

CURRICULUM VITAE

1. NAME : **Muhammad Shafqat Ejaz**
2. DATE OF BIRTH : November 3, 1963
3. NATIONALITY : Pakistani
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5. EDUCATION :
 - Ph.D, Utah State University, Logan, Utah, USA, 1994.
 - M.S, Civil Engineering, NED University of Engineering and Technology, Karachi, Pakistan, 1990.
 - B.E, Civil Engineering, NED University of Engineering and Technology, Karachi, Pakistan, 1987.
6. OTHER TRAINING :
 - 6.1 International Training:
 - Participated in Project Planning Meeting 2000 IWMI Headquarters Office, Colombo, Sri Lanka (December 2000)
 - 6.2 Local Training
 - Sindh Government Officer's in-country training program at the Institute of Business Administration (IBA), University of Karachi arranged by the USAID Mission Pakistan (February – October 1990)
 - On-Farm Water Management Course at Sindh Institute for OFWM (Training and Research) Sakrand, Sindh (September – November, 1987).
7. MEMBERSHIP IN PROFESSIONAL SOCIETIES :
 - Pakistan Engineering Council.
 - Institution of Engineers, Pakistan.
 - American Society of Civil Engineers (ASCE)
8. COUNTRIES VISITED : USA, Singapore, Australia, Sri Lanka, Saudi Arabia, Italy, UAE-Dubai, Oman
9. LANGUAGE & DEGREE OF PROFICIENCY

	Speak	Read	Write
English	Excellent	Excellent	Excellent
Urdu (Mother Language)	Excellent	Excellent	Excellent
Punjabi	Good	Good	Good
Sindhi	Good	Good	Good

10. EMPLOYMENT RECORD:

10.1 11 June 2004-To Date

NED University of Engineering and Technology, Karachi

Teaching and administering undergraduate and postgraduate programme of Civil and Environmental Engineering leading to PGD & BE, MENG and PhD degrees.

- ***One student completed MEngg (Civil) by Research-Periurban groundwater management***

Graduate courses taught and examined:

- ***Water Resources Management,***
- ***Environmental Impact Assessment***
- ***Subsurface Hydrology***
- ***Computational Hydraulics***
- ***Operations Research***

Undergraduate courses taught and examined:

- ***Irrigation and Water Resources Engineering***
- ***Municipal Engineering***
- ***Fluid Mechanics for Civil, Urban and Petroleum Engineers***

Also, advising and guiding undergraduate students for their final year projects and graduate students for their Independent Study Projects.

Developed Operation Manual and Monitoring & Maintenance Manual for NED University Waste water Treatment Plant for reuse of water for landscape irrigation.

Current research focused on peri-urban water management for sustainability, groundwater piezometric head and quality mapping & Water-use & -control system studies in selected basins, groundwater recharge, groundwater monitoring, modeling & regulations, on-farm water management and drip & sprinkler irrigation system.

Extension activities focused on short term training courses for practicing civil and irrigation engineers for enhancing skills in latest technological enhancements.

Development of land Surveying PGD programme, Revision of undergraduate and graduate level courses, Conduct of admission and selection tests and interviews, and Representation on several committees and boards are the features in the current capacity.

10.2 October 2010 –December 2012

Ministry of Manpower, Sultanate of Oman, Trainings in Civil Engineering Modules (Hydraulics, Building Services, etc.). Development of training material and dissemination of knowledge. Industry linkages.

10.3 July 2002 --- September 2003

Groundwater Specialist, Quetta Water Supply and Environmental Improvement Project (Investigation Phase), TechnoConsult International. The supervisory consultancy work required exploration of fracture rock aquifer of Quetta Valley Pakistan and its interaction with

alluvial aquifer with the development of an integrated groundwater model. Experience gained in the field of geophysical surveys, drilling, tracer test, bore hole video logging and isotope studies.

10.4 October 1997 – 30 April 2001

Senior Civil Engineer (Groundwater Research); International Water Management Institute, Regional Office Pakistan, Iran and Central Asia, Lahore, Pakistan. Assigned to assess hydrogeological behavior and to develop groundwater management models of selected irrigated agricultural areas in Sindh and Punjab.

Under the Government of The Netherlands assisted project Managing Irrigation for Environmentally Sustainable Agriculture in Pakistan—Waterlogging and Salinity Management in the Sindh Province, Pakistan, developed groundwater model for Nawabshah Component of Left Bank Outfall Drain Stage-I Project identified and assessed water logged areas and minimum pumping requirements for the installed tubewells in order to maintain adequate root zone environment for optimum cropping and yield.

Under the World Bank assisted Project, assessed and estimated water balances and spatial and temporal net recharge to groundwater at distributary command level in the Fordwah Eastern Sadiqia (South) Project Area as research support for preparation of second phase of the project.

Worked on Australian Centre for International Agriculture Research assisted project Conjunctive Water Management for Sustainable Irrigated Agriculture in South Asia comprising identification, evaluation and dissemination of technical and institutional arrangements in canal irrigated command areas of Rechna Doab with the help of groundwater model development, Recharge basin siting and provision of local drainage solutions.

10.5 September 1987 – 10 June 2004

Assistant Director; Directorate General Agricultural Engineering and Water Management (AE & WM) Sindh, Department of Agriculture, Government of Sindh, Hyderabad. Pakistan. Appointed to assist the Director General AE & WM in designing, implementing and monitoring and evaluating On-Farm Water Management (OFWM) Projects in Sindh, Pakistan; preparation of annual and five-year provincial OFWM plans; and development of the provincial irrigation network database. Also provided guidelines to farmers for operation and maintenance of distributary/minor and drainage channels under the institutional reforms initiatives in the irrigation and drainage sector.

10.6 May 1991- September 1991 and
May 1995- September 1997

On detailment basis worked as Section Officer to assist the Secretary to Government of Sindh, Agriculture Department in the technical administration of OFWM projects in Sindh.

10.7 April 1989-January 1990

On detailment basis worked as Personal Staff Officer (Technical) to assist the Secretary to Government of Sindh, Agriculture Department.

10.8 October 1991-April 1995

Graduate Student, Utah State University.

Research focused in the area of computer modeling, wastewater loading to streams, land treatment system, and conjunctive water use. The work involved development of simulation/optimization (S/O) methodologies with multi-objective programming for the optimal design of land treatment system, waste loading strategies to surface water, and management of stream/aquifer system for water supply. The S/O model utilizes the engineering soft wares MODFLOW and QUAL2EU and the programming languages General Algebraic Modeling System (GAMS), a high level language for mathematical modeling, and FORTRAN77.

The S/O models allowed engineers and decision makers to optimize stream/aquifer management, waste loading strategies to streams, land treatment systems design, and decisions when evaluating operation strategies.

Helped in teaching Optimal Groundwater/Conjunctive Water Management class, Spring Quarter, Utah State University.

As a Research Assistant worked on study of one-dimensional disposition of Metalochlor applied on corn crop and 2,4-D applied on turf in the Utah State University experiment farm (1993-94).

10.9 January 1987- August 1987

Design and Site Engineer, Pak Field (pvt) Ltd.

Responsible for the design and construction of several civil engineering projects which include the following: sugar mills, underground water tanks, septic tanks, retaining walls, houses, community centers, and shopping centers.

10.10 October - December 1986

Engineering Consultants (pvt) Ltd.

Worked on highway geometric and structural designs for National Highway (Resettlement Assessment), farm to market roads, and road network in the northern and western areas of Pakistan.

10.11

External Examiner to the Institute of Irrigation and Drainage Engineering, Mehran University of Engineering and Technology, Jamshoro, and Balochistan University of Engineering and Technology, Khuzdar, Pakistan

11. AWARDS

Best Performance award Sindh Government Officer's in-country training program at the Institute of Business Administration (IBA), University of Karachi arranged by the USAID Mission Pakistan (October 1990).

12. Publication

Internationally refereed papers/journals including Ph.D. dissertation

EJAZ, M.S. 1994. Simulation/Optimization Models for Surface Water Quality Management and Conjunctive Water Use. Ph.D. Dissertation, Utah State University, Logan, Utah, USA.

EJAZ, M.S. and R.C. Peralta, Modeling for optimal management of

agricultural and domestic wastewater loading to streams, *Water Resources Research*, 31(4), 1087-1096, 1995.

EJAZ, M.S. and R.C. Peralta, Maximizing conjunctive use of surface and ground water under surface water quality constraints, *Advances in Water Resources*, 18(2), 67-75, 1995.

EJAZ, M.S. and S. A. Prathapar, Numerical Evaluation of subsurface Drainage Management Options in the Left Bank Outfall Drain-Nawabshah Project Area, (in review)

Nationally refereed papers/reports

EJAZ, M. S. 1998. Drainage in the LBOD Project: Operational concerns and quality of pumped effluent. Lahore, Pakistan. International Irrigation Management Institute. Research Report # R.70.1.C.

EJAZ, M. S. and H. M. N. Ahmed 1999. Spatial and Temporal Assessment of Groundwater Recharge in the FESS Project Area. Pakistan National Program, International Water Management Institute. Lahore, Pakistan Research Report # R. 86.

Khan, A.H., Vehmeyer, P.W., Reichert, A.P., EJAZ, M. S. Kalwij, I.M., Lashari, B. and Skogerboe, G.V. 1999. Water Supply and Water Balance Studies for the FESS Project Area. Lahore, Pakistan. International Irrigation Management Institute. Research Report # R. 88.

Jehangir, W. A., EJAZ, M.S. Hassan, M., and Ali, N. 2000. Conjunctive Water Management for Sustainable Irrigated Agriculture in Rechna Doab, Punjab, Pakistan. Lahore, Pakistan. International Irrigation Management Institute. Research Report # 117

Conference papers:

Bhatti H. A, M. S. Ejaz and A. M. Khan. Hydrogeological Characterization of Malir River Basin Aquifer. 1st International Conference on Global Environmental Changes, Department of Environmental Science, GC University Faisalabad, Pakistan, January 15-16, 2013.

Bhatti H. A. and M. S. Ejaz. Assessment of Agriculture Development Potential in the Karachi Peri-Urban Area: A GIS Approach. Third International Symposium on Infrastructure Engineering in Developing Countries (IEDC-2010) and 1st International Conference on Sustainable Transportation & Traffic Management. July 1-3, 2010-Karachi, Pakistan.

Ejaz, M. S. and H. A. Bhatti. Assessment of Groundwater Behaviour and Management Strategies in the Peri-urban Area of Malir, Karachi, Pakistan, 22nd European Regional Conference Water Management and Irrigation and Drainage Systems Development in the European Environment, 2 to 6 September 2007 at Pavia, Italy.

Prathapar, S.A. Aslam, M. and EJAZ, M.S. Disposal of Drainage Waters. In (editors), 8th ICID International Drainage Workshop: Role of Drainage and Challenges in 21st Century, Proceedings Volume III: Socio-Economic, Managerial and Participatory Aspects of Drainage, 31st Jan-4th Feb 2000, New Delhi, India, pp187-198.

Vehmeyer, P. W., Ahmad, M. U., EJAZ, M. S., 2000. Combining Remote Sensing and Water Balance Approaches to Refine Estimates of Groundwater Interactions: A case study for the Fordwah Eastern Sadiqia (South) Project area, Punjab, Pakistan. Proceedings Regional Groundwater Management Seminar, 9-11 October, 2000, Islamabad, Pakistan Water Partnership. Global Water Partnership, Islamabad.

EJAZ, M.S. and R.C. Peralta, Optimizing steady point/non-point waste and nutrient loading to streams, in proceedings of the 1993

National Conference on Irrigation and Drainage Engineering, ASCE,
Park City, Utah, 343-350, 1993.