammu. In his message, he stressed on food security directly linked with healthy soil which supports livelihood to all kind of lives.

Dr. Jag Pal Sharma, ADR and Incharge, ACHR, who advocated to the farmers to make judicious use of chemical fertilizers and pesticides and advised to shift from chemical farming to organic farming. Dr. P.K. Rai, Sr. Scientist (Soil) & Councilor of SCSI and coordinator of the programme explained the farmers about the management practices to maintain soil health, and soil biodiversity and also demonstrated soil testing analysis and use of soil health

card. Dr. Vikas Tandon also focused the importance of healthy soil. Dr. Vishal Gupta, explained the role of bio-inoculants for maintaining soil health and followed by Dr. Akash Sharma, Asst. Prof., Dr. Sheetal Dogra, Asst. Prof., Dr. Susheel Sharma, and Dr. Rakesh Kumar.



During the interactive discussion on soil health card, participants showed their keen interest in soil testing kit. Mr. Tilak Raj, progressive farmer of Akalpur village and Mr. Ashwani Sharma, progressive farmer of Sangrampur village of Jammu district appreciated the efforts of SCSI

Jammu Chapter for the programme. Packets of bio-stimulant and bio-fertilizers also distributed among the participants. Seventy five farmers of the district Jammu

were participated in the programme. Dr. Sushil Sharma, Asst. Prof., extended vote of thanks to the participants at the end of the programme.

29th National Web-Conference

SUSTAINABLE SOIL AND WATER MANAGEMENT FOR BIO-DIVERSITY CONSERVATION, FOOD SECURITY AND CLIMATE RESILIENCE

December 29 & 30, 2020

The two days 29th National Web-conference was organized by Soil Conservation Society of India, New Delhi on the theme **Sustainable Soil and Water Management for Bio-diversity Conservation, Food Security and Climate Resilience** during December 29-30, 2020. In the inaugural session on December 29, 2020 Hon'ble Minister of State, Ministry of Agriculture, Cooperation and Farmers Welfare, Shri Kailash Choudhary was Chief Guest and Dr Anil K. Singh, Secretary, NAAS and former DDG (NRM), ICAR was Guest of honour. Dr Suraj Bhan, President SCSI, welcomed the delegates and apprised about the importance of the theme in present context. The convener of the conference, Dr. Sanjay Arora detailed the delegates about various activities of the SCSI and future strategies to fulfill the mandate. Dr Mukesh Kumar, Organizing Secretary, briefed the gathering about the conference. Dr Anil K. Singh set the tone of the conference by speaking about the need for soil and water conservation activities and the work being done in the country. Annual awards of the Soil Conservation Society of India were also announced and conferred virtually by Dr. Singh and Dr Bhan to the respective recipients. In the inaugural address of Hon'ble Minister Shri Kailash Choudhary elaborated on different schemes of the Government focusing on soil and water resource conservation and agricultural production with the aim for the benefit of the farmers. He congratulated the organizers for the conference theme selected for discussion and deliberations and expected that some useful recommendations of the conference can pave way for future strategies for farmers welfare vis-à-vis agricultural and environmental sustainability.

The plenary speaker Dr. T.B.S. Rajput, Adjunct Professor, WTC, IARI, New Delhi emphasized on Conservation of Natural Resources: A Key for Sustainable National Development. He highlighted the problem of water storage and low water use efficiencies of major crops in India. The declining trend of groundwater level in all parts of the country also indicates that the assured supply of good quality water will become a concern for country's development. It is estimated that 9% of the GDP is linked with ground water. Promotion of climate resilient technology, crop diversification, leverage agriculture infrastructure, digital technologies, indigenous food system, improvement on farm water use efficiency to reduce wastage of water and enhance the adoption of precision irrigation, recharge of aquifer, and other water saving technologies are need of the hour. Dr Rajput also pointed out that



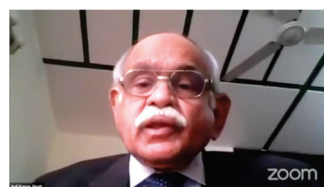
creation of inventory on soil and water resources, use of modern technological tools for developing conservation strategies, changes in policy to protect natural resources, development of site specific soil and water conservation measures and involvement of local people in conserving the soil and water resources are the future challenges for the scientists and policy makers.

During the first technical session on climate resilient agricultural practices, Dr. T. B. S. Rajput as session chairman set the tone to have indigenous food production with high quality certification. He emphasized to adopt climate resilient agriculture practices in rice wheat system and advised to go for zero tillage and incorporation of straw. Dr Vikas Sharma co-chaired the session and Dr. Vivak M. Arya was the convener of the session. The lead speaker Dr Pradip Dey emphasized the STCR approach for vegetable cultivation. He said that the approach is playing a vital role in sustainable agricultural production system and fertilizer recommendations based on this can sequester more carbon and biochar can also be used along with fertilizer which will improve soil quality. Other lead speaker, Dr R. K. Jha deliberated on managing climatic hazards by soil and water management in rice-wheat cropping system. He highlighted that erratic and unpredictable monsoon.

In this session a total of 6 oral and 5 poster presentations were made. Speakers presented the meta analysis for studying the effect of integrated nutrient management, study of adoption of climate resilient practices in sorghum, work on resistance and resilience of soil biochemical behavior in response to abiotic stresses and on long term conservation agriculture effect on spatial and temporal nitrogen distribution. Another interesting presentation was made on endophytic diazotrophic *Azotobacter chroococcum* as an alternative to N fertilizers. Another presenter presented his work on soil moisture and climate analysis for estimating the stress in orchards.



The technical session-II was on Optimizing Biological Resources in Nutrient Management that was chaired by Dr. M.S. Hadda with Dr. Sanjay Swami as Co-Chair and Dr. Rajan Bhatt as convener. In the six oral presentations, Dr.

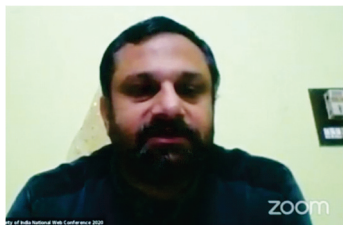


Geeta Kumari deliberated on different microbial formulations, which help to creating the favourable soil root interphase conditions which further helps to

provide more nutrients to the plants through roots. Further, Dr Madhulika Bhagat stresses on enhancing the biological potential with silver nano-particles synthesized from the *Bergenia liguleta*. Dr. Namita Das Saha, showed that under warm experimental conditions, soil microbial responses can be harnessed for sustainable agriculture. Showing the importance of liquid biofertilizers from polymers and biomolecules, Dr. Shiv Shankar Prasad deliberated how it helps in improving the land productivity and quality of pulses in Indo-Gangetic plains while showing the response of azolla integrations, Mr. Shubham Singh showed importance in reclamation of acid soils of inceptisols of Meghalaya for nutrient management. Finally, Dr. Venkatesh Bathula, highlighted the importance of extraction of sea weeds in enhancing the yield potential agricultural crops from the same fields, thus proposes it as a way to feed the burgeoning population.

Overall five presenters were made as posters during this session.

In the Technical session III on the theme Soil Contamination, Remediation and Management, Dr. P.C. Srivastava chaired the session with Dr. O.P. Aishwath as co-chairman and Dr. P.K. Rai as convenor, two lead lectures, four oral presentations and three poster presentations were given by the experts. The lead lecture given by Dr. Prashant Srivastava, (Senior Scientist, CSIRO, Adelaide, Australia) on contaminants of emerging concern in soil was very informative and the data were given by him regarding soil pollution all over the world is a matter of great concern. He emphasised upon the emerging contaminants like Per- and polyfluoroalkyl substances (PFAS) and micro-plastics found in soil and in human body also. Lot of work have been done in Australia and in European countries in this regard but very little work done in India (some Gangatic Plain area of Varanasi and Patna only). There is a need to work on this aspect in India. Dr. V. K Arora in his lead lecture emphasized upon use of integrated nutrient management practices and particularly time of fertilizer application to enhance the fertilizer use efficiency. In Oral presentation, work on assessment of quality of ground water, assessment of heavy metal uptake by crop and work on pollution index analysis carried out by the researchers in different parts of the country were discussed. Works on heavy metal contaminations, crop coefficient and soil pollution impacts and its measures were discussed during poster session.



In technical session IV on Improving Water and Energy Efficiency in Agriculture, three lead papers and 15 oral papers were presented. The session was chaired by Dr Neelam Patel and co-chaired by Dr. B.K. Rao. The convener of the session was Dr. N.K. Pareek. In the session, Dr. Susanta Kumar Jena in his lead presentation advocated that Flexi-check dams (Rubber Dams) are better than conventional dams due to flexibility in construction, height, site for efficient use of water in agriculture. Dr M.L. Gaur emphasised on treating reservoir with locally available material like sand filled gunny bags that are helpful in treating gullies and ravines. Protected cultivation and drip fertigation are efficient modern technology for water and nutrient management was emphasized by Dr. M. Hasan. In oral presentations, mulching, water management using artificial intelligence, geospatial techniques and hydrological models were discussed in order to get maximum water productivity and crop yields. Watershed characterization and soil resource mapping for land use planning, water purification by magnet, solar power sensor based basin irrigation system and good practices for precision farming were the key aspects presented by various oral and poster presenters.

In the valedictory session on December 30, 2020, Dr Suraj Bhan, President SCSI welcomed the Chief Guest Dr. B.R. Sharma, IWMI and gave an overview of the two days National web-conference and its relevance in the present



scenario. He also highlighted society's standpoint on formulating and implementing Land Use Regulatory authority so that land owner, farmer and worker take due care for the land resource. Dr. Anhuman Kohli, presented the proceedings of the sessions of the conference and gist of the recommendations. Dr. Sanjay Arora, Convener announced the awards for best paper and poster presentations in the conference and congratulated the awardees. Dr. B.R. Sharma in his message elaborated on the historical perspective, present status and future strategies for conservation as well as judicious use and management of water resources. He also mentioned that presently not only land and water degradation are problem for agriculture crops but also the air quality deterioration is a threat and climate smart technologies needs more adaptability to overcome these. Dr Mukesh Kumar presented formal vote of thanks.



"WORLD SOIL DAY CELEBRATION BY SOIL CONSERVATION SOCIETY OF INDIA, NEW DELHI"

The FAO Conference unanimously endorsed World Soil Day in June 2013. It even requested its official adoption at the 68th UN General Assembly. As a result in December 2013, the UN General Assembly responded by designating 5 December 2014 as the first official World

Soil Day. The date of December 5 for World Soil Day was chosen because it corresponds with the official birthday of H.M. King Bhumibol Adulyadej, the King of Thailand, who had officially sanctioned the event. Two years later in 2016 this day was officially recognised in memory and

with respect for this beloved monarch who passed away in October 2016, after working as the head of state for seven years.

World Soil Day 2020 was celebrated world over with the theme “Keep soil alive, Protect soil biodiversity” aims to raise awareness of the importance of maintaining healthy ecosystems and human well-being by addressing the growing challenges in soil management, fighting soil biodiversity loss, increasing soil awareness and encouraging governments, organizations, communities and individuals around the world to commit to protectively improving soil health.

Soil Conservation Society of India, New Delhi celebrated December 5, 2020 as World Soil Day in virtual mode through Google Meet from 11.00 AM to 12.30 PM. A special talk on the topic was arranged and delivered by one of the distinguished members of the society Dr Alok Sikka, currently working as India Head, International Water Management Institute, New Delhi Office.

At the outset the President of the Society Dr Suraj Bhan welcomed the invited speaker and other members of the society for the event. Dr Suraj Bhan introduced the speaker and mentioned his significant contributions made in the field of natural resources management in different capacities as DDG (NRM), ICAR, Member (NRAA) and

Director ICAR research Complex for Eastern Region, Patna.

Dr Sikka in his talk covered the different aspects of soil degradation, its causes and remedies and emphasized that the soil is a living entity, its biodiversity needs to be maintained besides maintaining its overall health for sustaining its productivity. Dr Sikka also comprehensively covered the Indian scenario vis a vis international efforts in this direction. He also stressed the need for maintaining soil health particularly in the wake of climate change and increasing pressure on it for feeding the ever increasing population. He also presented the issues pertaining to problem soils and discussed different management efforts done by ICAR and other organizations. The talk was quite impressive and led to good interaction.

Dr. T B S Rajput, Senior Vice President of the Society summarized the event and thanked the invited speaker for a comprehensive and visionary talk on maintaining soil health. He also thanked the President of the society for sparing time to be present on the occasion and kindly welcoming and introducing the speaker. He appreciated the presence of more than 70 members online despite a very short notice. The event was concluded with thanks to one and all for joining the celebrations of World Soil Day.

NATIONAL E-POSTER OLYMPIAD ON “SOILS, BIOMES AND RESILIENCE TO CLIMATE CHANGE” IN CELEBRATION OF WORLD SOIL DAY

The National e-Poster Olympiad on “Soils, Biomes and Resilience to Climate Change” marked the celebration of World Soil Day under the auspices of the Soil Conservation Society of India. Six hundred and fifty six (656) registered participants including scientists, university teachers, research scholars, students, government officials and representatives from NGOs and private organizations joined virtually for the two days and delved on various aspects of soils and biomes during the inaugural session, four poster sessions, plenary WSD thematic lectures and the *Olympiad Finale*.

The curtain raiser for the program on 4th December 2020 was held in the presence of the Chief Guest, Hon’ble Dr. Anil Kumar Singh, Secretary, NAAS, New Delhi, former Vice Chancellor, RMVRSKV, Gwalior and Former DDG (NRM), ICAR, New Delhi. Dr Anshuman Kohli, Convener, elucidated all about the purpose of this Olympiad. The inaugural session was chaired by Dr. Suraj Bhan, President, Soil Conservation Society of India, New Delhi and Co-Chaired by Dr. Sanjay Arora, Principal Scientist, CSSRI, RRS, Lucknow. The highlight of the curtain raiser was an informative presentation on “Scientific poster presentations-The art of making posters interesting and effective” by Dr Vikas Sharma, Professor & Head, Division of Soil Science & Agricultural Chemistry, SKAUST-Jammu. Dr. Sharma talked about the importance of making scientific posters and how to

make them effective and interesting. Dr Mainak Ghosh, Organizing Secretary, proposed a formal vote of thanks.

The session on *Climate Change, Carbon Sequestration and Soil Health Management* had discussion around 14 e-poster presentations. The role of microbes in mitigating climate change, emerged as the highlight of the session, which was chaired by Dr. Jagdish Prasad and co-chaired by Dr. Susama Sudhishri. The session on *Agricultural Biomes, Diversity, Practices and Conservation Agriculture* chaired by Dr. Ajay K. Bhardwaj and co-chaired by Dr. R.S. Yadav involved 13 e-poster presentations with deliberations based on CA. Conservation Agriculture was proposed as the way to sustainable and intensive crop production, in addition to its role in carbon sequestration and economizing production systems. The next session on *Soil Management, Functions and Organic Agriculture* chaired by Dr Pradeep Dey and co-chaired by Dr. G.J. Patel. Saw intense deliberations around 8 e-poster presentations on various aspects of organic farming and soil management. Need based recycling of available organic materials, biochar technology and precision nutrient management technologies were emphasized. The session on *Water Conservation, Management and Improving Water Productivity* chaired by Dr. M. S. Hadda and co-chaired by Dr. P. K. Rai involved 9 e-poster presentations spanning the domains of rain water harvesting and efficient water delivery to increase water productivity.

The plenary session included extramural lectures by Dr. Dillip Kumar Swain, Professor, Indian Institute of Technology, Kharagpur who delved on climate change and its role in achieving food security and by Dr Upendra Kumar, Scientist (Soil Science), ICAR-NRRI, Cuttack who discussed about microbial diversity in rice-based systems and its influence on crop and soil health. Dr. M.J. Singh, Director, ZRSKA, PAU, Ludhiana chaired and Dr. N.K. Pareek co-chaired the plenary session held on 5th December, 2020.

The *Olympiad Finale*, involved a final round of 9 e-Poster presentations identified from the previous presentations in the technical sessions. The *Finale* was chaired by Dr. Sanjay Arora and Co-chaired by Dr. Sanjay Swami. The presenters put forth their perspectives on the various aspects of soil, water and other issues related to their research work. An intense discussion followed each presentation in which ideas and views were exchanged among the scientific fraternity. Dr Bishun Deo Prasad, Assistant Professor, BAU, Sabour, who presented his work on *Arsenic Mitigation In Rice Using Microbes*, was declared as the Olympiad Winner. Dr. Shubham Singh and Dr Ranjan Paul, who presented their work on soil acidity management through Azolla integration and XRD based identification of Palygorskite jointly bagged the second slot in the Olympiad. Ms. Megha Kaviraj, based on presentation of her work on chemical and biological mechanisms of alleviating water stress in rice was awarded the third prize.

Another popular highlight of the event was an online, "Soil Resources Awareness Quiz", in which the participants were asked to answer 40 MCQs on soil resources in a time span of just 10 minutes. 55 participants completed the quiz in the stipulated time.

Mr Sumit Sow (BAU, Sabour) and Mr Tajamul Aziz Alaie (SKUAST-K) won the first prize, Ms Megha Bhadani (Dr RPCAU, Pusa, Samastipur) won the second prize and Mr Surinder Paul (ICAR-NBAIM, Mau) won the third prize.

The valedictory session was chaired by Dr. Suraj Bhan, President, SCSi and co-chaired by Dr. Sanjay Arora. Dr Shweta Shambhavi, Organizing Secretary, presented a brief report of the event. The concluding remarks were made by the Chairman, Dr. Suraj Bhan, President, SCSi, New Delhi. Dr. Suraj Bhan thanked the Hon'ble Chief Guest, Dr. A. K. Singh Ex- DDG, NRM and all the members of the organizing committee. He emphasized upon the perils of increasing population and its effect on land resources. He stated that acquiring healthy soil would be possible through conservation of soil and its biodiversity. He laid emphasis on the need of sustainable production, with the use of indigenous resources, for maintaining soil health and improved soil organic carbon. He also called for maintaining soil quality for better crop productivity and sustainability. Dr Suraj Bhan also summarized the inextricable relation between healthy soil and the surrounding environment, by citing the example of need of increased food production using less chemical ameliorations in the form of fertilizers and enhanced addition of organic amendments like manures. Dr Suraj Bhan concluded by expressing concern related to water erosion, clean cultivation, burning of residue and open grazing, all of which lead to incessant degradation of land, thus making conservation agriculture a safe and sustainable option. Dr Sanjay Arora described the relevance of this event in light of the COVID-19 pandemic and proposed a formal vote of thanks on behalf of the Soil Conservation Society of India.

MEGHALAYA CHAPTER CELEBRATED INTERNATIONAL MOUNTAIN DAY PROTECT MOUNTAIN BIODIVERSITY!

International Mountain Day' was observed by the Meghalaya Chapter of Soil Conservation Society of India on 11th December, 2020 to create awareness among youth about the importance of "Mountains diversity" opportunities and constraints and for its development.

Dr. Sanjay Swami, Professor (Soils) & Chairman of the SCSi-Meghalaya Chapter, informed the students that the importance of mountains led the UN General Assembly to declare the year 2002 as the UN International Year of Mountains. The first International Mountain Day was celebrated in the year 2003. Now it is celebrated every year on December 11. This day aim celebrated to encourage sustainable development in mountains for mankind. The Food and Agriculture Organization of the UN (FAO) coordinates the annual celebration of the day to foster greater awareness of mountain issues.

Dr. Swami further highlighted that about 15 per cent of the world's population live on mountains. Half of the world's



biodiversity hotspots are on mountains. They are the source of freshwater for everyday life to half of the human population. Their conservation is a key factor for sustainable development and is

part of the Sustainable Development Goals.

He said that this year's Mountain Day theme is *Mountain Biodiversity*. It aims to celebrate the rich biodiversity of the mountains and also address the threats they face. He urged the young generation to protect the mountain biodiversity of North Eastern hill region as mountain are the source of unique agriculture, providing ample space for the production of niche crops on their slopes and livelihood security of poor tribal farmers.

WORLD SOIL DAY CELEBRATION BY MEGHALAYA STATE CHAPTER OF SCSI

The Meghalaya Chapter of Soil Conservation Society of India in collaboration with the School of Natural Resource Management, College of Post Graduate Studies in Agricultural Sciences, Central Agricultural University, Barapani celebrated 'World Soil Day' on 5th December, 2020 on "Keep Soil Alive, Protect Soil Biodiversity!" at Nongpoh, the headquarter of Ri-Bhoi district wherein more than 110 farmers along with headmen and secretary of various villages participated.

Dr. Sanjay Swami, Professor (Soils) & Chairman of the Meghalaya State Chapter of SCSI, while welcoming the farmers and dignitaries stated that World Soil Day is observed annually on 5th December as a means to focus attention on the importance of healthy soil and advocating for the sustainable management of soil resources. He informed that soils are home to more than 25 percent of the earth's total biodiversity and supports life on land and water, nutrient cycling and retention, food production, pollution remediation, and climate regulation. The evidence demonstrates that multiple sustainability goals can be simultaneously addressed when soil biota are put at the center of land management assessments; this is because the activity and interactions of soil organisms are intimately tied to multiple processes that ecosystems and society rely on. With soil biodiversity at the center of multiple globally relevant sustainability programs, we will be able to more efficiently and holistically achieve the Sustainable development goals. Therefore, this year's theme of soil day is to "Keep Soil Alive, Protect Soil Biodiversity!" which is more pertinent to hilly regions. He further stressed that the significance of celebrating the 'World Soil Day' lies in our re-affirmation to preserve the soils and to create healthy soils for a healthier and more sustainable life of humanity. He apprised the participants to lend for awareness a hand to save soils and make everyday 'Soil Day.'



Farmers interacting with Dr. Sanjay Swami, Chairman, Meghalaya Chapter of SCSI

Dr. P.K. Bora, Vice-Chairman of the SCSI-Meghalaya Chapter, focused that soils are mainly to support natural systems and human well-being, yet soil biodiversity, the diversity of life in soil which drives ecosystems, sustains life above ground, and maintains healthy landscapes, have remained generally overlooked in the hilly regions. Soil-dwelling organisms, including bacteria, fungi, nematodes, earthworms, moles, and even plant roots, contribute the

majority of living biomass on earth and represent more than 25 percent of all described species. The activity and complex interactions of soil organisms provides the backbone for many ecosystem functions, including nutrient cycling, pathogen control, water infiltration, foundations to food webs, and supporting agro-ecosystems. He stressed that majority of the fields in Meghalaya are situated across the hilly slopes. They require a treatment little different from the standard followed in the mainland plain areas.



World Soil Day Celebration at Nongpoh, Ri-Bhoi district

The Chief Guest of the function, Dr. J.K. Chauhan, Dean of the College, congratulated the SCSI-Meghalaya Chapter team for organizing such a wonderful event. He also praised the team for organizing an essay competition for the students of CPGS-AS on the eve of World Soil Day. Speaking on the occasion, he said that increased soil biodiversity makes soil productivity less dependent on external inputs including fertilizers and pesticides. Cost reductions to buy and apply fertilizers and pesticides may be achieved through a more sustainable manner of soil management, as a diverse soil biota can act as bio-fertilizer by increasing nutrient turnover and as bio-control by inhibiting pathogens. This would also result in decreased environmental pollution and insect die-off, while minimizing yield losses.

The day was observed by organizing series of activities like on farm demonstration on scientific method of collecting good soil samples for farmers, distribution of pamphlets, distribution of soil health cards and pamphlets, farmers-scientists interaction, and prize distribution to the winner student of essay competition.

The programme ended with vote of thanks



Dean, CPGS-AS with the participants of essay competition

FORTHCOMING EVENTS

2nd ASIAN WEB CONFERENCE “MANAGING HILL RESOURCES AND DIVERSITIES FOR ZERO HUNGER AND CLIMATE RESILIENCE”

12-13 February, 2021

Organized by

Soil Conservation Society of India, Meghalaya Chapter

Major Themes:

1. Efficient management of hill resources and watershed development for sustainable food and livelihood security
2. Integrated farming systems, agriculture diversification and biodiversity conservation for sustainable hill development
3. Climate resilience and natural disaster mitigation through efficient management of resources
4. Multidisciplinary approach for human resource development, dissemination of knowledge and international cooperation
5. Hill ecosystems and environmental management for social sustenance

Registration Fee:

For Indian Participants: Scientists/Professionals/Professors: Rs.300/-
Students/SRF/RA etc.: Rs.200/-

Pay Registration/Publication fee through RTGS/NEFT/Online or mobile bank transfer in the following account:

Account Name: Soil Conservation Society of India, Meghalaya Chapter

Account No.: 31451066853

Bank: State Bank of India, Meghalaya Sectt, Shillong

IFSC code: SBIN0006320

Registration-cum-abstract submission form link:

For Indian Participants: https://docs.google.com/forms/d/e/1FAIpQLSd-NHSUqGipvXU3ryRY3t7rF1Wft7aqsfE-Ny-URks1O2HODw/viewform?usp=sf_link

For Foreign Participants: https://docs.google.com/forms/d/e/1FAIpQLSd8pvlULtwBa1zt9XTH_pkM-vlL4Tru9pgToPl13_kNTI291Q/viewform?usp=sf_link

Last date of abstract submission: 5th Feb., 2021

For more details, please contact:

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30th NATIONAL CONFERENCE ON “SOIL AND WATER MANAGEMENT TECHNOLOGIES AND CLIMATE RESILIENCE FOR AGRICULTURAL SUSTAINABILITY”

Dates : 18 (Thursday)-20 (Saturday) November 2021

Venue: Bhubaneswar, Odisha, India

	Themes
I	Soil and water management for enhancing productivity
II	Climate Change Impact on soil and water resources and mitigation strategies
III	Suitable measures for control of soil and water erosion
IV	Water conservation and water harvesting techniques for agriculture, horticulture and forestry
V	Smart conservation agriculture techniques for watershed management and socio-economic development for livelihood security
VI	Technological options for enhancing water use efficiency in irrigated agro-ecosystems
VII	Resource management and environment sustainability
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IX	Policy issues for management of resources to ensure food, nutritional and livelihood security
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XI	Environmental and social impacts on soil, water and biodiversity conservation and management
XII	Innovative ICT applications and effective decision support systems to combat climate change, disasters and droughts

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Editorial Board

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