

# Curriculum Vitae

## BIOGRAPHICAL

**Name: Dr. Muhammad Irfan Ashraf**

**Office:** Department of Forestry, University of Sargodha,  
Lahore-Khushab Bypass Road, Sargodha  
Punjab 40100 Pakistan.

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## EDUCATION

- University of New Brunswick, Canada, *Ph.D. Forestry*
- University of New Brunswick, Canada, *Diploma in University Teaching*
- University of the Punjab, Lahore, *MS Total Quality Management*
- University of Agriculture, Faisalabad, *M.Sc. (Hons) Forestry*
- University of Agriculture, Faisalabad, *B.Sc. (Hons) Agriculture*

## ACADEMIC/RESEARCH INTERESTS

- Forests and Climate Change
- Quantification of Greenhouse Gas Emissions from Forests
- Modelling Natural Systems Using Artificial Intelligence
- Value Addition of Biomass as a Source of Domestic/Bioenergy Energy
- Application of Emerging Spatial Technologies in Forestry
- Forest Ecology, Carbon Stock & Biodiversity Assessments

## EXPERIENCE (19 years)

*In University of Sargodha Pakistan:*

- Jan. 11, 2024 to continued **Chairman**, Department of Forestry UOS
- Oct. 02 to Dec. 19, 2023 **Chairman (look after)**, Department of Forestry UOS
- April 2023 to continued **Associate Professor (BS-20)**

In PMAS Arid Agriculture University Rawalpindi Pakistan:

- April 2016 to Feb. 2019      **Additional Director [Career Services]** (BPS-19)
- June 2014 to April 2023      **Assistant Professor** (BS-19)
- December 2006 to June 2014 **Lecturer** (BS-17 & 18)

### **ADDITIONAL NATIONAL & INTERNATIONAL EXPERIENCES**

- **Developed** syllabus and courses for pre-service training of officers at **Forest Services Academy Ghora Gali Murree**, Forest Department, Government of the Punjab as a **Team Leader** (2018)
- **Evaluated** Pakistan tropical forests and biodiversity (USA FAA 118/119), climate change, and ecosystem services **for USAID** as a **National Technical Expert** (2017)
- **Worked** as **Member National Working Group** REDD+ Readiness project funded by **World Bank and FCPF** under Ministry of Climate Change, Govt. of Pakistan.
- **Organized** International Conferences, Seminars and Workshops funded by **REDD+, SLMP, HEC, PARC, UNDP and World Bank** as **Chief Organizer/Organizing Secretary**
- **Served** as Visiting Professor of Forestry at **Kastamonu University, Turkey** (2017)
- **Associate Editor** of Journal of Biometry Studies, Turkey
- **Chief Editor** *newsletter* International Society of Tropical Foresters USA (2021-23)
- **Academic Editor** *PLOS Climate* (International Research Journal) San Francisco, USA

### **EXTERNAL EXAMINER, VISITING PROFESSOR, RESOURCE PERSON**

- Faculty of Forestry, kastamonu University, Turkey
- Higher Education Commission, Pakistan (National Curriculum Committee for Forestry)
- National Testing Service Pakistan (NTS) Pakistan
- Punjab Public Service Commission, Lahore, Pakistan
- Allama Iqbal Open University, Islamabad, Pakistan
- Bahria University, Islamabad Campus
- Quaid-e-Azam University, Islamabad Pakistan
- International Islamic University, Islamabad Pakistan
- Pakistan Forest Institute, Peshawar Pakistan

- Punjab Forest Services Academy, Murree Pakistan
- Various NGOs (i.e. UNDP, IUCN, WWF)

### **ACHIEVEMENTS, DISTINCTIONS and SCHOLARSHIPS**

- University of Agriculture, Faisalabad merit scholarship for graduate students.
- Winner of a scholarship for foreign *PhD* under HEC faculty development program.
- Appreciation letters [**National & International**]
  - By **International Student Advisor UNB Canada** for *Volunteerism and Support* (2009)
  - By **Vice Chancellor Arid Agriculture University Rawalpindi** for *Developing University Forest Nursery in a short time* (2013)
  - By **Dean UNB Canada** for *Commitment & Dedication to Forestry Profession* (2013)
  - By **Vice Chancellor Arid Agriculture University Rawalpindi** for *Efforts Made in Arrangements of Annual Convocation* (2016)
  - By **Dean Kastamonu University Turkey** for *Guiding Research Students on Use of Advance Technology* (2017)
  - By **Vice Chancellor Arid Agriculture University Rawalpindi** for *Excellent Management and Training of Prime Minister Youth Training Interns* (2018)

### **SUPERVISED RESEARCH/THESIS OF POST-GRADUATE (M. Phil & PhD) STUDENTS**

Forty Seven (43)

### **INTERNATIONAL PROFESSIONAL VISITS**

- Canada
- Thailand
- Turkey
- United Kingdom (UK)

## PUBLICATIONS [Total: 46; Cumulative Impact Factor: ~52; *i10-index*: 15]

### Research Articles

1. Hussain, S., **Ashraf, M.I.**, Hussain, M. J., Ullah, S., Khan, M.I. 2025. A nature-based solution to water pollution: A viable option for urban forestry. *Soil and Environment*. 44(1): 41-52. [IF 0.9]
2. Khan, Z. I., Shahid, M., Ashfaq, A., Ahmad, K., Fatima, S., Bashir, S., Noorka, I.R, **Ashraf, M.I.**, Memon, H., Seleiman, M.F., Alotaibi, M., Ali, N. 2025. Assessing heavy metal bioaccumulation in radish and soil under wastewater and canal water irrigation. *Annals of Agricultural Sciences*. 70(1), 100388. [IF 3.2]
3. Abrar, K., Mahmood, T., Khalid, A., **Ashraf, M.I.** 2025. Soil Carbon Sequestration Potential and Microbial Biomass Activity in Different Agro-eco Systems: A Comparative Study of Agricultural, Forest, Shrub and Grassland Land Uses. *International Journal of Agriculture and Biology*. 34 (4):1-10.
4. Khan, S., **Ashraf, M.I.**, Umair, M., Majeed, M.A, Sakici, O.E., Goheer, M.A. & Jahandad, S. 2025. Quantification and Material Characterization of Accumulated Residues as a Biofuel in Moist Temperate Forests of Pakistan. *Pakistan Journal of Botany*. 57(2): 719-726. [IF 1.1]
5. Waheed, F., **Ashraf, M.I.**, Shoaib, S., Khan, U.A. 2024. Assessment of Underground Soil Carbon of Kalachitta Range in Attock District. *Review of Applied Management and Social Sciences*. 7 (4): 1051-1065.
6. Imtiaz, Z. F., **Ashraf, M.I.**, Khan, S., Goheer, M. A., Rafiq, M. K., Ahmad, H. B. & Sakici, O. E. (2024). Impact of industrial effluent on selected grass species. *International Journal of Applied and Experimental Biology*. 3(2), 265-274.
7. Aslam, S., Kayani, A.R., **Ashraf, M.I.**, Jamil, A.Z. & Sahar, K. (2024). Food preferences of Rhesus Monkey (*Macaca mulatta*) in the Margalla Hills National Park, Islamabad. *Pakistan Journal of Zoology*. 56(3), 1249-1262. [IF 0.687]
8. Hussain, A., **Ashraf, M.I.**, Hussain, S., Atif, M. & Khan, B.A. (2024). Impacts of wildfire on soil characteristics in subtropical Chir Pine Forests of Murree, Pakistan. *International Journal of Applied and Experimental Biology*. 3(1), 61-67.
9. Ali, J., Malik, S. U., **Ashraf, M. I.**, Zhongkui, J., Husnain, Z., & Gulzar, S. (2023). Exploring the potential of carbon sequestration in sub-tropical pine forest ecosystem: A case study in District Kurram, Pakistan. *Sarhad Journal of Agriculture*. 39(3), 647-654.
10. Malik, S.U., **Ashraf, M.I.** & Goheer, M.A. (2023). Spatio-temporal dynamics of greenhouse gas emissions from soil in forest ecosystems of Pakistan. *Pakistan Journal of Botany*. 55(4), 1449-1458. [IF 1.1]

11. Ullah, M., Gulzar, S., **Ashraf, M.I.** & Qureshi, R. (2023). Effect of environmental gradients on the natural regeneration of mixed coniferous forest, Swat, Pakistan. *Pakistan Journal of Botany*. 55(4), 1477-1481. [IF 1.1]
12. Khan, K.A., Khan, S., Ahtasham, M., Malik, S.U., Saleem, M. & **Ashraf, M.I.** (2022). Influence of tree species on soil characteristics in subtropical forest ecosystem: a case study in North-West Pakistan. *Soil & Environment*. 41(2), 135-141. [IF 0.6]
13. Rafay, M., Madnee, M., **Ashraf, M.I.**, Abid, M., Ghaffar, M.U., Malik, Z., Basit, H., Hassan, S.U. (2022). Phytoremediation capabilities and antioxidant enzymes' activities of two halophytic shrubs *Capparis decidua* and *Haloxylon salicornicum* from Cholistan desert, Pakistan under salinity stress. *Pakistan Journal of Botany*. 54(4), 1231-1236. [IF 1.1]
14. Nabi, K., Ali, K., **Ashraf, M.I.**, Imran, A.B., Ahmad, N. (2021). Assessment of land cover changes due to anthropogenic causes in the mountainous area of Ishkoman watershed, Gilgit, Pakistan. *Bulletin of the Transilvania University of Brasov, Series II: Forestry, Wood Industry, Agricultural Food Engineering*. 14(63), 1. [IF 0.56]
15. Ali, A., Khan, M.A., **Ashraf, M.I.**, Goheer, M.A. (2021). Economic valuation of ecosystem services in alpine pastures of western Himalayas: a case study of Kaghan valley. *Pakistan Journal of Botany*. 53(5), 1801-1806. [IF 1.1]
16. Raza, S.H., **Ashraf, M.I.**, Imran, A. B., Khan, I. A., Shah, S. G. A. (2021) Assessment of deforestation in sub-tropical forest using spatio-temporal landsat data. *Revista Cubana De Ciencias Forestales*. 9(2):205-225.
17. Khan, M.R., Khan, I.A., Baig, M.H.A., Zheng-jia, L., **Ashraf, M.I.** (2020). Exploring the potential of Sentinel-2A satellite data for aboveground biomass estimation in fragmented Himalayan subtropical pine forest. *Journal of Mountain Science*. 17(12), 2880-2896. [IF 2.071]
18. Iqbal, S., Zha, T. S., Hayat, M., Khan, A., **Ashraf, M I.**, Ahmad, B., Jan, S. A. (2020). Spatiotemporal variation and climate change impact on radial growth of chir pine (*Pinus roxburghii*) in a subtropical pine forest in Pakistan. *Applied Ecology and Environmental Research*. 18(4), 4839-4855. [IF 0.711]
19. Ahmad, N., **Ashraf, M.I.**, Malik, S.U., Qadir, I., Malik, N.A., Khan, K. (2020). Impact of climatic and topographic factors on distribution of sub-tropical and moist temperate forests in Pakistan. *Géomorphologie: Relief, Processus, Environnement*. 26(3), 157-172. [IF 0.676]

20. Ali, A., **Ashraf, M.I.**, Gulzar, S. Akmal, M. (2020). Estimation of forest carbon stocks in temperate and subtropical mountain systems of Pakistan: implications for REDD+ and climate change mitigation. *Environmental Monitoring and Assessment*. 192(3), 198. [IF 2.513]
21. Ali, A., **Ashraf, M.I.**, Gulzar, S. Akmal, M. (2020). Development of an allometric model for biomass estimation of *Pinus roxburghii*, growing in subtropical pine forests of Khyber Pakhtunkhwa, Pakistan. *Srahad Journal of Agriculture*. 36(1), 236-244.
22. Ullah, F., Ullah S., **Ashraf, M.I.**, Ali, T., Abbas, H., Muhammad, B., Badshah, M. T. (2019). REDD+ impacts on the livelihood of the community and their involvement in the policy making process. *Journal of Biodiversity and Environmental Sciences*. 15(1), 102-110. [Thomson Reuter Master List]
23. Khan, A. A., **Ashraf, M.I.**, Malik, S.U., Gulzar, S., Amin, M. (2019). Spatial trends in surface runoff and influence of climatic and physiographic factors: A case study of watershed areas of Rawalpindi district. *Soil and Environment*. 38(2), 181-191. [HEC Y Category]
24. Ali, A., **Ashraf, M.I.**, Gulzar, S., Akmal, M., Ahmed, B. (2020). Estimation of soil carbon pool in the forests of Khyber Pakhtunkhwa Province, Pakistan. *Journal of Forestry Research*. 31(6), 2313–2321. [IF 2.149]
25. Sakici, O. E., Kucuk, O., **Ashraf, M.I.** (2018). Compatible above-ground biomass equations and carbon stock estimation for small diameter Turkish pine (*Pinus brutia* Ten.). *Environmental Monitoring and Assessment*. 190(5), 285. [IF 2.213]
26. Malik, S.U., **Ashraf, M.I.**, Ahmad, M. I., Anwar, M. (2018). Identifying causes of conflict among forest stakeholders: suitable coping strategies. *Journal of Agricultural Research*. 56(2), 159-166. [HEC Y Category]
27. Bhatti. M.F., **Ashraf, M.I.**, Masoom, Z., Malik, S.U. (2017). Impact of industrial effluents on growth of dominant tree species of Islamabad, Pakistan. *Pakistan Journal of Botany*. 49(5), 1833-1839. [IF 1.1]
28. Karim, F., **Ashraf, M.I.**, Amin, M., Khan. M.R., Khan, A.A. (2016). Impact of climatic factors on land-use changes using geo-spatial techniques. *Journal of Applied Agriculture and Biotechnology*. 1(2), 57-67.
29. Ahmed, M.I., **Ashraf, M.I.**, Malik, S.U. Hussain, Q. (2016). Influence of soil based growing media on vegetative propagation of selected cultivars of *Olea europaea* L. *Pakistan Journal of Botany*. 48(4), 1489-1493. [IF 1.1]

30. Saeed, S., **Ashraf, M.I.**, Ahmad, A, Rahman, Z. (2016). The bela forest ecosystem of district Jhelum, a potential carbon sink. *Pakistan Journal of Botany*. 48(1), 121-129. [IF 1.1]
31. **Ashraf, M. I.**, Ahmed, M. I., Malik, S. U. (2015). Establishment of nursery for vegetative propagation of *Olea europaea* L. In A. Khalid, S. Mahmood & M. Centritto (Eds.), *Proceedings of International Training Workshop on Sustainable Agriculture water management in a changing environment: A special focus on olive tree* (pp. 67-71). Held at PMAS Arid Agriculture University Rawalpindi Pakistan. ISBN 978-969-8374-16-7.
32. **Ashraf, M. I.**, Meng, F.-R., Bourque, C. P.-A., MacLean, D. A. (2015). A novel modelling approach for predicting forest growth and yield under climate change. *PLOS ONE*. 10(7), e0132066. [IF: 3.240]
33. Hussain, Z., Mirza, S. N., **Ashraf, M.I.**, Nizami, S.M. (2015). Grassland productivity and carrying capacity of Deosai National Park, Gilgit-Baltistan. *Journal of Agricultural Research*. 53(3), 437-451.
34. **Ashraf, M. I.**, Bourque, C. P.-A., MacLean, D. A., Erdle, T., Meng, F. R. (2015). Estimation of potential impacts of climate change on growth and yield of temperate tree species. *Mitigation and Adaptation Strategies for Global Change*. 20(1), 159-178. [IF 3.583]
35. Hussain, F., Khaliq, A., **Ashraf, M. I.**, Khan, I.A. (2014). Morphological and hydrological responses of Soan and Khad Rivers to impervious land use in tehsil Murree. Pakistan. *Journal of Agricultural Research*. 52(2), 269-282.
36. **Ashraf, M. I.**, Zhao, Z., Bourque, C. P., MacLean, D. A., Meng, F.-R. (2013). Integrating biophysical controls in forest growth and yield predictions with artificial intelligence technology. *Canadian Journal of Forest Research*. 43(12), 1162-1171. [IF 1.991]
37. Zhao, Z., **Ashraf, M.I.**, Keys, K.S., Meng, F.-R. (2013). Prediction of soil nutrient regime based on a model of DEM-generated clay content for the province of Nova Scotia, Canada. *Canadian Journal of Soil Science*. 93(2), 193-203. [IF 1.522]
38. Zhao, Z., **Ashraf, M.I.**, Meng, F.- R. (2013). Model prediction of soil drainage classes over a large area using a limited number of field samples: A case study in the province of Nova Scotia, Canada. *Canadian Journal of Soil Science*. 93(1), 73-83. [IF 1.522]

39. **Ashraf, M.I.**, Bourque, C.P.-A., MacLean, D.A., Erdle, T., Meng, F.- R. (2012). Using JABOWA-3 for forest growth and yield predictions under diverse forest conditions of Nova Scotia, Canada. *The Forestry Chronicle*. 88(6): 708-721. [IF 0.811]
40. **Ashraf, M.I.**, Zhao, Z., Bourque, C. P.-A., Meng, F.-R. (2012). GIS evaluation of two slope calculation methods regarding their suitability in slope analysis using high precision LiDAR digital elevation models. *Hydrological Processes*. 26(8), 1119-1133. [IF 3.565]
41. **Ashraf, M.I.**, Yaqoob, S., Ansari, L., Khan, I.A., Haq, Q. (2008). A study on agro-grazing in District Toba-Tek Singh. *Pakistan Journal of Agricultural Sciences*. 45(1), 65-68. [IF 0.748]
42. **Ashraf, M.I.**, Yaqoob, S., Majeed, A., Siddiqui, M.T., Hussain, T. (2001). Socio-economic conditions of rural people of District Toba-Tek Singh. *Pakistan Journal of Scientific Research*. 53(1-2), 44-46.

### **Books/Monographs/Book chapter**

1. Hussain, Q., Hayat, R., Raiz, M., Rashid, M., Ahmad, M., Khan, K.S., **Ashraf, M.I.**, Alvi, S., Basit, A. (2022). Soil carbon and legumes. *In* R. Meena & S. Kumar (Eds.) *Advances in Legumes for Sustainable Intensification*. Elsevier. ISBN: 9780323857970. Available at <https://www.elsevier.com/books/advances-in-legumes-for-sustainable-intensification/meena/978-0-323-85797-0>
2. **Ashraf, M.I.** (2021). Sustainable Forest Management. Under SFM project funded by UNDP. Forest, Wildlife & Fisheries Department, Lahore, Government of The Punjab
3. **Ashraf, M.I.** (2020). Sustainable Land Management. SLMP-II and Ministry of Climate Change, Government of Pakistan.
4. **Ashraf, M.I.** (2019). Climate Change and Role of Forests- A Community Guide. REDD+ Pakistan and Ministry of Climate Change, Government of Pakistan.

### **Membership and Involvement in Professional Organizations**

- Agriculture Institute of Canada
- Canadian Institute of Forestry
- Higher Education Commission Pakistan (Curriculum Development Committee Forestry)
- International Society of Tropical Foresters USA



- Member of National Working Group REDD+ Pakistan

### **Completed Research Projects as Principal Investigator**

- Optimization of technology for manufacturing Phosphate Enriched Compost
- Optimization of nutrients supply for vegetative propagation of Olive (*Olea* spp.)
- Investigating the Influence of Soil Texture and Nutrients on Lawn Grass Quality Under Confined Conditions
- Dynamics of greenhouse gas emission from soil under sub-tropical chir pine forest
- Spatio-temporal dynamics of greenhouse gas emissions from soil under various forest types of Pakistan

### **Seminars/Trainings / Workshop Arranged or Attended since 2015**

- International training workshop on Sustainable agriculture water management in a changing environment: a special focus on olive tree, held at PMAS AAUR on **September 30-October 02, 2015**, Funded by HEC, Pakistan and **National Research Council, Italy**. As a resources person on, "*Vegetative Propagation of Olive (Olea europea)*"
- Active Citizens Training of Facilitators, **31 August-04 September 2015**, by **British council**,  
Training of trainers at Arid Agriculture University, Rawalpindi.
- Three days training on **Climate Change** by **Capital Development Authority (CDA), Islamabad** during **8-10 February, 2016**
- As an expert (NFMS/MRV and FREL/FRL Drivers of Deforestation and Forest Degradation) for National Consultative Workshop of **REDD+ working group** on 22-23 November 2016 at Islamabad.
- As a **member of national working group** in Inception Workshop for REDD+ NFMS/MRV/ FREL/ FRL and REDD+ Strategy Development and Implementation Framework on 13-14 February; 07-08 August 2017 at Islamabad.
- National **Training of Trainers for National Forest Inventory** during 16-19 October, 2017 arranged by **REDD+ office Ministry of Climate Change** Pakistan.

- As a member of national working group in training Workshop on **REDD+ Safeguards** on **January 17-18, 2018** at Islamabad arranged by Ministry of Climate Change Pakistan.
- Arranged Seminar as a Chief Organizer on **Forests and Education – *Learn to Love Forests*** (International Day of Forests) on March 21, 2019 at Arid Agriculture University Rawalpindi.
- Arranged International Conference as a Chief Organizer on **Olive Orchard Management and Value Chain Development** on February 19-20, 2019 at NARC Auditorium, Islamabad funded by **HEC Pakistan** and **National Research Council, Italy**
- Arranged Seminar as a Chief Organizer on Combating Desertification in Pakistan: *Let's Grow the Future Together* on July 31, 2019 at Main Auditorium, Arid Agriculture University Rawalpindi.
- Attended **Climate Change Gender Action Plan (ccGAP) National Multi-stakeholders'** workshop on August 16-17, 2021 arranged by **IUCN Pakistan**.
- Attended '**National GHG Inventory Platform Training in Pakistan**' held on September 20, 2021 at Serena Hotel, Islamabad by **Ministry of Climate Change, Pakistan** in collaboration with **GIZ Germany**.
- Attended **National Workshop on Validation of Sub National Forest Monitoring, Measurement, Reporting and Verification (MRV) System** in Pakistan at Hill View Hotel Islamabad on **June 21, 2022** arranged by **WWF Pakistan**.
- Attended three days training workshop on "**Climate Transparency for Pakistan**" during 19-21 September 2023 at Marriot Hotel Islamabad by **Ministry of Climate Change and Environmental Coordination, Pakistan** in collaboration with **GIZ Germany and CITEPA**.
- Organized one day Seminar on **Forests and Innovation** at Noon Auditorium University of Sargodha on **21 March 2024** in coloration with WWF-Pakistan and Punjab Forest Department.
- Organized a Seminar, Plantation Drive and Awareness walk on **Forests and Foods** at Agriculture Auditorium, University of Sargodha on **21 March 2025** in coloration with Beacon-house School System and Punjab Forest Department (Extension Wing).