

DR. TAHIR SARWAR

Professor & Chairperson

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RESEARCH INTEREST:

Deficit Irrigation, Water Quality Assessment, Agro-Climatic Zoning, Performance Evaluation of Irrigation and Drainage Systems, Crop Water Productivity, Water Harvesting, RS/GIS Applications in Agriculture and Water Resources Management

EDUCATION:

- 2008 – 2009 **Post Doctorate**, University of Nebraska – Lincoln, USA
- 1993 – 1995 **PhD Water Resources**, Iowa State University, USA
- 1990 – 1992 **M.Sc. (Hons) Agriculture** (Water Management), NWFP Agricultural University, Peshawar, Pakistan
- 1985 – 1989 **B.Sc. (Hons) Agriculture** (Water Management), NWFP Agricultural University, Peshawar, Pakistan

TRAININGS / SHORT COURSES ATTENDED:

S. No.	Title of Training / Short Course	Duration	Sponsor / Organizer
1.	Remote Sensing Applications in Water Management	01 week	Department of Water Management, The University of Agriculture, Peshawar, Pakistan
2.	Application of GIS and Remote Sensing to Mountain Agriculture and Land Use Management	04 weeks	International Centre for Integrated Mountain Development (ICIMOD), Nepal
3.	Hydrological Modeling Training Course.	01 week	Pakistan Forest Institute, Peshawar, Pakistan
4.	GIS and its Application to Irrigation Management.	03 weeks	International Water Management Institute (IWMI), Lahore, Pakistan
5.	Soil and Water Conservation.	12 days	Wageningen Agricultural University, The Netherlands
6.	Irrigation Delivery Scheduling.	06 weeks	Wageningen Agricultural University, The Netherlands
7.	Training of Trainers	06 days	Pakistan Academy of Rural Development.

8.	Agro-Meteorology	10 days	Wageningen Agricultural University, The Netherlands
9.	Preparation of ADP/Project Formulation & Appraisal & Responsibilities Thereof	01 week	Staff Training Institute Peshawar, Pakistan (One Week)
10.	W/C, P.L.L. and Irrigation Agronomy	03 months	On-Farm Water Management Training Center, D. I. Khan, Pakistan
11.	Object-Oriented Planning Skills	03 days	United Nations Office for Project Services (UNOPS) and National Drainage Program Training Project (NDPTP), NWFP
12.	Issues and Challenges in Agricultural Education, Research and Environment in the next Millennium	05 days	NWFP Agricultural University Peshawar.
13.	Innovative Technologies and Sustainable Development in Agriculture	04 days	The University of Agriculture Peshawar
14.	Project Formulation	02 days	Agricultural University Peshawar

DISTINCTIONS / AWARDS RECEIVED:

1. **Postdoctoral Fellowship** (2008-2009), Higher Education Commission, Islamabad, Govt. of Pakistan
2. **Research Excellence Award** (1995) for outstanding research accomplishments at the Iowa State University, U.S.A.
3. **Merit Scholarship** (1993-1995) for PhD studies (USA), Ministry of Education, Govt. of Pakistan,
4. **First Position in M.Sc. (Hons)** (1992), Dept. of Water Management, NWFP Agricultural University, Peshawar, Pakistan
5. **First Position in B.Sc. (Hons)** (1989), Dept. of Water Management, NWFP Agricultural University, Peshawar, Pakistan
6. **Bronze Medal in B.Sc. (Hons)** (1989) for obtaining third position in the NWFP Agricultural University, Peshawar, Pakistan

PROFESSIONAL EXPERIENCE:

Nov. 2024 – Present	Chairperson , Dept. of Water Resources Management, The University of Agriculture, Peshawar, Pakistan
Jan. 2010 – Present	Professor , Dept. of Water Resources Management, The University of Agriculture, Peshawar, Pakistan

Feb. 2020 – Nov. 2021	Director, Quality Assurance , The University of Agriculture, Peshawar, Pakistan
Apr. 2019 – Nov. 2020	Chairman (Sports Board) , The University of Agriculture, Peshawar, Pakistan
Jan. 2016 – Jan. 2019	Chairman , Dept. of Water Resources Management, The University of Agriculture, Peshawar, Pakistan
Jul. 2014 – Jan. 2016	Chief Editor , Sarhad Journal of Agriculture, The University of Agriculture, Peshawar, Pakistan
Jan. 2009 – Dec. 2009	Associate Professor , Dept. of Water Management, NWFP Agricultural University Peshawar, Pakistan
Jan. 2008 – Dec 2008	Postdoctoral Research Fellow , CALMIT, School of Natural Resources, University of Nebraska-Lincoln, USA
Jan. 2005 – Dec. 2007	Associate Professor , Dept. of Water Management, NWFP Agricultural University Peshawar, Pakistan
Sept. 2000 – Dec. 2004	Assistant Professor , Dept. of Water Management, NWFP Agricultural University Peshawar, Pakistan
Feb. 1997 – Aug. 2000	Lecturer , Dept. of Water Management, NWFP Agricultural University Peshawar, Pakistan
Dec. 1990 – Jan. 1997	Water Management Officer , Directorate of On-Farm Water Management, Govt. of NWFP, Pakistan

SHORT TERM ASSIGNMENTS / CONSULTANCIES COMPLETED:

<i>S. No.</i>	<i>Title of Training</i>	<i>Duration</i>	<i>Sponsor</i>	<i>Involvement</i>
1.	Irrigation Agronomy, Agro-Ecological Zoning and Economics of Crop Production	Two days	KP-IAIP, OFWM	Resource Person
2.	Refresher Course on Drip and Sprinkler Irrigation Systems	Two days	KP-IAIP, OFWM	Resource Person
3.	Design, Installation and Operation of Drip Irrigation System	Three days	KP-IAIP, OFWM	Resource Person
4.	Irrigation Agronomy-II	Three days	KP-IAIP, OFWM	Resource Person
5.	Design, Installation and Operation of Drip Irrigation System	Three days	KP-IAIP, OFWM	Resource Person
6.	Irrigation Agronomy-I	Three days	KP-IAIP, OFWM	Resource Person
7.	Crop Water Requirement, Irrigation Scheduling and Surface Irrigation Design	Two weeks	PARD	Resource Person

8.	Irrigation Operation & Management	One week	NDP	Resource Person
9.	Watercourse Design and Improvement for Water Management Officers	One month	FATA	Coordinator and Resource Person
10.	Watercourse Design and Improvement for Water Management Officers	Three weeks	OFWM	Resource Person
11.	Water Management for Field Assistants	Two weeks	FATA	Resource Person
12.	Watercourse Improvement for Sub-Engineers	Three weeks	OFWM	Resource Person
13.	Watercourse Design and Improvement for Social Organizers	One month	FATA	Coordinator and Resource Person
14.	Watercourse and Water Storage Tank Design for Water Management Officers of Balochistan Agric. Dept.	One week	FAO	Coordinator and Resource Person
15.	Crop Substitution	Three days	PARD	Resource Person
16.	Sustainable Use of Water Resources	One month	USAID	Resource Person
17.	Irrigation Infrastructure Development and Water Management Practices	One month	USAID	Resource Person
18.	Local Water Harvesting Technologies and Management Systems	Three days	IUCN, Balochistan	Resource Person
19.	Equity in Water Distribution at Farm Level	Three days	UNOPS	Resource Person
20.	Efficient Water Application Techniques	01 week	SACAN	Resource Person
21.	Watercourse and Water Storage Tank Design	06 days	FAO-AZRC, Quetta	Resource Person
22.	Water Requirement: High Delta vs Low Delta Crops	01 day	PARD	Resource Person
23.	Use of High Efficiency Irrigation System for Optimization of Agriculture	01 day	PARD	Resource Person
24.	Efficient Irrigation System and Rural Development	01 day	PARD	Resource Person
25.	Rainwater Harvesting	01 day	P&D, AUP	Resource Person
26.	Curriculum Development- Integrated Water Resources Management and Participatory Irrigation Management	03 days	Mehran Univ. of Engg. & Tech., Jamshoro	Resource Person
27.	Water requirement of major crops for different agro-ecological zones of Balochistan	Book	IUCN Water Programme, Balochistan	Reviewer

COURSES TAUGHT

POSTGRADUATE

- Remote Sensing and its Applications
- Sprinkle and Tickle Irrigation
- Water Quality Management
- Climate Change and Water Resources
- Water Harvesting
- Optimal Use of Water
- Applied Hydrology
- Special Topics in Water Management
- Irrigation System Layout

UNDERGRADUATE

- GIS and its Applications
- Irrigation Water Quality
- Agricultural Drainage
- Soil Water Plant Relationship
- Fundamentals of Water Management
- Hydrology Surveying and Levelling
- Irrigation Scheme Development

COMPUTER SKILLS

Hydrological Models

- HEC-RAS
- SWAT

Remote Sensing & GIS:

- Erdas Imagine
- ENVI
- SNAP
- ArcGIS
- METRIC

DSS Models:

- CROPWAT
- AQUA CROP
- Drainmod

Statistical Models

- SAS
- SPSS

General:

- Windows 10
 - Microsoft Office
 - WinSRFR
 - IrfanView
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RESEARCH SUPERVISED:

- 05 Ph.D. scholars as Major Supervisor / Member Supervisory Committee
- 30 M.Sc. (Hons) students as Major-Supervisor/Chairman Supervisory Committee:
- 20 M.Sc. (Hons) students as Co-Supervisor/Member Supervisory Committee:
- 25 B.Sc. (Hons) students as Internship Supervisor

RESEARCH AND ACADEMIC GRANTS EARNED:

S. No.	Title of Project	Budget (Million Rs.)	Duration	Funding Agency	Involvement (PI/Co-PI)
1.	The effect of climate change on rainfall pattern and existing rainwater management in Khyber Pakhtunkhwa	2.495	04 months	NCA actailiance	PI
2.	Evaluation of Spatio-temporal changes in water logging and salinity of SCARP Mardan using GIS and GPS	0.200	2 years	HEC	PI
3.	Strengthening the Department of Water Resources Management at AUP	36.000	2 years	HEC	PC-I Preparation
4.	Strengthening & Development of NWFP Agricultural University Peshawar (Water Management Component)	3.600	3 years	HEC	PC-I Preparation
5.	Economizing on-farm consumptive water budget of sole and mix forage cultivation	0.200	2 Years	HEC	Co-PI
6.	Management of small scale water logging and salinity in major irrigated areas of NWFP	4.475	3 years	NDP	Co-PI
7.	Evaluation and development of appropriate water harvesting technologies	0.255	2 years	PCRWR	Co-PI
8.	A case study for alleviation of small scale water logging and salinity problem in Peshawar valley	0.253	2 years	PCRWR	Co-PI

PUBLICATIONS:

A. Publications in Peer Reviewed Journals:

1. Zakariya, K.M, T. Sarwar, H. U. Farid, R. Albano, M. A. Inam, M. Shoaib, A. Ahmad, M. Ahmad. 2025. Land use land cover (LULC) mapping for assessment of urbanization impacts on cropping patterns and water availability in Multan, Pakistan. *Earth*. 6(3): 79.
2. Jehan, S., T. Sarwar, Naveedullah, S. K. Khattak and M. Jamal Khan. 2024. Climate Change and its Impact on Water Resources of Selected Areas in District Chitral with High Climatic Vulnerabilities. *Sarhad J. Agric.*, 40 (4): 1424-1435.
3. Javed, T., T. Sarwar, I. Ullah, S. Ahmad, and S. Rashid. 2019. Evaluation of groundwater quality in District Karak, Khyber Pakhtunkhwa, Pakistan. *Water Science*. 33 (1):1-9. DOI: 10.1080/11104929.2019.1626630
4. Razaq, A., M. J. Khan, T. Sarwar and M. J. Khan. 2019. Influence of deficit irrigation, sowing methods and mulching on yield components and yield of wheat in semiarid environment. *Pak. J. Bot.* 51(2): 553-560. DOI: 10.30848/PJB2019-2(12)
5. Khan, M., M. J. Khan, T. Sarwar, and M. J. Khan. 2018. Simulation of nitrate leaching under different irrigation deficit and nitrogen levels in tomato crop using HYDRUS 1-D. *Sarhad J. Agric.* 35(1): 126-133. <http://dx.doi.org/10.17582/journal.sja/2019/35.1.126.133>
6. Hashmi, Z. U., M. J. Khan, M. Akhtar, T. Sarwar and M. J. Khan. 2016. Enhancing phosphorus uptake and yield of wheat with phosphoric acid application in calcareous soil. *J. Sc. Food Agric.* DOI: 10.1002/jsfa.7921 (Impact Factor: 2.076)
7. Ullah, Sana, M. Farooq, T. Sarwar, M. J. Tareen, M. A. Wahid. 2016. Flood modeling and simulations using hydrodynamic model and ASTER DEM: A case study of Kalpani River. *Arabian J. Geosciences*. (DOI 10.1007/s12517-016-2457-z) (Impact Factor 1.224)
8. Rabnawaz, M. J. Khan, T. Sarwar and M. J. Khan. 2015. Comparative Study of Crop Water Productivity at Farm Level under Public and Civil Canal Irrigation Systems in Peshawar, Pakistan. *Sarhad J. Agric.* 31(3): 175-182. <http://dx.doi.org/10.17582/journal.sja/2015/31.3.175.182>
9. Azad, R. W. A., Sarwar, T. 2014. Effect of watercourse aging on conveyance efficiency and water productivity in District Muzafarabad, Azad Jammu and Kashmir. *Sarhad Journal of Agriculture*, 30(4): 466-471.
10. Razaq, A. M. J. Khan, T. Sarwar and M. J. Khan. 2015. Effect of sowing methods and mulching on weed density on wheat crop under deficit irrigation. *Pak. J. Weed Sci. Res.* 21 (2): 239-246.
11. Sarwar, T. and N. Muhammad. 2008. Effect of enhanced water allowance on the performance of tile drainage system at Shahbaz Ghari Pilot Project area of Swabi SCARP. *Sarhad Journal of Agriculture*. 24 (1): 59-67
12. S. M. Bilal and T. Sarwar. 2008. Effect of tube well drainage on water logging and salinity in Kafur Dheri Unit Peshawar. *Sarhad Journal of Agriculture*. 24 (1): 49-58
13. Sarwar, T., S. M. Bilal, M. J. Khan and J. Tariq and Naveedullah. 2007. Management of small-scale waterlogging through surface drain maintenance. *Sarhad Journal of Agriculture*. 23 (2): 400-405
14. M. J. Khan, T. Sarwar, A. Shahzadi, and A. Malik. 2007. Effect of different irrigation schedules on water use and yield of wheat. *Sarhad Journal of Agriculture*. 23 (4): 1055-1060
15. Zokaib, S. and T. Sarwar. 2006. Effect of land use on runoff and erosion at Hilkot watershed (Mansehra). *Journal of Engineering & Applied Sciences*. 25 (1): 77 – 94.

16. Zokaib, S., T. Sarwar and M. Jehangir. 2005. Study of stage-discharge relationship and stream erosion in sub-catchments of Hilkot watershed (Mansehra). *Journal of Engineering & Applied Sciences*. 24(1): 53–58.
17. Bilal, S. M. and T. Sarwar. 2005. Farmers perception about operation of irrigation and drainage systems and privatization of tube wells in Kafur Dheri Peshawar. *Sarhad Journal of Agriculture*. 21(1):83-88.
18. Zokaib, S., and T. Sarwar. 2004. Land use and local water harvesting practices at Hilkot watershed (Mansehra). *Sarhad Journal of Agriculture*. 20(3): 435-440.
19. Sarwar, T. 2003. Shallow water table depth and its effect on soil oxygen concentration and soybean yield: Lysimeter study. *Journal of Engineering and Applied Sciences*. 22(1): 11-19.
20. Ilyas, A., and T. Sarwar. 2003. Assessment of physico-chemical and biological quality of drinking water in the vicinity of Palosi drain Peshawar. *Pakistan Journal of Applied Sciences*. 3(1): 58-65
21. Ilyas, A., and T. Sarwar. 2003. Study of trace elements in drinking water in the vicinity of Palosi drain, Peshawar. *Pakistan Journal of Biological Sciences*. 6(1): 86-91.
22. Hussain, S. A., T. Sarwar, M. I. Lone, R. Roohi and F. S. Hamid. 2003. Effect of different soil moisture conservation practices on evapotranspiration and growth of young Tea plants. *Asian Journal of Plant Sciences*. 2(2): 188-191.
23. Sarwar, T. 2002. Physiological response of soybean to shallow water table depths. *Pakistan Journal of Biological Sciences*. 5 (12): 1300-1308.
24. Sarwar, T., A. Javed. and M. Tariq. 2002. Impact of Tile drainage on soil and water quality in Mardan SCARP area. *Asian Journal of Plant Sciences*. 1(4): 484-488.
25. Sarwar, T. F. A. Kiyani and M. J. Khan. 2001. On-Farm Irrigation Evaluation of Sugarcane Fields at Civil Canal in NWFP. *Sarhad Journal of Agriculture*. 17(2): 153 – 158.
26. Sarwar, T., M. Jehangir and M. J. Khan. 2001. Effect of watercourse maintenance and variable discharges on conveyance losses and water distribution. *Sarhad Journal of Agriculture*. 17(3): 388–394.
27. Sarwar, T., and M. J. Khan. 2001. Agricultural impact of SCARP projects in NWFP. *Sarhad Journal of Agriculture*. 17(4): 587 - 593.
28. Sarwar, T., S. I. Hussain and M. J. Khan. 2001. Performance evaluation of a composite pipe drainage System of Swabi SCARP. *Sarhad Journal of Agriculture*. 17(4): 595 – 600.
29. Hussain, S. A., M. I. Lone, T. Sarwar and F. S. Hamid. 2001. Farmers' perception about Tea cultivation in Tea growing areas of District Mansehra. *Pakistan Journal of Arid Agriculture*. 4(1-2):91-95
30. Ahmad, N, T. Sarwar and M. Ahmad. 1999. Evaluation of water management practices at three outlets of Kurvi Branch of Kabul River Canal System. *Sarhad Journal of Agriculture*. 15(4): 275-281.
31. Sarwar, T. and R. S. Kanwar. 1996. NO₃-N and metolachlor concentrations in the soil water as affected by water table depths. *Transactions of the ASAE*. 39(6): 2119-2129. (Impact Factor 0.895)

B. Publications in Workshop / Seminar Proceedings:

1. Sarwar, T., S. M. Bilal, M. J. Khan and J. A. Tariq. 2004. Management of small-scale water logging through surface drain maintenance. *Proceedings of the Third National Seminar on "Drainage in Pakistan"* held on June 7-8, 2004 at the NWFP Agricultural University Peshawar – Pakistan.
2. Khan, M.J., M.J. Khattak, T. Sarwar and J. A. Tariq. 2004. Effect of different management strategies on wheat yield under saline-sodic soil condition. *International Seminar on "Hydrosalinity Mitigation for Efficient Water Resources Management"* held on September 20 – 25, 2004. Centre of Excellence in Water Resources Engineering, Lahore – Pakistan.
3. M. J. Khan, Naveed Ullah, M. J. Khan, T. Sarwar and S. M. Bilal. 2004. Effect of different management strategies on Wheat yield under water logged soil conditions. *Proceedings of the Third National Seminar on "Drainage in Pakistan"* held on June 7-8, 2004 at the NWFP Agricultural University Peshawar – Pakistan.
4. Khan, M. J. and T. Sarwar. 2001. Effect of rainfall and irrigation on watertable depths and drainage coefficients in SCARP Mardan. *Proceedings of the 2nd National Seminar on Drainage in Pakistan*. April 18-19. Dept of Irrigation Drainage. University of Agriculture, Faisalabad, Pakistan.
5. Khan, M. J., H. M. Rust and T. Sarwar. 1997. Agricultural Impact assessment of subsurface tile drainage system of SCARP Mardan. In *"Water Management in N.W.F.P."* ed. D. H. M. Rust, E.J.V. Velde and H. Rehman. NWFP Agricultural University, Peshawar, Pakistan.
6. Halsema, G. E. van, T. Sarwar, and Z. Khan. 1997. Water supply and crop water requirements in selected units of Pabbi and Sheikh Yousaf Minors. In *"Water Management in N.W.F.P."* ed. D. H. M. Rust, E.J.V. Velde and H. Rehman. NWFP Agricultural University, Peshawar, Pakistan.
7. Khan, M. J., T. Sarwar, N. Ahmad and M. Tariq. 1992. Soybean yield and water use response to different moisture stress and fertilizer levels. *Proceeding of International Conference on "Supplementary Irrigation and Drought Water Management"*. Vol. 3 (Sept. 27 to Oct. 02 1992), Valenzano-Bari, Italy.

CONVENER / MEMBER OF COMMITTEES:

1. *Convener, Board of Studies for the Department of Water Management (2016 to 2018, 2024 to date)*
2. *Convener, Goods Procurement Committee (March 2019 – Aug. 2021)*
3. *Chief Editor, Sarhad Journal of Agriculture (2014 – 2015)*
4. *Convener, University Admission Test Committee (2017 – 2019)*
5. *Member, Editorial Board, Sarhad Journal of Agriculture (2016 to 2019)*
6. *Member, Advanced Studies & Research Board (2015 to 2021)*
7. *Member, Board of Faculty, Crop Production Sciences (2010 to date)*
8. *Member, Board of Faculty, Crop Protection Sciences (2017 to 2018)*
9. *Member, Board of Studies in Water Management (2005 to date)*
10. *Member, Board of Studies in Agricultural Mechanization (2016 to date)*
11. *Member, Board of Studies of Environmental Sciences, COMSATS, Abbottabad (2015 to date)*
12. *Convener, National Curriculum Revision Committee (NCRC) in Water Management (2010, 2014)*

13. *Member, Selection & Promotion Committee (2015 to 2018)*
14. *Member, Selection Committee, AUPS&C (2015 to 2017)*
15. *Member, Faculty Admission Committee (FAC), Department of Water Management (2010 to date)*
16. *Member, Academic Council (2017 to date)*
17. *Member, TTS Cases Evaluation Committee (2016 – 2019)*
18. *Convener / Member, Enquiry Committees (2014 to date)*
19. *Convener, Ethics Committee, WRM (2022 to date)*

REFERENCES

Available upon request