

Total Experience  
Teaching-18  
Field Research-09

## CURRICULUM VITAE

**Dr. GHULAM NABI**

Post doc University of South Carolina USA

Ph.D Water Resources Engineering



## CURRICULUM VITAE

Centre of Excellence in Water Resources Engineering University of Engineering and Technology, Lahore, Pakistan,

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## AREAS OF INTEREST

Open Channel Hydraulics, Fluid Mechanics, Hydrology, Spatial Data Modeling, Digital Image interpretation, Catchment Modeling using GIS and RS, Hydraulic and Sediment Transport Modeling, Irrigation System Management, River System Analysis, Design of Hydraulic Structure

## EDUCATIONAL QUALIFICATION

**Post doc. University of South Carolina, USA in 2010**

**Ph.D Water Resources Engineering**

Center of Excellence in Water Resources Engineering, University of Engineering and Technology, Lahore in 2009. Research conducted at School of Civil and Environment, Griffith University Australia

**M.Sc WATER RESOURCES ENGINEERING**

From Center of Excellence in Water Resources Engineering, University of Engineering & Technology, Lahore in 1996

**M.Sc. Thesis Title:** Development and Validation of Hydrodynamic Flood Routing Model for River Chenab (Marala to Qadirabad).

**B.Sc Agricultural Engineering**

From University of Agricultural, Faisalabad in 1989.

## PRACTICAL EXPERIENCE

**March 2000 to Todate:**

Assistant Professor in Centre of Excellence in Water Resources Engineering, UET , Lahore.

Subjects taught for M.Sc Class.

1. Application of Remote Sensing in Water Resources.
2. Advanced survey and Remote Sensing
3. Computer Programming
4. Sediment Transport
5. Computational Hydraulics
6. Advanced Open Channel Hydraulics
7. Physical and Numerical Modeling
8. Design of Hydraulic Structures.

**Jan. 98 to March 2000:**

Water Management Officer in On Farm Water Management Program (OFWM). Govt. of Punjab Lahore. The duties included.

The main duty included water quality modeling, use of marginal quality water for agriculture purpose.

Organization of Water User Associations.

Supervision of Water Course improvement.

Irrigation Water Management

**MAY 1996 TO JUNE 1998:**

Water Management Officer in On Farm Water Management Program (OFWM). Govt. of Punjab Lahore. The duties included.

Organization of Water User Associations. Design of Water Course. Cost Estimation of civil work. Supervision of Water Course Lining. Supervision of Precession Land Leveling.

**Sept 1994 TO May 1996:**

M.Sc Scholar in CEWRE, U.E.T., Lahore. Thesis research topic was "Development and Validation of Hydrodynamic Flood Routing Model for River Chenab (Marala to Qadirabad Reach)". The numerical model was developed by solving the Saint Venant equations numerically by using Preissmann Scheme. The model was applied for flood routing of 1982 and 1992. The

Research Publications  
HEC Recognized -19  
Others-28

Thesis Supervised  
M.Sc. / M.Phil-57  
Ph.D. - 01  
Ph.D. under Supervision-06

Short Course / Workshop-10  
Project Report-06  
Project Completed-01

Book Drafts  
Co-Author-01  
Principal Author-01

developed model was also compared with Hydrologic Engineering Corp. (HEC-2) model used for flood routing.

**Aug. 1992 TO Aug. 1994:**

Water Management Officer in Design of Watercourse, cost estimation of civil work , supervision of watercourses lining, supervision of Precession Land Leveling

**May 1991 TO Aug. 1992:**

Water Management Officer in On Farm Water Management Program (SCARP) Khushab Govt. of the Punjab Lahore. The duties included; Application of water management practices to minimize the water logging and salinity. To trained the farmer for efficient use of water, conjunctive use of water.

**Feb 1990 TO Feb.1991:**

Research Officer in a Project “Modeling Salt Distribution and Assessing Quality Parameters” in CEWRE, UET, Lahore. Duties included Irrigation application, water quality assessment. The monitoring of impact of poor quality water on soil. The water quality data of SCARP tubewells were collected and analyzed for assessing the quality of water

### TRAININGS AND COURSES Attended

**August 91 to Nov. 91:**

Three OFWM, Research Institute Lahore on the following major Aspects:

Surveying and Leveling.

Water Course Design and Improvement

Precession Land Leveling

Formation of Water User Associations

Irrigation System Design and Operation

Irrigated Agriculture

**April 14-22,1996:**

Short course on “*Application of Numerical Models in Groundwater and Irrigation*” “Organized by Center of Excellence in Water Resources Engineering, U.E.T. Lahore in collaboration with School of Civil Engineering, University of Birmingham, U.K. The main topics of short course were:

Basic Concept of hydraulics and ground water.

Numerical modeling concepts. Different types of numerical modeling. Numerical modeling techniques. and their advantages and disadvantages of different modeling techniques.

**November 10-14, 1997:**

Training course on “*Methodologies for Downstream Gauge Rating*” organized by Punjab Irrigation & Power Department and International Water Management Institute (IWMI). The main objectives were: Discharge measurement by different methods. Different methods for making rating curves. Effects change in channel cross-section on rating curve. Updating the rating curve.

**Nov. 24 to Dec. 19, 1997:**

Training on” Sediment Transport” in France, organized by CEMAGREF, *Agricultural and Environmental Engineering Research Institute, France.*

The main topics of the training were:

Numerical Modeling in Sediment Transport

1-D Modeling, 2-D Modeling and 3-D Modeling,Physical Modeling

Visited different research centers working in the field of hydraulic and sediment.

**Sept. 25 to Oct. 28 2000**

Training course on “Hydropower Projects” Organized by Water and Power Development Authority, WAPDA in collaboration with German Agency for Technical Cooperation (GTZ).

**March 26-28, 2001**

Training on *Geographic Information Technology for Environmental Governance, Urban Management and Rural Development*, organized by Pakistan Society of Geographic Information System, Lahore Pakistan.

**July 22-27, 2002**

Training workshop on “ Groundwater Computer Modeling”

Organized by Centre of Excellence in Water Resources Engineering, University of Engineering and Technology Lahore.

### TRAININGS AND COURSES Conducted

**July 26 to August 26, 2005**

As a resource person in Comprehensive training course on “Rainfall Runoff Relationships and Design of Hydraulic Structures” organized by IUCN Balochistan Program.

**12-17 April 2001**

Application of GIS and RS in Water Resources, one week short course conducted at Center of Excellence in Water Resources Engineering, UET Lahore

**COMPUTER KNOWLEDGE**

**WORD PROCESSOR PACKAGES:**

Microsoft Office (Word, Excel, PowerPoint)

**HYDRAULIC AND SEDIMENT SOFTWARE**

SIC (Simulation of Irrigation Canals developed by CEMAGREF, France) Model.

DORC (Design of Regime Channel)

DisData (Data Entry for Fluvial Discharge Programme)

Sedi Size (Fluvial Sediment Discharge Programme)

Sedi Size (Particle size statistics of Fluvial System)

Modin (Total Sediment Discharge using Modified Einstein Procedure)

HEC-1, HEC-2, HEC-6, HEC-RAS Models

SIC (Simulation of Irrigation Canals developed by CEMAGREF, France) Model.

Integrated Land and Water Management Information System (ILWIS).

Arc-View GIS

Modflow

Mike-11

**TRAINING WORKSHOP ORGANIZED at CEWRE**

i) Training Workshop on Application of Geographic Information System (GIS) and Remote Sensing in Water Resources.

ii) Training workshop on Groundwater Computer Modeling

iii) Training workshop on Indus Basin Model (IBMR)

**COMPUTER LANGUAGES:**

C++

FORTRAN

MATLAB

**COMPUTER MODELING**

**HYDRAULIC AND SEDIMENT SOFTWARE**

SIC (Simulation of Irrigation Canals developed by CEMAGREF, France) Model.

DORC (Design of Regime Channel)

DisData (Data Entry for Fluvial Discharge Program)

Seddish (Fluvial Sediment Discharge Program)

Sedi Size (Particle size statistics of Fluvial System)

Modin (Total Sediment Discharge using Modified Einstein Procedure)

HEC-1, HEC-2, HEC-6, HEC-RAS Models

SIIM, Flow 3D, CCHE2D

SIC (Simulation of Irrigation Canals developed by CEMAGREF, France) Model.

Integrated Land and Water Management Information System (ILWIS).

Arc-View GIS

Modflow

Mike-11

**List of thesis Supervised**

1	Muhammad Sajid	M.Sc (WRE)	3.1.2003	Analysis of Silt Drawing Capacity of Different Types of Outlets in an Irrigation System
2	M. Zia-ur-Rehman Hashmi	M.Sc (HPE)	19.7.2003	Analysis of hydraulic jump and effectiveness of energy dissipation devices at Jinnah barrage.
3	Fazal Rehman Kashif	M.Sc (WRE)	31.7.2003	Numerical simulation for optimal design of surge tank in high head hydropower plant
4	Riaz Hussain	M.Sc (WRE)	29.7.2003	Flood zone mapping using GIS and hydraulic model

5	Syed M. Mehar Ali	M.Sc (WRE)	30.7.2003	Sediment simulation of Chashma Right Bank canal for its efficient operation and management
6	Muhammad Tariq	M.Sc (HPE)	23.1.2004	Sediment simulation for intake structure of hydropower project(A Case Study:Doyian Hydropower Project)
7	Bilal Sajjad	M.Phil (WRE)	29.1.2004	Physical model study for calibration of irrigation outlets.
8	Mr. Ubaid Ullah	M.Sc (WRM)	30.7.2004	Modeling for sediment management alternatives in irrigation canal
9	Mr. Ahmad Sher	M.Phil (WRE)	30.7.2004	Application of HEC-RAS computer model for training river Chenab at Marala
10	Mr. Mazhar Ali	M.Sc (WRE)	15.3.2005	Sensitivity analysis of sediment transport functions for reservoir sediment simulation
11	Mr. Muazzam Mir Muhammad	M.Sc (WRE)	1.6.2005	Application on numerical models to optimize weir dimensions at different flood levels.
12	Mr. Irfanullah	M.Sc (WRE)	4.6.2005	Analysis of different theories for optimal alluvial channel design in Indus Basin
13	Mr. Barkat Ali	M.Sc (HPE)	27.6.2005	Evaluation of Hydropower potential of Shantung Nallah diversion flow in Northern Areas.
14	Muhammad Farooq Khan	M.Sc (HPE)	2.10.2006	Studies for optimal solution of micro hydel power plant on Dow Arian Nullah Muzaffarabad (A.K.)
15.	Muhammad Nawaz	M.Phil (WRE)	30.12.2006	Development of a computer worksheet model for design of alluvial canal system and application for design of rained canal system.
16.	Ms. Nazish Nasir	M.Sc (WRE)	6.1.2007	GIS and hydrological modeling for water resources development of Hill torrent in Potohar area
17	Muhammad Ahsan	M.Sc (WRE)	7.2.2007	Soil erosion estimation of River Soan catchments using GIS and soil erosion models
18.	Mr. Fahd Bin Zafar	M.Sc (HPE)	3.3.2007	Assessing of hydropower potential using GIS and remote sensing: Case study: Astore Basin
19.	Mr. Abdul Wahab Siyal	M.Phil (WRM)	8.1.2008	Hydrologic modeling for effective management of hill torrents of Pakistan: A Case Study of Durban Hill-Torrent (D.I.Khan)
20	Faisal Baig	M.Sc(WRE)	16.08.2011	Development of 2-dimensional hydraulic and sedimentation model in a channel for low flow regime
22	Najam ul Saqib	M.Sc(WRE)	12.09.2011	Physical model study for sediment distribution in channel network
23	Ali Raza	M.Sc(EHY)	18.08.2011	Spatial and temporal analysis of hydrological and topographical parameter for the design of water conservation structures: A case study of Pothwar Area
24	Muhammad Majid Pasha	M.Sc(WRE)	22.12.2011	Sensitivity analysis of different land use and topographic parameters for soil erosion
25	Aamar Ashraf	M.Sc(WRE)	28.07.2012	Physically based sediment and runoff modeling of rawal watershed
26	Shahneela Mukhtar	M.Sc(WRE)	10.09.2012	Hydraulic analysis of remodeled canal for efficient water distribution
27	Moien Ahsan	M.Sc(WRE)	08.09.2012	Rainfall run off relationship for darabi watershed in Chakwal
28	Shahzad Ahmed	M.Sc(WRE)	24.1.2013	Assessment of digital elevation data on selection of a dam site
29	Asif Mehmood	M.Sc(WRE)	21.03.2013	Determination of water depth upstream of regulator using influence factor approach
30	Muhammad Adnan	M.Sc(EH)	03.01.2014	Prediction of snowmelt runoff due to impact of climate changes: A case study of Gilgit catchment

31	Muhammad Mudassar Maqsood	M.Sc(WRE)	30.04.2014	Development of soil erosion potential maps at national scale using rusle and gis framework
32.	Engr.Haseeb Ahsan	M.Sc(WRE)	20.08.2014	Development of envelope curve for Jhelum river basin
33.	Muhammad Rizwan	M.Sc(WRE)	10.02.2014	Development of coaxial curves for flood damage analysis
34	Muhammad Mudassar Maqsood	M.Sc(WRE)	30.04.2014	Development of soil erosion potential maps at national scale using rusle and gis framework
35	Engr.Haseeb Ahsan	M.Sc(WRE)	20.08.2014	Development of envelope curve for Jhelum river basin
42	Muhammad Rizwan	M.Sc(WRE)	10.02.2014	Development of coaxial curves for flood damage analysis
36	Muhammad Abbas	M.Sc.(WRE)	20.08.2014	Analysis of canal regime under different hydraulic and geometric conditions; a case study of LBDC canal system
37	Muhammad Arfan	M.Sc(EH)	20.08.2014	Assessment of spatial and temporal hydro variability of Indus basin
38	Hafiza Quratulain Fatima	M.Sc(WRM)	20.08.2014	Development of decision support system for optimal cropping pattern of a selected distributary
39	Muhammad Arfa Hassan	M.Sc(HP)	04.08.2015	Physical scale model study for optimal design of hydropower production on Nokhar Branch
40	Engr.Sajid Mahmood	M.Sc(WRE)	05.08.2015	Analysis of regime behavior of lower gugera branch canal after rehabilitation/remodeling of the system
41	Engr.Zohaib Nisar	M.Sc(WRE)	29.07.2015	Hydraulic performance assessment of orifice spillways using cfd modeling's case study of Mangla Dam main spillway
42	Zeeshan Yasin	M.Sc(WRE)	05.08.2015	Hydrological and hydraulic analysis of Matawan hill torrent for water resources development
43	Fiaz Hussain	M.Sc(WRE)	14.09.2015	Impact of rainfall and land use pattern on water and sediment yield of soan basin
44	Muhammad Waseem Boota	M.Sc(EH)	14.09.2015	Comparative study of probable maximum precipitation(PMP) techniques in pothwar region
45	Muhammad Faisal	M.Sc(EH)	13.10.2015	Assessment of flood inundation using hydraulic simulation model
46	Tanveer Abbas	M.Sc(EH)	16.10.2015	Impacts of land use changes on runoff generation of simly dam watershed
47	Hira Hameed	M.Sc(WRE)	16.10.2015	Optimal design of silt excluder of Khanki head work
48	Ehtesham Ahmed	M.Sc(WRE)	29.04.2016	Hydrological and topographical modeling of new dam site using gis and remote sensing techniques
49	Arslan Arshad	M.Sc(WRE)	04.07.2016	Estimation of climate change and its impact on rainfall pattern in southern Punjab
50.	Muhammad Yaseen	Ph.D(WRE)	07.09.2016	Climate change and its impact on stream flows in Mangla watershed using GIS based hydrological modeling
51	Wasim Haider	M.Sc(WRE)		Parameter evaluation of different irrigation methods in Bari doab of Pakistan
52	Muhammad Yasar	M.Sc(HPE)	20.10.2016	Numerical modeling for sensitivity analysis of water hammer in penstock
53	Muhammad Tariq	M.Sc(WRE)	29.12.2016	Rainwater harvesting options and issues: a case study of Lahore
54	Zil-e-Huma Malik	M.Sc(HP)	20.10.2017	Maximizing the energy output of HPP: A case study of Nasirabad hydro power project
55	Zeeshan Manzoor	M.Sc(WRE)	22.11.2017	Numerical simulation for the hydraulic analysis of canal (A case study of selected canal)
56	Muhammad Ismail	M.Sc(WRE)	08.11.2018	Investigation of issues faced by farmers towards adoption of drip irrigation in Southern Punjab
57	Ahmad Mujtaba	M.Sc(WRE)	08.01.2018	Estimation of water budget for an irrigation channel (A case study of 3L,4L distributaries of Ahmadpur canal)

## TRAINING WORKSHOP ORGANIZED at CEWRE

1. Training Workshop on Application of Geographic Information System (GIS) and Remote Sensing in Water Resources 2000.
2. Training workshop on Groundwater Computer Modeling 2002
3. Training workshop on Indus Basin Model (IBMR) 2004

4. Compressive training course on rainfall-runoff relationship and design of hydraulic structures. Organized by IUCN Baluchistan programme NIPA, Quetta, conducted by CEWRE. July 25, 2005
5. Training Course on Ground Water Modeling and Management. 21-23-Nov-2016
6. Training Course on Application of GIS and Remote Sensing in Water Resources Management. March, 2017.
7. Managing Indus Basin for Sustainable Development, Food Security and Poverty Alleviation. 13-April 2017
8. Sediment Transport Modeling in Rivers and Reservoirs.
9. January 16,2018
10. One day Seminar on Management of Water Scarcity and Security Issues of Pakistan. February 26, 2018.

#### COMPUTER LANGUAGES:

C++  
FORTRAN  
MATLAB

## Research Publications

### a) Journals

1. M Latif , Zia,H and G. Nabi 2014, "Comparison of state-managed and farmer-managed irrigation Systems in punjab, pakistan, Irrigation and Drainage John Wiley & Sons Ltd, UK vol(65)(4)
2. Yaseen, M., T. Rientjes, G. Nabi1, H.Rehman and M. Latif, 2014, Assessment of recent temperature trends in Mangla watershed, Journal of Himalayan Earth Sciences, vol. 47 (1) P 107-121.
3. Yaseen, M. G. Nabi1, H.Rehman and M. Latif, 2014, Assessment of Climate Change at Spatio-Temporal Scales and its Impact on Stream Flows in Mangla Watershed' Pakistan Journal of Engineering and Applied Sciences. 2014 Vol(15).P-17-36
4. Aftab. H. Azhar · M. Masood and G. Nabi 2013· Performance Evaluation of Reference Evapotranspiration Equations Under Semiarid Pakistani Conditions, Arab J Sci Eng, DOI 10.1007/s13369-013-0817-5
5. Azhar, A. Perera. C and G. Nabi 2011."A simple Soil Moisture Measurement Model to Address the Irrigation Water Management Issues". published in Mehran University Research Journal of Science and Technology, Mehran University of Engineering and Technology (MUET) Jamshoro Vol. 30 (2) April 2011
6. Azhar, A. and Nabi., G., 2011. "Impact Assessment of Punjab Irrigation Sector Reforms Interventions" published in Mehran University Research Journal of Science and Technology, Mehran University of Engineering and Technology (MUET) Jamshoro Vol. 30 (2) April 2011.
7. **Nabi, G.**, M. Habib, M. Kashif and M.Tarique 2011. Hydraulic Transient Analysis of Surge Tanks"(A Case Study Satpara and Golen Gol Hydropower Projects in Pakistan) published in Pakistan Journal of Engineering and Applied Sciences . 2011 Vol(8).
8. **Nabi, G.**, M. Latif, Habib,. M and Aftab. H. Azhar. 2011. The Role of Environmental Parameter (Degree Day) on Snowmelt Runoff Simulation" published in Soil and Environment Vol-30 Issue-1 2011.
9. **Nabi, G.**, M. Latif., M. Ahsan and S. Anwar. 2008. Soil erosion estimation of Soan river catchment using remote sensing and geographic information system. Paper published in Soil & Environment, formerly Pakistan Journal of Soil Science. Vol. 27, No. 1.
10. Raza, Ali, Latif M. and **Nabi, G.** 2007. Fabrication and evaluation of a portable long-throated flume. Irrigation and Drainage Journal, 56 (5): 1-12-ird.329, International Commission on Irrigation and Drainage (ICID), John Wiley & Sons (Wiley InterScience), U.K.
11. Anwar, S. B. Yu and **G. Nabi**, 2011 " Application of Weather Generator for Environmental Parameters Estimation for Upper Indus Basin",published in Soil and Environment Vol-30 Issue-2 2011

12. **Nabi, G.**, H. Reddy and M. Habib. 2011 "Gradually Varied Flow Computation in series and , Tree type and Looped Compound Channel Networks accepted for Publication in Pakistan Journal of Engineering and Applied Sciences. 2011 Vol(11).
13. Nabi., G., Habib. M. and A. Gaffar, 2007 "Hydrodynamic Modeling for Flood Routing (Maralla to Qadirabad Reach). Technical Journal university of Engineering and Technology, Taxilla.
14. Anwar. S, Khaliq. A , Nabi, G. and M. Zafar. 2004. "Use of Rain gun Sprinkler System For Enhancement of Wheat Production", Pakistan journal of life Sciences. (2004), 2(2): 174-177.
15. Pomee, M. S., Nabi, G. and et al. 2006. Guidelines of field calibration of irrigation outlet commonly used in Indus Basin irrigation system. A paper published in the Pakistan Journal of Water Resources, Vol. 9(1).
16. Nabi, G., M. Ashraf and Rizwan A. 2001. Heavy metal contamination of agricultural soils irrigated with industrial effluents. International Journal of Science, Technology & Development, Vol. 20(1), pp. 32-36.
17. Latif, M., **Nabi .G** and S. Anwar Pathogens studies on the Success Rate of Datepalm and Eucalyptus on Saline Soil and Using Saline Water, Pakistan journal of life Sciences. (2008), 6(1): 37-41.

#### **B) Workshops/Conferences**

1. Habib. M., **Nabi., G.** and Naeem. A, 2006. Modeling sediment yields at regional scale for indus sub-catchments Fifth International Symposium in New Technologies for Urban Safety of Mega Cities in Asia , Phuket, Thailand November 2006,
2. Habib. M. , **Nabi., G.** and Mazhar, A, 2006. Performance of sediment transport functions for reservoir sediment simulation: a case study for Mangla and Tarbela reservoirs Fifth International Symposium in New Technologies for Urban Safety of Mega Cities in Asia , Phuket, Thailand November 2006,
3. Latif, M. and **Nabi, G.** 2006. Utilization of different quality drainage waters for silviculture and agriculture purposes. Proceedings of Research Results Workshop, Pakistan Community Development Project for Rehabilitation of Saline and Waterlogged Land, UNDP, Aus-AID, IWASRI Publication No. 247, page 65-86.
4. **Nabi, G.**, M. Latif, and Khalid M. 2003. Cost comparison of different lining alternatives for small channels. A lining of Water channels held at WAPDA House, Lahore.
5. Habib. M., A. S. Shakir and **Nabi, G.**, 2009. Modeling sediment yields at regional scale using Fractal Approach. Fifth International Symposium in New Technologies for Urban Safety of Mega Cities in Asia, China, November 2009.

#### **C) Research and Technical Reports.**

1. Nabi. G and Latif. M. 2005. Hydraulic and Sediment Simulation to Draw Guidelines for Operation and Maintenance of Chashma Right Bank Canal: Report submitted to ISRIP WAPDA, Lahore.
2. Nabi. G and Latif. M. 2003. Utilization of different quality drainage water for silviculture and agriculture purposes. Pakistan Community Development Project for Rehabilitation of Saline and Waterlogged land. IWSARI Publication No. 252 (Bio-Saline Project PAK/97/024), sponsored UNDP and AusAID.
3. Sediment behavior of Sangro Distributary, Mirpurkhas subdivision, Sindh. Field report published in International Water Management Institute (IWMI) Pakistan dated 1998.
4. Monitoring and Evaluation of Water User Associations 2005, A report submitted to Punjab Irrigation and Drainage Authority (PIDA), Lahore

#### **d) Research Project.**

Assessment of Agricultural Drought Prone Areas of Pothwar and Agro-Ecological Zoning (AEZ) Using Remote Sensing Techniques Funded by Pakistan Science Foundation

#### **e) BOOKS**

1. DAM AND RESERVOIR ENGINEERING  
Authors: Prof. Dr. Atta-ur-Rehman Tariq and Ghulam Nabi.

2. Remote Sensing and GIS (An Introduction)  
Dr. Ghulam Nabi