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# In the Name of Allah, the Beneficent, the Merciful

# SOIL SCIENCE NEWS

Quarterly Newsletter of Soil Science Society of Pakistan

Editor: Dr. Maqshoof Ahmad

سوائے سائنس سوسائٹی آف پاکستان

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Dr. Maqshoof Ahmad  
(Editor)

## Editorial: Pakistan's Water Crisis: Problems and Solutions

The landscapes of Pakistan are a combination of plain lands, beautiful deserts, flowing rivers with fascinating beaches, mountains and the valleys. The Indus Basin Irrigation System (IBIS) of Pakistan is the largest artificially designed contiguous irrigation system over the globe. Pakistan has a long history to produce cotton, wheat, rice, maize, sugarcane, fruits and vegetables in abundance through said system that has the capacity to irrigate 45 million acres of farm land. The complex IBIS was constructed by British before partition of Indian sub-continent with the objective to enhance crop productivity. The partition left the major part of infrastructure with Pakistan while the basic headwork dams remained in India. The conflicts were started between the neighbor states due to biased award of control of Pakistani rivers to India by the boundary commission, chaired by Sir Cyril Radcliff. Pakistan raised the issue at International level. The World Bank facilitated the dialogues and after years of intense negotiations, a treaty was signed between Pakistan and India in 1960 called as the Indus Water Treaty (IWT).

According to the IWT, the control of 75% of water of three Western rivers i.e. the Indus, Chenab and Jhelum was given to Pakistan and the three Eastern Rivers—the Sutlej, Beas and Ravi were exclusively given to India. India occasionally used water as weapon of oppression as 78% water of these rivers inflows from India and has a long history of misusing the treaty provisions thus illegally controls the flow of water to Pakistani rivers. India has constructed the Baglihar dam, Salal dam, NimmoBazgo hydroelectric project, Tulbul Navigation project and currently working on disputed designs of Rattle hydropower project and Kishangangad dam.

Water is among world's most precious resources. Pakistan Institute of Development Economics (PIDE) has reported Pakistan among the 17 "extremely high water risk" countries of the world. According to sources, the nation is currently on the verge of a water shortage that might endanger its ability to produce electricity, food, and maintain its security. Pakistan is one of the most water-stressed nations in the world, according to a 2006 World Bank analysis, and this condition will deteriorate into complete water scarcity. The main obstacles to Pakistan's dwindling water resources and declining water availability per person are urbanization and population increase. Pakistan's population increased by 2.6 times between 1972 and 2020 that raised it from 9th to 5th place in the world in terms of population. Water availability per person has decreased from approximately 5,000 m<sup>3</sup> in 1951 to approximately 908 m<sup>3</sup> at this time, which is approaching the internationally acknowledged scarcity rate. By 2025, it is anticipated that there would be less than

700 m<sup>3</sup> of water available per person. Perhaps Pakistan is the only country in the world where rivers are drying up as a result of ineffective measures.

## Renewal of Memberships and Updating Mailing Address

All the Honourable members are requested to contact **Dr. Ghulam Murtaza Jamro**, Treasurer SSSP for renewal/new membership and updating mailing addresses at:

treasurer@sss-pakistan.org  
gmjamro@sau.edu.pk  
+92 307 0364559

## Oath Taking Ceremony- EC 2023-24



Oath taking ceremony of newly elected Executive Council (EC-2023-24) of Soil Science Society of Pakistan was held at The University of Agriculture Faisalabad on January 16, 2023. Dr. Muhammad Nawaz Mekkan, Director General Research (Punjab) was the chief guest and Prof. Dr. Anas Sarwar Qureshi, Pro-Vice Chancellor, University of Agriculture Faisalabad was guest of honour. The ceremony was started with recitation from Holy Quran. The outgoing General Secretary, Dr. Ghulam Murtaza Jamro, congratulated the newly elected EC and ensured active support. President Prof. Dr. Zahir Ahmad Zahir welcomed the participants of ceremony and on behalf of outgoing EC, he thanked Election Committee comprised of Prof. Dr. Inayatullah Rajpar, Dean Faculty of Crop Production, Sindh Agriculture University (SAU), Tandojam, Dr. Khalid Hussain Talpur, Associate Prof., Dr. M. Siddique Lashari, Assistant Prof., SAU, Tandojam and Dr. Jhamandas Suthar, Agri. Extension Officer for holding transparent, free and fair election.



Dr. Zahir also briefed the participants about the society activities undertaken during term 2021-22. Dr. Muhammad Nawaz Mekkan, Chief guest administered the oath. Afterwards, the newly elected General Secretary, Prof. Dr. Azeem Khalid, PMAS- Arid Agriculture University Rawalpindi on behalf of the incoming EC thanked the honorable members for trusting and electing them for the tenure 2023-24. The incoming president Prof. Dr. Zahir Ahmad Zahir appreciated the efforts of outgoing EC. He assured that present EC will broaden the spectrum of the society by developing strong linkages between academia, research and industry provided a future vision for next term 2023-24. He also acknowledged the VC and management of university for providing logistic support. Dr. Mekkan, Chief Guest of the ceremony praised the role of society in the uplift of professional activities related to soil science and allied disciplines. In the end, shields were distributed among members of election committee and guests.



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Pakistan too has a serious issue with water pollution. Water-borne diseases and other health risks have increased as a result of declining water quality and contamination of lakes, rivers, and groundwater aquifers. According to reports, most health issues are either directly or indirectly related to contaminated water. With some saline water sources in the south and in the desert regions, Punjab has fresh groundwater in about 80% of its land. There are also some indications that Punjab has high fluoride or arsenic concentrations. Industrial wastewater discharges have also contaminated a number of places. Less than 30% of the groundwater in Sindh is fresh. A large portion of the province is covered by extremely brackish water, frequently with high fluoride levels. In NWFP, due to an increase in digging wells, the water is now reaching into saline layers and much of Balochistan has saline groundwater. There is clear evidence that groundwater in the country is being over-exploited. Currently, there are about 60,000 tub wells in Pakistan which are extracting groundwater on an alarming rate. Moreover, about ten thousand tube wells are being added to the system annually. There is no separate drainage system for treatment or disposal of industrial effluents and municipal wastewater. Wastewater from big cities and towns also flows directly into the natural water bodies through open drainage.

Pakistan is blessed with diversified environmental conditions and excessive natural resources but the negligence and carelessness is causing to deplete these resources. In principle, there is no water crisis in Pakistan but we have failed in devising effective policies in regard to governance of water resources so there is need to carry out research on water resources to devise effective water usage policies.

Moreover, there is need to carry out reforms in the use of available water resources such as recycling of wastewater that should be carried out based on Singapore's model where they have developed strong collaboration between private sector and Government bodies. Policies are also needed to conserve water through enhancing Agricultural Efficiencies as Farmers can use precision watering (Drip and Sprinkler) rather than flooding their fields.

Moreover, water-intensive crops, such as sugarcane and rice may be replaced with lower water demanding crops. Policies should be devised to shift to climate smart agriculture for future water conservation.

## TRAINING WORKSHOP ON

**'The Use of Soil Survey Techniques' held at The MNS University of Agriculture, Multan in collaboration with the Soil Survey of Punjab**





The Department of Soil and Environmental Sciences of The MNS University of Agriculture, Multan organized a comprehensive training on various techniques of soil survey in collaboration with Soil Survey of Punjab. The resource persons for this training were Dr. Mohammad Atiqur Rehman and Dr. Tassaduq Saleem from the Soil Survey of Punjab, who came from Lahore.

The training workshop formally started with the recitation of the Holy Quran. Professor Dr. Tanveer-ul-Haq, Chairman, Department of Soil and Environmental Sciences, welcomed the guests, students, farmers, and all the guests from various institutions of the Agriculture Complex. While introducing the training, he said that according to the vision of the Vice Chancellor, Professor Dr. Asif Ali, the Department of Soil and Environmental Sciences has always worked for the capacity building of farmers, students, and the community, and this training was also an initiative in this regard. He further said that soil survey was an important factor in agriculture, and with its help, it was possible to save resources in agriculture.



After that, Dr. Muhammad Atiqur Rehman formally started the training with a presentation in which he spoke in detail about soil surveying and its importance. He said that Muhammad Nawaz Sharif Agricultural University was one of the few universities that was working closely with farmers and industry. He also termed it a good thing that not only faculty and students but also people from nearby institutions and farmers also participated in the training in large numbers, due to which the purpose of their visit has been fulfilled. After his presentation, there was a detailed question and answer session in which the students and other attendees actively participated.

After that, the second part of the training started, in which a soil profile was also dug and the participants were given practical training. At the end of the training, both guests were thanked and awarded with shields. On this occasion, the faculty of the Department and the resource persons from the Soil Survey reiterated that they would work together to solve the soil problems faced by the farming community.

## A National Seminar on “Land Degradation: Threats and Potential Remedies”



A National seminar, titled “Land Degradation: Threats and Potential Remedies” was jointly organized by Soil Science Society of Pakistan and Ayub Agricultural Research Institute, Faisalabad in March 2023 and was sponsored by Pakistan Science Foundation.

The Inaugural Session was chaired by Dr. Intizarul Hassan, Director Head quarter, AARI, Faisalabad, Dr. Muhammad Javaid, Chief Scientist, Wheat Research Institute and Mr. Sarfraz Ahmad, Chief Scientist, Soil and Water Conservation Research Institute, Chakwal. The Chief Scientist, Principal Scientists of AARI also graced the occasion. The proceedings of the seminar were started with recitation from The Holy Quran.

The president Soil Science Society of Pakistan Dr. Zahir Ahmad Zahir welcomed all the guests from different research institutes of AARI, UAF, NIAB and highlighted the importance of this seminar. Dr. Muhammad Yaseen (keynote speaker) gave detailed presentation on the causes of land degradation and its impact on the Pakistan economy and agriculture.

In the Technical Session, Dr. Muhammad Ashraf highlighted the Integrated Management Strategies for Reversing Soil Degradation. He emphasized on the aspect that Soil Conservation was the key to address issues of Pakistan's agriculture. Dr. Muhammad Ashfaq Anjum discussed Salt Induced Land Degradation: Causes and Remedies. Dr. Nabeel Khan Niazi highlighted the tackling of Soil Contamination for Environmental Sustainability. Dr. Asif Naeem talked about Nutrient Management on Nutrient-Impoverished Barren Lands of Punjab to avoid land degradation.

The Chief Guest Dr. Intizarul Hassan congratulated SSSP for organizing the seminar on such an important issue. In the end, the Chief Guest of the event, distributed the souvenirs among the speakers.





## Retirement of Prof. Dr. Moazzam Jamil

Prof. Dr. Moazzam Jamil has retired on March 23, 2023, as Professor/Chairperson Department of Soil Science and Dean Faculty of Agriculture and Environment, The Islamia University of Bahawalpur Pakistan. He was given a beautiful sendoff by organizing dinner at the eve of his retirement organized by the faculty members from the Department of Soil Science IUB. Vice Chancellor Engr. Prof. Dr. Athar Mahboob (T.I.), graced the event. Deans, Directors, Chairpersons of various departments, from faculty of Agriculture and Environment, Officers and Faculty Members from Department of Soil Science participated in Farewell/Retirement dinner. The Vice Chancellor and all other participants appreciated the contributions of Honorable Prof. Dr. Moazzam Jamil as teacher/researcher/academician/administrator for department, faculty, university and the country.

Prof. Dr. Moazzam Jamil (1988 to 2023) retired after 35 years of Government service. His retirement is the end of an era marking great strides in the development of the Department of Soil Science, Faculty of Agriculture and Environment, and The Islamia University of Bahawalpur.

The Soil Science Society of Pakistan wishes him luck and success in every sphere of his upcoming life.



## Assumption of Charge as Chairman, Department of Soil Science

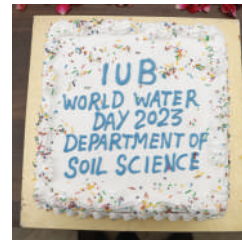


Dr. Maqshoof Ahmad, Associate Professor, Department of Soil Science has assumed the charge of The Chairman, Department of Soil Science w.e.f. March 24, 2023. Dr. Maqshoof Ahmad has completed his PhD Soil Science (Soil Microbiology and Biochemistry) in 2011, from University of Agriculture Faisalabad-Pakistan. He has also got Post-Doctoral Research Training from the Institute of Agricultural Sciences in the Tropics, University of Hohenheim, Germany.



## World Water Day 2023

World Water Day was celebrated in the Department of Soil Science, Faculty of Agriculture & Environment, The Islamia University of Bahawalpur, Pakistan on March 22, 2023. It is in lieu of the United Nation's SDG-06 (Clean Water and Sanitation) and under Theme-2023: "Accelerating Change; Be the Change You Want to See in The World". Prof. Dr. Moazzam Jamil Registrar, Prof. Dr. Tanveer Hussain Dean Faculty of Agriculture and Environment, Dr. Maqshoof Ahmad Chairperson, Department of Soil Science, faculty members, and students participated in cake cutting ceremony.



Dr. Azhar Hussain, Associate Professor (Coordinator Water Management), Department of Soil Science was Focal Person of the event. Prof. Dr. Moazzam Jamil highlighted the importance of water and appreciated Dr. Azhar Hussain for organizing World Water Day 2023. Further, Dr. Azhar Hussain added that as per the direction of the Vice Chancellor Engr. Prof. Dr. Athar Mahboob, this institute was going to start undergraduate and postgraduate degree programs of Water Management w.e.f. Fall Semester 2023.

Moreover, the UN-water page at Facebook also shared the activity of Water Day Celebrations at Department of Soil Science, The Islamia University of Bahawalpur, to appreciate the efforts in this regard.



## International Seminar “Balanced Fertilizer Application is Key to Farming Success”

An international seminar on “Balanced Fertilizer Application is Key to Farming Success” was Organized by Soil Fertility Research Institute, Punjab on 28th of January, 2023. On the occasion of “Khad Mela and Pakistan Horti Expo 2023”

Secretary Agriculture Punjab, Mr. Ahmad Aziz Tarar inaugurated the “Khad Mela and Pakistan Horti Expo 2023” organized by the Agricultural Department.

As many as 45 delegations of importers and exporters from 9 countries (Saudi Arabia, Mauritius, Sri Lanka, South Africa, Kenya, Bahrain, Tajikistan, Kazakhstan and Russia) participated in this international exhibition and more than 100 stalls were set up in The Expo Centre Lahore, where horticultural products and technology were showcased.

The Secretary Agriculture, while talking to the media said that the government of Punjab has top priority in development of agricultural sector and farmers' well-being. This exhibition was opportunity in order to increase the exports of fruits, vegetables and other products by utilizing mutual experiences and technology. Through this International exhibition, Pakistani exporters would have easy access to international markets and would be able to earn foreign exchange for the country.

He further said that I was happy that the extraordinary interest of domestic and foreign industrialists, farmers, importers and exporters had come out in this exhibition. By organizing the Pakistan Horti Expo, the world would get awareness about the agriculture sector of Pakistan.

On this occasion, South Punjab Agriculture Secretary Faisal Zahoor, while talking to the media, said that organizing such an exhibition makes communication easier for farmers, domestic and international companies, processors, importers and exporters. Holding such exhibitions in South Punjab also was the need of the hour to increase agricultural exports.

On this occasion, the mobile app “Khad Hisab” developed by Soil Fertility Research Institute, Punjab was also formally inaugurated.

The Chief Scientist Soil Fertility Research Institute, Punjab told the media that through the mobile app, farmers could get guidance for balanced application of nitrogen, phosphorus and potash fertilizers according to their budget, which would increase crop per acre yield and reduce cost of production.

The model and poster competitions were also held on this occasion. The shields and cash prizes were distributed amongst the position holders.



Position	Poster Title	Affiliation
1 <sup>st</sup>	Crop nutrient indexation of light texture soils of district Layyah, Punjab, Pakistan	SWTL Layyah
2 <sup>nd</sup>	Physico-chemical properties and fertility status of district Rahim Yar Khan, Punjab, Pakistan And Exploration of soil characteristics of district Chakwal in agricultural perspective	SWTL, RYK SWTL Chakwal
3 <sup>rd</sup>	Enhancement of anaerobic digestion of cow manure through inoculation under mesophilic conditions	Directorate, SFRI, LHR

## Promotions

Dr. Muhammad Arif Ali, previously working as Associate Professor of Soil Science has been promoted and joined the Department of Environmental Science, Bahaudin Zakariya University Multan as Professor of Environmental Sciences.

## PhD Degree

Mr. Muhammad Naeem Akhtar S/O Muhammad Hussain, Scientific Officer, Soil and Water Testing Laboratory, Multan, has successfully completed his PhD degree from the Department of Soil & Environmental Sciences, Faculty of Agriculture and Environmental Science, MNS University of Agriculture, Multan. His PhD thesis research was on "Characterization of cotton germplasm for potassium uptake and its role in drought tolerance" under the supervision of Prof. Dr. Tanveer Ul Haq, Chairman, Department of Soil & Environmental Sciences, Faculty of Agriculture and Environmental Science, MNS University of Agriculture, Multan.



## Appointment

**Mr. Siraj Ahmed**, has been appointed as Soil Conservation Officer (BPS-17) at Forest and Wild Life Department, Lasbela Uthal Balochistan.

**Mr. Abdul Wahab, Mr. Muneer Ahmed, Mr. Bilal Ahmed, Mr. Gul sher, Mr. Zahoor Ahmed Kakar, Mr. Abdul Waheed, Mr. MisbahUllah, Mr. Shafiq Ur Rehman, Mr. Dad Jan, Ms. Nazish Ranna, Mr. AsfandYar**, has been appointed as Research Officer (BPS-17) in Agriculture Department, Research Wing, Balochistan.

## Condolence

**Prof. (Rtd.) Dr. Muhammad Khalid**, Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad has passed away after a brief illness. On behalf of the Soil Science community, the Soil Science Society of Pakistan expresses deep sympathy and condolences to the bereaved family. May his soul rest in eternal peace in Jannah!

**Mr. Muhammad Amir Rao**, Scientific Officer, Soil and Water Testing Laboratory, Lodhran has passed away. Soil Science Society of Pakistan expresses deep sympathy and condolences to the bereaved family. May his soul rest in eternal peace in Jannah!



Prof. (Rtd.) Dr.  
Muhammad Khalid –Late

## Charge Assumption

Dr. Safdar Bashir, Associate Professor, Department of Soil and Environmental Sciences, Ghazi University has assumed the additional charge of Project Director, Ghazi University, Dera Ghazi Khan.

The academic council of the Ghazi University, in its 6<sup>th</sup> meeting has principally approved to upgrade the Department of Soil and Environmental Sciences into "School of Earth and Environmental Sciences". The case has been further submitted for approval from Syndicate.



## Retirement

**Mr. Mhammad Arshad Azad**, Principal Scientist, Pesticide Quality Control Laboratory, Bahawalpur has retired from government services on March 10, 2023 after attaining the age of superannuation. We pray for good health & prosperous retired life.

## Scholarships

### 1-Hungary Government (Stipendium Hungaricum) Scholarships

Description: Hungary Government (Stipendium Hungaricum) Scholarships 2024 is open for International Students . The scholarship allows Masters level programm(s) in the field of All Subjects taught at Hungary Universities . The deadline of the scholarship is OPEN.

Weblink: <https://www.scholarshipsads.com/hungary-government-stipendium-hungaricum-scholarships-2024/>.

### 2-Without Ielts 100% Scholarships In Italy For Pakistani Students

Description: Without Ielts 100% Scholarships in Italy for Pakistani students is available to undertake Masters, PhD, Bachelor level programs at Italy Universities in All subjects.

Weblink: <https://www.scholarshipsads.com/without-ielts-100-scholarships-in-italy-for-pakistani-students/>.

## Upcoming Events:

**1- Soil Science Society of Pakistan (SSSP)** in collaboration with Pakistan Science Foundation is organizing National Seminar on "Innovative Technologies for Soil Management under Changing Climate".

Venue: COMSATS University Islamabad, Abbottabad Campus

Date: June 15th, 2023

**2- Abstract Submission and Oral Presentation** in the annual meeting of Soil Science Society of America (SSSA), American Society of Agronomy (ASA), Crop Science Society of America (CSSA) at St. Louis, USA

ABSTRACT SUBMISSIONS ARE OPEN THROUGH JUNE 13

### 3- Student Annual Meeting Travel Grants:

**a. Graduate Student Leadership Conference:** Develop leadership skills through dedicated sessions, including professionalism, leadership styles, communications/networking, and ethics. Attendees also have networking opportunities with other grad students, Society leadership, and industry representatives. Apply by Jul 27.

**b. Graduate Student Travel Grant:** These funds will be awarded to a select number of qualified students who plan to present research at the 2023 meeting in Baltimore and need additional financial assistance to attend the Annual Meeting. Apply by Jul 27.

<https://www.soils.org/membership/divisions/soil-physics-and-hydrology/robert-luxmoore-travel-award/>.

### 4- Diversity Research Poster Session for graduate students by SSSA, ASA CSSA:

The Diversity Poster Contest is open to students who self-identify as members of a group historically underrepresented or marginalized in the sciences or civic discourse. To participate, submit your abstract to the appropriate scientific session AND click the DEI poster contest checkbox on the abstract submission's "Title" step. For details of topics please check following link:

<https://www.acsmeetings.org/files/meetings/student-competition-descriptions.pdf>

### 5- XXIII Latin-American Congress of Soil Sciences (XXIII CLACS)

Sunday, 30<sup>th</sup> July, 2023 to Friday, 4<sup>th</sup> August, 2023

Location: Florianópolis, Brasil

Website: [www.slcs.org.mx](http://www.slcs.org.mx)

Facebook <https://www.facebook.com/clacs.cbcs2021>

### 6- 31<sup>st</sup> Congress of the Soil Science Society of Poland - "Soil in a changing World"

Monday, 11<sup>th</sup> September, 2023 to Saturday, 16<sup>th</sup> September, 2023

Location: Poznań, Poland - Format: in-person

## Editorial Committee

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