

## Muhammad Zaman

Name **Muhammad Zaman**  
Father's Name **Munawar Hussain**  
Date of Birth **30-10-1985**  
Nationality **Pakistani**  
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Email Address **[mzimni85@gmail.com](mailto:mzimni85@gmail.com) / [muhammad.zaman@uaf.edu.pk](mailto:muhammad.zaman@uaf.edu.pk)**  
Postal Address **Department of Irrigation and Drainage, University of Agriculture, Faisalabad, Pakistan**

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### Professional Affiliation:

- Member Pakistan Engineering Council # Agri 3152
- Associate Professor in the Department of Irrigation and Drainage, University of Agriculture Faisalabad, Pakistan.
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### Education

- PhD in Hydraulic and Hydropower Engineering Sep 2012- Dec 2015  
Hohai University, P.R. China  
Hydrogeology, Remote Sensing, GIS, Climate Change,
- M.Sc Water Resources Engineering Sep 2010- June 2012  
University of Engineering & Technology, Lahore  
Flood mitigation, Flood mapping.
- B. Sc Agricultural Engineering Sep 2006-July 2010  
Univ. of Agriculture, Faisalabad, Pakistan

### Work Experience

- Associate Professor (Tenured, September 2024 to date)  
Department of Irrigation & Drainage, University of Agriculture, Faisalabad, Pakistan.
- Assistant Professor (July 2016 to September 2024)  
Department of Irrigation & Drainage, University of Agriculture, Faisalabad, Pakistan.  
Web: <http://www.uaf.edu.pk/employees.aspx?param=DEPT&id=13&id1=37>.
- Hydrological Engineer (December 2015 to July 2016)  
Shanghai Investigation, Design and Research Institute.

### Ph.D. Thesis

Research on the hydrological responses and adaptive operation of hydropower stations under climate change.

### M.Sc. Thesis

Evaluation of reported widespread Sutlej River flooding in district Kasur in 2011.

### Research Projects

1. Running an international project entitled “Study on the formation and conversion processes of water resources and sustainable use in the Indus Basin” under 18<sup>th</sup> Protocol on Scientific and Technological Cooperation between Pakistan and China-2020 as a **Principal Investigator**, a three-year project of worth **5.99 million (PKR)**.
2. Running a project entitled “Development of Tractor Mounted Mechanical Vegetable Nursery Transplanter (22-390)” under PARB-CGS funding as a **Principal Investigator**, a two-year project of worth **19.426 million (PKR)**.
3. Completed a project entitled “MULTI-TASKING MACHINE FOR PRECISION SOWING OF ROW CROPS” under HEC project Establishment of Technology Development Fund (TDF) 2nd call 2017-2018 as a **Principal Investigator**, a two-year project of worth **13.7 million (PKR)**.

4. Completed a project entitled “Investigation of Climate and anthropogenic impacts on run off characteristics in Pakistan awarded by Higher Education Commission of Pakistan” as a Co-PI, a one-year project of worth **0.476 million (PKR)**.

#### Book Chapter

1. Muzammal, H., Zaman, M., Safdar, M., Adnan Shahid, M., Sabir, M. K., Khil, A., ... & Zaib, A. (2024). Climate Change Impacts on Water Resources and Implications for Agricultural Management. In *Transforming Agricultural Management for a Sustainable Future: Climate Change and Machine Learning Perspectives* (pp. 21-45). Cham: Springer Nature Switzerland.
2. Raza A, Shahid MA, Safdar M, Zaman M, Sabir RM, Muzammal H, Ahmed MM. (2024) Impact of Land Use and Land Cover Change on Agricultural Production in District Bahawalnagar, Pakistan. *Environmental Sciences Proceedings*. 2024; 29(1):46. <https://doi.org/10.3390/ECRS2023-16644>
3. Qamar, Muhammad Uzair, Jianxun He, Muhammad Adnan Shahid, Muhammad Usman, Muhammad Zaman, Muhammad Azmat, and Saeid Eslamian. "Impact of Changing Climate on the Streamflow." In *Handbook of Climate Change Impacts on River Basin Management*, pp. 268-291. CRC Press.
4. Muzammal, H., M.D. Majeed, **M. Zaman**, M. Safdar, M.A. Shahid, Z. Maqbool and T. Majeed. 2023. Green Adsorbents for Water Purification. In: P.M.M.M. Elnashar and A.P.S. Karakuş (eds.). Intech Open, Rijeka. pp.Ch. 11
5. Raza, A., Shahid, M. A., Safdar, M., **Zaman, M.**, & Sabir, R. M. (2023). Applications of Sensors in High-Tech Agriculture. In A. Khang (Ed.), *Handbook of Research on AI-Equipped IoT Applications in High-Tech Agriculture* (pp. 271-294). IGI Global. <https://doi.org/10.4018/978-1-6684-9231-4.ch015>
6. Saifullah M, Liu S, Adnan M, Ashraf M, **Zaman M**, Hashim S, Muhammad S.(2020). Risks of Glaciers lakes outburst flood along China Pakistan Economic Corridor. In Intech Open.
7. Usman M., Liedl R., Zhang F., **Zaman M.** (2018) Groundwater Irrigated Agriculture Evolution in Central Punjab, Pakistan. In: Lichtfouse E. (eds). *Sustainable Agriculture Reviews*, vol 33. Springer, Cham.

#### Patent(s):

- Qamar MU, Tariq U, Jhan IZ, Munir H, Shahid MA, Zaman M (2019), Portable water flow monitoring system (Patent filed). Status: Correspondence in process.
- Zaman M, MJM Cheema, Umair M, Shahood SA, Ghafoor A, Shahid MA, Qamar MU, Khan U (2021), Multitasking Machine for Row Crops (Patent Filed. Status: Correspondence in process.

#### Journal Editor

Guest editor of Journal of water (Special Issue): Effects of Drought on Agriculture Water Resources and Crop Productivity.

#### Research Manuscripts (SCI/SCIE)

1. Raza, Aamir, Muhammad Adnan Shahid, Muhammad Zaman, Yuxin Miao, Yanbo Huang, Muhammad Safdar, Sheraz Maqbool, and Nalain E. Muhammad. "Improving Wheat Yield Prediction with Multi-Source Remote Sensing Data and Machine Learning in Arid Regions." *Remote Sensing* 17, no. 5 (2025): 774.
2. Chauhdary, J. N., Li, H., Pan, X., **Zaman, M.**, Anjum, S. A., Yang, F., ... & Azamat, U. (2025). Modeling effects of climate change on crop phenology and yield of wheat–maize cropping system and exploring sustainable solutions. *Journal of the Science of Food and Agriculture*.
3. Chen, Chao, Zawar Hussain, Junping Liu, **Muhammad Zaman**, and Muhammad Akhlaq. "Innovative technologies in sprinkler irrigation: An overview." *Agrociencia* (2024): 1-18.
4. **Zaman, M.**, Shahid, M. A., Ahmad, I., Shen, Y.-J., Usman, M., Khan, M. I., & Saifullah, M. (2023). Spatiotemporal variability of precipitation concentration in Pakistan. *International Journal of Climatology*, 1–21. <https://doi.org/10.1002/joc.8285>.

5. Zaman Muhammad, Khan M.Z, et al (2023). Evaluation of Root Zone Behavior and Cucumber Yield under Different Mulch Materials and Irrigation Schedules under Tunnel Farming in advances in agriculture. <https://doi.org/10.1155/2023/6435489>.
6. Wang, Y.; Shen, Y.-J.; **Zaman, M.**; Guo, Y.; Zhang, X. (2023) Accounting for Non-Stationary Relationships between Precipitation and Environmental Variables for Downscaling Monthly TRMM Precipitation in the Upper Indus Basin. *Remote Sens.* 2023, 15, 4356. <https://doi.org/10.3390/rs15174356>.
7. Saifullah, M., Li, Z., Liu, S., **Zaman, M.**, Adnan, M., Muhammad, S., Kunpeng, W., Ying, Y. and Hashim, S., 2023. Assessing the Impact of Land Use on Water Resources in the Dongwan Subbasin. *Geography and Natural Resources*, 44(1), pp.73-80.
8. Khan, M.I., Saddique, Q., Zhu, X., Ali, S., Ajaz, A., **Zaman, M.**, Saddique, N., Buttar, N.A., Arshad, R.H. and Sarwar, A., 2022. Establishment of Crop Water Stress Index for Sustainable Wheat Production under Climate Change in a Semi-Arid Region of Pakistan. *Atmosphere*, 13(12), p.2008.
9. Anjum, M.N., Ghanim, A.A., Farid, H.U., **Zaman, M.**, Niazi, U.M., Alsaiari, M.A. and Irfan, M., 2022. Assessment of Climate Change and Its Impacts on the Flows of a Subtropical River Basin in the Hindu-Kush Mountain, South Asia. *Pure and Applied Geophysics*, pp.1-17.
10. Ahmad, I., Wang, X., Waseem, M., **Zaman, M.**, Aziz, F., Khan, R.Z.N. and Ashraf, M., 2022. Flood Management, Characterization and Vulnerability Analysis Using an Integrated RS-GIS and 2D Hydrodynamic Modelling Approach: The Case of Deg Nullah, Pakistan. *Remote Sensing*, 14(9), p.2138.
11. Munir Z, Shrestha S, **Zaman M\***, Khan MI, Akram MM, Tahir MN (2022) Climate change impacts on wheat yield: a multi-modeling case study of central Punjab, Pakistan. *Clim Res* 87:13-37. <https://doi.org/10.3354/cr01678>.
12. Saifullah, M., Adnan, M., **Zaman, M.**, Wałęga, A., Liu, S., Khan, M. I., ... & Muhammad, S. (2021). Hydrological response of the Kunhar River basin in Pakistan to climate change and anthropogenic impacts on runoff characteristics. *Water*, 13(22), 3163.
13. Adnan, M., Kang, S., Saifullah, M., Liu, S., Zhang, G., Zhao, Q., ... & **Zaman, M.** (2021). Prediction of changes in water balance of Nam Co Lake under projected climate change scenarios. *Hydrological Sciences Journal*, 66(11), 1712-1727.
14. Saifullah, M., Liu, S., Adnan, M., **Zaman, M.**, Muhammad, S., Babur, M., Zhu, Y. and Wu, K., 2021. Assessment of Spatial and Temporal Pattern of Hydrological Droughts in the Upper Indus Basin, Pakistan. *Polish Journal of Environmental Studies*, 30(5), pp.4633-4645.
15. Iqbal U, Ahmad I, **Zaman M**, Khan N M, Sarwar (2020). Performance evaluation of micro sprinkler irrigation system in tunnel farms and open area conditions. *fresenius environmental bulletin*, Volume 30– No. 03/2021 pages 2888-2898.
16. **Zaman, M.**; Ahmad, I.; Usman, M.; Saifullah, M.; Anjum, M.N.; Khan, M.I.; Uzair Qamar, M. Event-Based Time Distribution Patterns, Return Levels, and Their Trends of Extreme Precipitation across Indus Basin. *Water* **2020**, 12, 3373.
17. Haider, H.; **Zaman, M\***; Liu, S.; Saifullah, M.; Usman, M.; Chauhdary, J.N.; Anjum, M.N.; Waseem, M (2020). Appraisal of Climate Change and Its Impact on Water Resources of Pakistan: A Case Study of Mangla Watershed. *Atmosphere* **2020**, 11, 1071.
18. Khan, M. I., Zhu, X., Arshad, M., **Zaman, M.**, Niaz, Y., Ullah, I., ... & Uzair, M. (2020). Assessment of spatiotemporal characteristics of agro-meteorological drought events based on comparing Standardized Soil Moisture Index, Standardized Precipitation Index and Multivariate Standardized Drought Index. *Journal of Water and Climate Change*, 11(S1), 1-17.
19. Chauhdary, Arshad, Bakhsh, Rizwan, Nawaz, **Zaman, M**; Awais, Arsalan & Azhar (2020), Impact assessment of precision agriculture and optimization of fertigation for corn growth, *Pak. J. Agri. Sci.*, Vol. 5x(X), xxx-xxx; 20xx. DOI: 10.21162/PAKJAS/20.9305.
20. Usman, M., Qamar, M.U., Becker, R., **Zaman, M.**, Conrad, C., Salim, S., (2019). Numerical modelling and remote sensing-based approaches for investigating groundwater dynamics

- under changing land-use and climate in the agricultural region of Pakistan, *Journal of Hydrology* (2019), doi: <https://doi.org/10.1016/j.jhydrol.2019.124408>.
21. Naveed Anjum, M, Ahmad, I. Ding, Y, Shangguan, D. **Zaman, M**, et al. (2019), Assessment of IMERG-V06 Precipitation Product over Different Hydro-Climatic Regimes in the Tianshan Mountains, North-Western China, *Remote Sens.* 2019, 11, 2314; doi:10.3390/rs11192314.
  22. Saifullah, M.; Liu, S.; Tahir, A.A.; **Zaman, M.** et al (2019). Development of Threshold Levels and a Climate-Sensitivity Model of the Hydrological Regime of the High-Altitude Catchment of the Western Himalayas, Pakistan. *Water* **2019**, *11*, 1454.
  23. Adnan M, Kang S, Zhang G, Anjum M N, **Zaman M** and Zhang Y. (2019) Evaluation of SWAT Model performance on glaciated and non-glaciated sub basins of Nam Co Lake, Southern Tibetan Plateau, China. *Journal of Mountain Science* 16(). <https://doi.org/10.1007/s11629-018-5070-7>.
  24. Ahmad, I., Tayyab, M., **Zaman, M.**, Anjum, M. N., & Dong, X. (2019). Finite-Difference Numerical Simulation of Dewatering System in a Large Deep Foundation Pit at Taunsa Barrage, Pakistan. *Sustainability*, 11(3), 694.
  25. M. I. Nawaz C. W. Yi..... **Zaman M** (2019). Removal of nitrobenzene from wastewater by vertical flow constructed wetland and optimizing substrate composition using Hydrus-1D: optimizing substrate composition of vertical flow constructed wetland for removing nitrobenzene from wastewater. *Int. J. Environ. Sci. Technol.* (2019). <https://doi.org/10.1007/s13762-019-02217-6>.
  26. **Zaman, M.**, Naveed Anjum, M., Usman, M., Ahmad, I., Saifullah, M., Yuan, S., & Liu, S. (2018). Enumerating the Effects of Climate Change on Water Resources Using GCM Scenarios at the Xin'anjiang Watershed, China. *Water*, 10(10), 1296.
  27. Li, Y. Chandio, F, A..... **Zaman, M** (2018). Post harvesting technology: effects of moisture content and loading speed on shearing failure of paddy gains. *International Agricultural Engineering Journal*, Vol.27, No.3.
  28. **Zaman, M.**, Junping Liu Shouqi Yuan, Muhammad Usman, Ijaz Ahmad, Farman Ali Chandio, Muhammad Saifullah, Muhammad Usman Liaqat, and Muhammad Adnan. "Quantifying the effect of climate change on precipitation and temperature patterns by using variant of non-parametric techniques." *feb-fresenius environmental bulletin* (2017): 7419.
  29. **Zaman, M.**, Yuan, S., Liu, J., Ahmad, I., Sultan, M., Qamar, M. U., ... & Ali, I. (2018). Investigating hydrological responses and adaptive operation of a hydropower station under a climate change scenario. *Polish Journal of Environmental Studies*, 27(5), 2337-2348.
  30. Ahmad, I., Zhang, F., Tayyab, M., Anjum, M. N., **Zaman, M.**, Liu, J., & Saddique, Q. (2018). Spatiotemporal analysis of precipitation variability in annual, seasonal and extreme values over upper Indus River basin. *Atmospheric Research*, 213, 346-360.
  31. Ahmad, I., Zhang, F., Liu, J., Anjum, M. N., **Zaman, M.**, Tayyab, M., ... & Farid, H. U. (2018). A linear bi-level multi-objective program for optimal allocation of water resources. *PLoS one*, 13(2), e0192294 (SCI).
  32. Anjum, M.N., Ding, Y., Shangguan, D., Ahmad, I., Ijaz, M.W., Farid, H.U., Yagoub, Y.E., **Zaman, M.** and Adnan, M., 2018. Performance evaluation of latest integrated multi-satellite retrievals for Global Precipitation Measurement (IMERG) over the northern highlands of Pakistan. *Atmospheric Research*, 205, 134-146.
  33. Liaqat, M. U., Cheema, M. J. M., Huang, W., Mahmood, T., **Zaman, M.**, & Khan, M. M. (2017). Evaluation of MODIS and Landsat multiband vegetation indices used for wheat yield estimation in irrigated Indus Basin. *Computers and Electronics in Agriculture*, 138, 39-47. (SCI).
  34. Javed Q, Wu Y, Xing D, Azeem A and **Zaman M** (2017), Re-Watering: An effective measure to recover growth and photosynthetic characteristics in salt stressed Brassica napus in Chilean Journal of Agricultural Research. Vol 77, Issue 01. doi:10.4067/S0718-58392017000100010. (SCI).



35. Saifullah M, Li Z, Li Q, Hashim S and **Zaman M** (2016) Assessment the impacts of land surface change on the hydrological process based on similar hydro meteorological conditions with SWAT. Fresenius Environmental bulletin. Vol 25-No.8/2016, pages 3071-3082. (SCI).
36. **Zaman, M.**, Fang, G., Saifullah, M., & Javed, Q. (2016). Seasonal and annual precipitation trend prediction in Xin'anjiang China. Fresenius environmental bulletin, 25(1), 89-102. (SCI)
37. Saifullah M, Li Z, Li Q, **Zaman M** and Hashim S (2016) Quantitative Estimation of the Impact of Precipitation and Land Surface Change on Hydrological Processes through Statistical Modeling," Advances in Meteorology, vol. 2016, Article ID 6130179, pages 15,2016. doi:10.1155/2016/61301794. (SCI).
38. **Zaman, M.**, Fang G, Mehmood K, Saifullah M. Trend change study of climate variables in Xin'anjiang - Fuchunjiang watershed, China. Advances in Meteorology. 2015 Aug 13;2015. (SCI).
39. Saifullah, M., Li, Z., Li, Q., Hashim, S., & **Zaman, M.** (2015). Quantifying the hydrological response to water conservation measures and climatic variability in the Yihe River Basin, China. Outlook on AGRICULTURE, 44(4), 273-282. (SCI).

Accepted Research Manuscripts (EI, IEEE) with No Impact factor

1. Khanam H, Ali S, Zaman M, Shahid MA, Muzammal H, Khan MZ, Safdar M, Majeed MD. Integrated Water Resource Management Using Water Evaluation and Planning Model: A Case Study of Lower Bari Doab Canal, Pakistan. Environmental Sciences Proceedings. 2023; 25(1):55. <https://doi.org/10.3390/ECWS-7-14202>.
2. Muzammal, H., Zaman, M., Shahid, M.A., Safdar, M., Majeed, M.D., Sabir, R.M. and Azam, S., 2023. Climate Change Impacts on Monsoon Flood Situations in Pakistan. *Environ. Sci. Proc*, 5.
3. Imran M, Zaman M, Zahra M.S, Tasawar M, Misaal A.M and Azam S (2022). Impact of climate change on Ground water resources and adaptation strategies in Arid Zone. 2nd International Conference on Hydrology and Water Resources (ICHWR-22).
4. Sarmad M, Zaman M, Tasawar M, Imran M, Zahra M.S, Azam S and Shah H.I (2022). Impact of Ice-Melt on Hydrological Simulation of Upper Indus Basin. 2nd International Conference on Hydrology and Water Resources (ICHWR-22).
5. Azam S, Zaman M, Arshad M, Khan M.I, Zahra S.M and Imran M (2022). Trend Analysis of Extreme Precipitation Events: A Case Study of Indus Basin, Pakistan in 2nd International Conference on Hydrology and Water Resources (ICHWR-22).
6. Butter, N, A,....**Zaman, M.** et al (2019). Estimating sensible heat flux from Camellia sinensis using the Surface renewal method in 2019 Conference: ASABE 7-10 July 2019 at: BOSTON, USA.
7. Li, Y. Chandio, F, A.....**Zaman, M** (2018). Post harvesting technology: effects of moisture content and loading speed on shearing failure of paddy gains. International Agricultural Engineering Journal, Vol.27, No.3.
8. **Zaman M**, Yuan S, Liu J, Tan M, Xu J and Tian X (2018). Quantifying the irrigation performance of newly developed solar sprinkler irrigation system in 2018 10th International Conference on Information Management and Engineering (ICIME 2018) (EI).
9. **Zaman M**, Yuan S, Liu J, Ahmad I, Buttar N A, Saifullah M & Nawaz M I (2017). Optimization of Mangla hydropower station, Pakistan using optimization techniques in 2017 2nd International Conference on Mechatronics and Automation Technology (ICMAT 2017) (EI).
10. **Zaman M**, Yuan S, Liu J, Nawaz M I (2017). Optimal Hydropower Production of Xin'anjiang hydropower Station using Future Scenarios in 2017 European Conference on Electrical Engineering and Computer Science (EECS 2017) Bern, Switzerland, November 17-19, 2017(EI).
11. **Zaman M**, Yuan S, Liu J, Tan M, Xu J and Tian X (2018). Quantifying the irrigation performance of newly developed solar sprinkler irrigation system in 2018 10th International Conference on Information Management and Engineering (ICIME 2018) (EI).

12. **Zaman M**, Yuan S, Liu J, Ahmad I, Buttar N A, Saifullah M & Nawaz M I (2017). Optimization of Mangla hydropower station, Pakistan using optimization techniques in 2017 2nd International Conference on Mechatronics and Automation Technology (ICMAT 2017) (EI).
13. **Zaman M**, Yuan S, Liu J, Nawaz M I (2017). Optimal Hydropower Production of Xin'anjiang hydropower Station using Future Scenarios in 2017 European Conference on Electrical Engineering and Computer Science (EECS 2017) Bern, Switzerland, November 17-19, 2017(EI).
14. **Zaman M**, Gohua fang, Xianfeng Huang, Xu Shuo and Wen Xin, Optimization of the Xin'anjiang hydropower station by using PSO and GA in the 2014 10th IEEE, International Conference on Natural Computation (ICNC 2014). (IEEE).

#### Work Experience

1. Currently working as Associate Professor in Department of Irrigation and Drainage, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan from August 2024.
2. Worked as Assistant Professor in Department of Irrigation and Drainage, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, Pakistan from June 2016 to August 2024.
3. Worked as a Post Doctorate Researcher at Research Center of Fluid Machinery Engineering & Technology, Jiangsu University, P.R. China from April 2017 to October 2018.
4. Worked as a Senior Hydrologic Engineer in Shanghai Investigation Design and Research Institute (SIDRI, a subsidiary of China three gorges corporation) from December 2015 to June 2016 at Mahal Hydropower Project in Pakistan.
5. Worked in the College of Water Conservancy and Hydropower Engineering Hohai University as the Senior Research officer from January 2014 to January 2016.
6. Worked in the College of Water Conservancy and Hydropower Engineering Hohai University as a Research officer from September 2012 to December 2013.

#### PhD Thesis Ongoing Under My Supervision.

1. Engr. Mudasser Butt, Registration Number 2005-ag-2187.
2. Engr. Muhammad Umair, Registration Number 2010-ag-2306.
3. Engr. Hafsa Muzammal, Registration Number 2014-ag-4434.
4. Engr. Aysha Ali, Registration Number 2015-ag-6129.
5. Engr. Sidra Azam, Registration Number 2012-ag-3679.

#### Postgraduate Degree Students Supervised as a Supervisor.

- Engr. Shanza Akram (2024), Study of Spatiotemporal Variations in Monsoon Precipitation Patterns Based on Climate Change Indicators in Pakistan. (Registration Number: 2021-ag-200).
- Engr. Muhammad Usman (2023), Investigation of Monsoon Precipitation Patterns Variability across Upper Indus Basin Using Deep Learning Algorithm. (Registration Number: 2017-ag-7565).
- Engr. M. Bilal Ahmad (2023), Assessment of Spatiotemporal Characteristics of Agro Metrological Droughts Under Changing Climate. (Registration Number: 2015-ag-6150).
- Engr. Muhammad Abid Javed (2022), Analyzing working efficiencies of flow monitoring system in turbulent and non-turbulent flow conditions (Registration Number: 2003-ag-2298).
- Engr. Muhammad Imran (2022), Machine Learning Algorithm to Project Precipitation events in Upper Indus Basin. (Registration Number: 2020-ag-225).
- Engr. Muhammad Taswar (2022), Flood Forecasting using Machine Learning approaches (Registration Number: 2020-ag-228).
- Engr. Sarmad Ali Shahood (2021), Ice-melt, runoff, and their impacts on hydrological simulations of upper Indus basin. (Registration Number: 2015-ag-6084).

- Engr. Muhammad Ahmad (2021), Assessment of water quality and sediments of Panjnad Barrage (Registration Number: 2019-ag-0337).
- Engr. Syed Intsar Hussain Shah (2021), Evaluation of multiple satellite-based datasets over Pakistan (Registration Number: 2013-ag-2275).
- Engr. Shabana Kausar (2020), Impact of bio-slurry on soil physical properties and crop yield. (Registration Number: 2014-ag-4401).
- Engr. Muhammad Zeeshan Khan (2020), Design and development of irrigation schedule and sowing techniques to enhance cucumber yield. (Registration Number: 2014-ag-4399).
- Engr. Malik Mubashir Ishaq (2020), Evaluation of root zone behavior and cucumber yield under different mulch materials. (Registration Number: 2014-ag-4363).
- Engr. Hummad Ali (2020), Impact Assessment of Drip Irrigation System under Different power sources. (Registration Number: 2004-ag-1907).
- Engr. Azhar Ishaq (2019), Quantification of climate change impacts on the major glaciated hydro-meteorological components of Gilgit and Skardu watersheds. (Registration Number: 2013-ag-4419).
- Engr. Haroon Haider (2019), Estimation of the impact of future climate on water resources of Mangla watershed. (Registration Number: 2013-ag-4513).
- Engr. Muhammad Noshewan (2019), The analysis of groundwater potential zones and techniques to conserve water in Faisalabad. (Registration Number: 2013-ag-4676).
- Engr. Shahid Ramzan (2018), Impact Assessment of Inferior Quality groundwater on Agricultural Productivity. (as a member of supervisory committee) (Registration Number: 2012-ag-3645).

#### Trainings/Internship

1. Successfully completed International training workshop entitled “GHG Emissions in Rice Systems: Basics of Mechanisms and Standards for Measurement” organized by International Rice Research Institute (IRRI), Philippines held on November 25-29, 2024.
2. Attended an International Workshop on “Water-Energy-Food Nexus and Sustainable Development Goals- The Grand Challenges for the Indus Basin” held on 6-7 July, 2023.
3. Attended a workshop on climate resilient solutions for Improving Water Governance (CRS-IWaG) organized by International Water Management Institute in September 2023.
4. Trainer in the refresher course for executive Engineers (Civil) at Water and Power Development authority (WAPDA) Engineering Academy, Faisalabad on July 24, 2023.
5. Delivered lecture in international seminar on “Sustainable Development of Agricultural Water Resources in China and Pakistan” at the Chinese Academy of Sciences, China, on May 23, 2023.
6. Organized the one-day International Workshop as Focal and Resource person on “International Webinar on world water day-2022” at the University of Agriculture Faisalabad, on March 30, 2022.
7. Trainer in the one-day International Workshop on “International Webinar on world water day-2022” at the University of Agriculture Faisalabad, on March 30, 2022.
8. Participated in a CPD activity on establishing science and technology parks in Pakistan organized by the Department of Energy Systems Engineering, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on March 02, 2022.
9. Actively participated as a Resource Person in a CPD activity on Application and Hands on Training of Artificial Intelligence (AI) in Water, Food and Energy sector organized by the Department of Food Engineering, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on March 16, 2022.
10. Actively participated as a Resource Person in a CPD activity on establishing science and technology parks in Pakistan organized by the Department of Energy Systems Engineering, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on March 02, 2022.

11. Participated in a professional development workshop for young faculty organized by the Directorate of Academics & Teaching Resource Centre, University of Agriculture Faisalabad, on November 23-25, 2021.
12. Trainer on “Design and Development of Multi-Tasking machine for precision sowing of row crops” in one-day International Workshop on ““International Webinar on world water day-2021 Valuing Water” at the University of Agriculture Faisalabad, on April 14, 2021.
13. Organized the one-day International Workshop as Focal and Resource person on “International Webinar on world water day-2021 Valuing Water” at the University of Agriculture Faisalabad, on April 14, 2021.
14. Organized the one-day International Workshop as Focal and Resource person on “Hydrological Modeling Using SWAT, HEC-HMS and R” at the University of Agriculture Faisalabad, on November 29, 2019.
15. Oral Presentation in one-day training workshop on “OUTCOME BASED EDUCATION (OBE): ISSUES AND CONCERNS” held on August 27,2020 at the University of Agriculture, Faisalabad.
16. Participated in one-day International Workshop on “Design and Practical Approach for Instrumentation and Measurement” organized by Department of Energy Systems Engineering, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on October 30, 2019.
17. Participated in one-day PEC-CPD Workshop on “Assessment Mechanism Under Outcome Based Education” organized by Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on September 27, 2019.
18. Participated in International Training Workshop on “Water Resources Management and Sustainable Development Strategies in Arid Regions under a Changing Climate”, organized by ETH Zurich in Tashkent from September 5 to July 9,2019.
19. Participated in International Training Workshop on Desertification and its control in Countries along the Silk Road Economic Belt organized by Northwest Institute of Eco-Environment and Resources (NIEER), Chinese Academy of Sciences (CAS), from July 11 to July 31,2019.
20. Actively Participated as a Resource Person in Training Workshop on “Hydrological Application: of SWAT and HEC HMS Models” organized by Centre of Excellence in Water Resources Engineering, University of Engineering and Technology, Lahore on August 28,2019.
21. Actively participated as a Resource Person in Training Workshop “Irrigation System Management using ICT and Modelling Tools” organized by Water Management Research Center, University of Agriculture. Faisalabad, on June 20, 2019.
22. Actively Participated as a Focal Person in International conference on water footprints of the Cotton-Textile Value Chain, Organized by Faculty of Agricultural Engineering and Technology, January 29 to February 02, 2019.
23. Actively Participated in Training Workshop on “Water Resources Management” organized by Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on January 29 to February 02, 2019.
24. Actively Participated in Training Workshop on “Hydrological and Hydraulic Modelling” organized by Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on January 29 to February 02, 2019.
25. Actively Participated in Training Workshop on “Evolution of Work force for HI-TECH Agri Technology” organized by Society of Engineers and Technologists, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad, on March 12, 2019.
26. Actively Participated in Training Workshop on “Outcome Based Education (OBE)” held on September 10, 2018, at University of Agriculture, Faisalabad.
27. Actively Participated in 10th International Conference on Information Management and Engineering (ICIME 2018) held in Manchester during September 22-24, 2018.



28. Actively Participated in 2017 European Conference on Electrical Engineering and Computer Science (EECS 2017) Bern, Switzerland, November 17-19, 2017.
29. Actively Participated in 2017 2nd International Conference on Mechatronics and Automation Technology (ICMAT 2017), Melbourne, Australia, September 14-16, 2017.
30. Organized and participated professional training on world water day 2017.
31. Actively Participated in workshop on Effective Communication Skills and Innovative Methods for Extension and Outreach organized by U.S.-Pakistan Center for Advanced Studies in Agriculture and Food Security, Held in December 2016 at University of Agriculture Faisalabad.
32. Actively Participated in International Workshop on Sustainable Energy Solutions for Community Development in Pakistan held in University of Agriculture Faisalabad in November 2016.
33. Participated in 20 days international training workshop on soil and water conservation and dry land farming technology held in P.R China in 2015
34. Participated in 20 days international training workshop on New and renewable Energy resources, held in P.R China in 2013
35. Participated in 15 days international training workshop on water resources, hydropower automation and environment monitoring held in P.R China in 2012.
36. Participated in international conference on “Water, Energy, Environmental and food Nexues: solution and adaption under changing climate” in 2012
37. Participated in international seminar at the topic of “Development of strategies for maximizing the crop production through efficient water management in pothwar area”. In 2012.
38. Participated in “world water day seminar and technical session” in 2012.
39. Whole 8th semester internship in B.Sc.

#### Advisory, Administrative and Community Services Rendered

- Serving as a Tutor for Teepu-2 students tutorial group.
- Serving as Convener of program learning outcome committee to transform the traditional curriculum to Outcome Based Education.
- Serving as a Convener of Scrutiny and Thesis review Committee for post graduate students of the Irrigation & Drainage Department.
- Serving as a Convener of faculty of agricultural engineering date sheet and timetable committee Performed the duty for physical verification of the Department of Fiber and Textile Technology.
- Serving as a Convener of Departmental Quality Enhancement Committee.
- Serving as Assistant Superintendent Faisal Kashmir Hall.
- Serving as a **Member** of faculty vigilance committee for all degrees.
- Serving as an **Advisor** for all B.Sc. degree programs of Faculty of Agricultural Engineering and Technology for the students of 5<sup>th</sup> Semester to sign UG-1 forms, Library/Student ID cards application forms, railway/PIA concession forms, scholarship/loan forms, Character Certificate forms and registration forms etc. on behalf of the Dean from 18.09.2019 to date.
- Served as a **Member** of “Supervisor Allotment Committee” of Irrigation & Drainage Department.
- Served as a **Member** of “Scrutiny Committee” of the Irrigation & Drainage Department.
- **Member** of Committee to make all arrangements for Agri-Tech Expo held on September 03-04, 2019.
- **Member** of Departmental Board of Studies, UAF.
- **Reviewer** of research departmental proposals, reports, and manuscripts.
- Served as **Focal Person** at international workshop on “water footprints on the Cotton-Textile Value Chain” held from January 29 to February 02, 2019 in University of Agriculture Faisalabad, Pakistan.
- **Member** of technical evaluation committee for purchase of permanent equipment of Water Management Research Center.

### Distinctions/Memberships

1. Ph.D. scholarship by Chinese Government Scholarship Council.
2. M.Sc Merit Scholarship by University of Engineering & Technology, Lahore.
3. 1<sup>st</sup> position in M.Sc. Water Resources, U.E.T. Lahore.
4. Silver medal in BSc Agricultural Engineering.
5. Stood at 2<sup>nd</sup> position in B.Sc. Agricultural Engineering (session 2006-2010).
6. University Merit Scholarship throughout my bachelor's degree.
7. 2nd position in the Quiz Competition.
8. Good student award by Hohai University.

### Course Taught to Post Graduate and UG Students

1. Design of Hydraulic Structures
2. Climate change and Water Resources
3. Fluid Mechanics
4. Dam and Reservoir Engineering
5. GIS and Remote sensing application on water shed management.
6. Soil Mechanics

### Computer skills

1. GIS
2. Mat lab
3. R
4. Arc SWAT
5. HEC-RAS
6. HEC-HMS
7. MS-Excel, MS-Word

### Area of Professional Interests

1. Hydraulic & Hydropower Engineering
2. Climate Change Impact at Water Resources
3. Dam & Reservoir Engineering
4. Open Channel Hydraulics
5. Design of Hydraulic Structures
6. Strength of Materials

### Extra Curriculum Activities

1. Member of Pakistan Society of Agricultural Engineering.
2. Member of Blood Donor Society of UAF.
3. EX-Vice president of Society of Agricultural Engineering & Technology.
4. Member of UAF Quiz Club.

### References

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