

RESUME
PROF. DR. RASOOL BUX MAHAR



He is a working as Professor in U.S.-Pakistan Center for Advanced Studies in Water at Mehran University of Engineering and Technology, Jamshoro, and heading Environmental Engineering and also as an **Editor of** Mehran University Research Journal of Engineering & Technology. He did PhD from Tsinghua University Beijing, China. Having a more than 20 years teaching and research experience. Published more than 30 research papers in International reputed Journals and presented more than 20 papers in National and International conferences and symposiums. He has been remained as a Co-director/ HoD of Environmental Engineering Department, in the Institute of Environmental Engineering & Management; Mehran University. Worked as a Project Coordinator/P.I in various research projects funded by various donors, i.e. HEC, DFID, & UNEP.

Worked as professional engineer in the field of environmental and civil engineering especially in hydraulics, drainage and irrigation including teaching and research including water and waste water quality analysis, conducted various Environmental Impact Assessments (EIAs) of rehabilitation of canals, minors and distributaries, which includes Base line survey, identification of environmental issues and their mitigation measures, formulation of Environmental Management Plan(EMP); Environmental Scoping and Screening Reports (ESSR) of various projects.

A. EDUCATION

Degree/Diploma	Institution	Year
Ph.D. in Environmental Engineering	Tsinghua University Beijing China	2003-2007
M.Sc. in Rural Development	Through linkage program between WYE college University of London U.K and Sindh University Jamshoro	1996-1997 (part-time)
M.E. (Environmental Engineering)	Mehran University of Engineering and Technology, Jamshoro	1997-1999 (part-time)
B. E. in Civil Engineering	Mehran University of Engineering and Technology, Jamshoro	1987-1992

i) Foreign Training Courses

1. Training Workshop on Integrated Solid Waste Management held on 4-9 October, 2009 organized by UNEP, IETC Osaka Japan.
2. 2-days Training Workshop on Capacity Building in Geospatial Information and Environmental Data held on 13-14 June-2011 at Regent Plaza Hotel Karachi Organized by NIEMS and UNDP, Pakistan.
3. Regional Workshop on Waste Agricultural Biomass held on from 2-5 March, 2010 organized by UNEP/GEC, Osaka Japan.
4. Fifth Asia-Pacific Urban Forum held on from 22 – 24 June 2011 at the United Nations Conference Center (UNCC) in Bangkok, Thailand
5. Sub-regional Dissemination Workshop on Converting Waste Agricultural Biomass into

- Energy South Asia, 12-14 November 2013, Delhi, India
6. Global Dissemination Workshop on Converting Waste Agricultural Biomass into Energy Osaka, Japan 16-19 December 2014.
 7. Participated in meeting on Solid Waste Management Experts in Asia and Pacific Islands (SWAPI) from 22 to 26 February 2015 organized by Japan Environment and Sanitation Center.

B. JOB EXPERIENCES

Position held (2015- to date)	Professor (Environmental Engineering), U.S.-Pakistan Center for Advanced Studies in Water (USPCAS-W)
Employer	U.S.-Pakistan Center for Advanced Studies in Water (USPCAS-W) at Mehran University of Engineering and Technology, Jamshoro.
Description of Duties	Working as a Professor/HOD, Environmental Engineering program of Masters and PhD, Curriculum development, Developing Lecture plan, updating the course content, establishment of labs.
Position held (2008 - 2014)	Professor/ Co-Director Institute of Environmental Engineering and Management, Jamshoro.
Employer	Mehran University of Engineering and Technology, Jamshoro.
Description of Duties	Teaching, Research and Design as well as to carry out various Environmental studies. Supervising Post graduate and PhD students; design of course works of under and post graduate students.
From	July 2003 to July 2007
Employer	Department of Environmental Science and Engineering Tsinghua University Beijing China
Position held	Research Associate /PhD Candidate
Description of Duties	Research work carried out at laboratory and pilot scale on MSW Landfill leachate migration and its impacts on ground water and surface water quality. Leachate generation and migration phenomenon were studied. Leachate quality analysis was carried out in which heavy metals in leachate water were the main focus. Coal fired power plants' effects on ecology and risk assessment. During this period research papers were got published in international reputed journal.
From	1999 to 2003
Employer	Mehran University
Position held	Assistant Professor: Environmental/ Subject Specialist
Description of Duties	Teaching and Research
From	1997-1999
Employer	Mehran University
Position held	Assistant Professor
Description of Duties	Impacts of thermal power effluents' disposal on the water quality of River Indus, Joint Project between Mehran University and Environmental Protection Agency (EPA) Sind sponsored by World Bank.
From	1993-1997

Employer	Mehran University
Position held	Lecturer
Description of Duties	In-charge of Environmental Laboratory, demonstrated and conducted water quality analysis, Delivered the lectures of subject of Public Health Engineering to undergraduate students

6. Additional Assignments

Position	Activity/Responsibility	Period
Team leader	Worked as a Team Leader,” <i>Third Party Validation/Monitoring of Environmental & Social Management Plan (ESMP) & Resettlement Plan (RP) of 6th Secondary Transmission and Grid (STG) project under HESCO and SEPCO funded by World bank.</i>	2012-2014
Team leader	<ul style="list-style-type: none"> o Environmental Impacts Assessments of Lining of Dadu and Rice Canals Client WAPDA with ACE-BARQAB-NESPAK o Environmental Impacts Assessments of Lining of Rohri Canal Client WAPDA with ACE-BARQAB-NESPAK o Environmental Impacts Assessments of Lining of Phullely, Pinyari and K.B. Feeder Canals Client WAPDA with ACE-BARQAB-NESPAK. o Environmental Impacts Assessments of Construction of flood water diversion channels from Spinal drain to Kalankar and Hathongo lakes complexes Canals Client WAPDA with ACE-BARQAB-NESPAK. 	20011-2012
Environmental Specialist	<ul style="list-style-type: none"> o Worked as a Environmental Specialist “Sind On Farm Water Management (SOFWM) Project for Rehabilitation of Branch canals, minors and distributaries” funded by World Bank 	2008-2011
Chairman, Pre-Admission Test Committee	To conduct Pre-Admission Test for Students entering in Mehran University for undergraduate program overall responsible for transparency in conduct of Pre-Admission Test and Assessment.	2008-2014
Editor, Mehran University Research Journals	To process the research paper for review and evaluate the comments of the reviewer and publish.	2012 to date
Convenor, Health and Safety Committee	To development of guidelines for health and safety manual for Mehran University and monitor the implementation process.	2009 to date

C. ADVISORY EXPERIENCES

Designation	Description	Duration
Member	Senate & Academic Council MUET, Jamshoro	2008 – to date
Chairman /	Board of Studies (BOS) Department of Environmental	2009 - to date

Convenor, Member Member	Engineering Advanced Studies and Research Board (ASRB) Consultant Selection Committee Works and Services	2010 – to date 2008 – 2011
Member	Department, Govt. of Sind Steering Committee on Urban Development Centre, P&D	2010-2014
Member Convenor	Department Govt. of Sind Board of Sindh Irrigation and Drainage Authority (SIDA) Health and Safety Committee, at Mehran University of Engineering & Technology, Jamshoro	2015 to date 2009 to 2014

D. RESEARCH PROJECTS

Designation	Project Description	Duration
Principal Investigator	Worked as a Project Coordinator/P.I, UNEP funded project titled, Converting Waste Agriculture Biomass into Resource/Energy.	2008-2011
Project Coordinator	Worked as a Facilitator in British Council and DFID funded project under umbrella of DelPHE, titled, “Capacity Building and Water Demand Management”.	2008-2011
Principal Investigator	Worked as a Principal investigator in HEC funded project , titles “Characterization and Quantification of Municipal Solid waste of Hyderabad City”	2007-2009
Principal Investigator	Study carried on, “Impact of wastewater disposal of Hyderabad city on the water quality of Phulleli Canal”.	1999-2001
Principal Investigator	Study carried out on , “Sea intrusion and its environmental impacts on Ghorabari, district Thatta”.	2001-2003
Principal Investigator	Study carried on, Physico-chemical analysis of DUG well water of Thar.	2001-2002

E. PUBLICATIONS

a) *Refereed International Journals*

1. **Rasool Bux Mahar**, Abdul Razaque Sahito, Khan Muhammad Brohi. Assessment of Environmental Sound Technology for Converting Waste Agricultural Biomass into Energy at District Sanghar, Pakistan. Mehran University Research Journal of Engineering & Technology, Special Issue, (2015), [accepted]

2. Abdul Razaque Sahito, **Rasool Bux Mahar**, Farman Ali Chandio. Anaerobic Digestion of Buffalo Dung: Simulation of Process Kinetics. *Mehran University Research Journal of Engineering & Technology*, 34:1, 40-45, (2015).
3. **R. B. Mahar**, A. R. Sahito Yue Dongbei and K. Khan, "Modeling and Simulation of landfill gas production from pretreated MSW landfill. *Frontiers of Environmental Science and Engineering*. April 2014, pp. 1-9. DOI 10.1007/s11783-014-0685-6
4. Abdul Razaque Sahito, **Rasool Bux Mahar**. Enhancing Methane Production from Rice Straw Co-Digested With Buffalo Dung by Optimizing: Effect of Substrate Ratio, Alkaline Doze, and Particle Size. *The Journal of Animal & Plant Sciences*, 24(4): 2014, pp. 1076-1084, ISSN: 1018-7081
5. Abdul Razaque Sahito, **Rasool Bux Mahar**, Farooq Ahmed. Effect of Buffalo Dung to the Water Ratio on Production of Methane through Anaerobic Digestion. *Mehran University Research Journal of Engineering & Technology*, 33:2, 237-244, (2014).
6. Abdul Razaque Sahito, Rasool Bux Mahar, Syed Feroz Shah, Khan Muhammad Brohi. A Correlation for Estimating Elemental Composition of Lignocellulosic Biomass from Its Volatile and Fixed Solids Content. *Sindh University Research Journal (Science Series)*, 45:4, 665-672, (2013).
7. Abdul Razaque Sahito, **Rasool Bux Mahar**, Khan Muhammad Brohi, Anaerobic Co-Digestion of Canola Straw and Buffalo Dung: Optimization of Methane Production in Batch Experiments. *Mehran University Research Journal of Engineering & Technology* 33:1, 49-60, (2014).
8. Abdul Razaque Sahito, **Rasool Bux Mahar**, Khan Muhammad Brohi. Kinetics of Anaerobically Co-Digested Crop Residues and Buffalo Dung. *Sindh University Research Journal (Science Series)*, 46:1, 09-14, (2014).
9. Abdul Razaque Sahito, **Rasool Bux Mahar**, Zuhaib Ahmed Siddique, Khan Muhammad Brohi. Estimating calorific values of lignocellulosic biomass from volatile and fixed solids. *International Journal of Biomass & Renewables*. 2:1, 1 - 6 (2013).
10. Abdul Razaque Sahito, **Rasool Bux Mahar**, Khan Muhammad Brohi. Anaerobic Biodegradability and Methane Potential of Crop Residue Co-Digested with Buffalo Dung. *Mehran University Research Journal of Engineering & Technology*, 32:3, 509-518, (2013).
11. Abdul Razaque Sahito, **Rasool Bux Mahar**, Khan Muhammad Brohi Assessment of Ex-Vitro Anaerobic Digestion Kinetics of Crop Residues Through First Order Exponential Models: Effect of LAG Phase Period and Curve Factor. *Mehran University Research Journal of Engineering & Technology*, 32:4, 509-518, (2013).

12. **Rasool B. Mahar**, A. R. Sahito and M. A. Uqiali. Biomethanization potential of waste Agriculture Biomass in Pakistan: A Case Study. *International Journal of Biomass and Renewables (IJBR)*. 1, 32-37, 2012.
13. Abdul Razaque Sahito, **Rasool Bux Mahar**, Mushtaque Ahmed Memon, Khan Muhammad Brohi.: Assessment of Waste Agricultural Biomass for Prevailing Management, Quantification and Energy Potential at Sanghar Pakistan. *Waste Biomass Valorization*. 3,275–284 (2012). DOI 10.1007/s12649–012–9132–8
14. Pathan, A.A., **Mahar, Rasool Bux** and Ansari, K. “Preliminary Study of Greywater Treatment through Rotating Biological Contactor” , Mehran University Research General of Engineering and Technology, Volume 30, pp. 533–538, 2011.
15. **Rasool B. Mahar**, Jianguo Liu, Li Huan, Dongbei Yue, and Yongfeng Nie. Biopretreatment of Municipal Solid Waste Prior to landfilling and its kinetic. *Biodegradation* 20(3):319-30, 2009
16. Huan Li; Yiyang Jin, **Rasool Bux Mahar** and Zhiyu Wang. Effects of ultrasonic disintegration on sludge microbial activity and dewaterability. *J Hazard Mater*. [Volume 161, Issues 2-3](#), January 2009, Pages 1421-1426.
17. Huan Li; Yiyang Jin, **Rasool Bux Mahar**. Alkaline and ultrasonic combining pretreatment before sludge aerobic digestion. *Journal of Environmental Sciences* 21(3) 2009.
18. **Rasool B. Mahar**, Jianguo Liu, Dongbei Yue, YuanYuan Zhang and Yongfeng Nie. Biological pretreatment of MSW prior to landfilling. *Global NEST Journal*. 11, 4,510-517, 2009.
19. [Xingrun Wang](#), [Yiyang Jin](#), [Zhingyu Wang](#), **Rasool Bux Mahar**, [Yongfeng Nie](#). A research on sintering characteristics and mechanisms of dried sewage sludge. *J Hazard Mater* [Volume 160, Issues 2-3](#), December 2008, Pages 489-494.
20. Huan Li; Yiyang Jin, **Rasool Bux Mahar** and Zhiyu Wang. Effects and model of alkaline waste activated sludge treatment. *Bio-resource Technology* ([Volume 99, Issue 11](#), July 2008, Pages 5140-5144
21. **Rasool B. Mahar**, Jianguo Liu, Dongbei Yue, and Yongfeng Nie. Biodegradation of Organic Matters from Mixed Un-shredded Municipal Solid Waste through Air Convection prior to Landfilling. *J. Air & Waste Manage. Assoc.* 57:39–46, 2007.
22. **Rasool B. Mahar**, Jianguo Liu, Dongbei Yue, and Yongfeng Nie. Landfilling of pretreated mixed un-shredded municipal solid waste by natural convection of air and its effects. *Journal of Environmental Science and Health Part A: Toxic and Hazardous Substances and Environmental Engineering*. 42, 3, 351-359, 2007.
23. Dongbei Yue, Yudong Xu and **Rasool B. Mahar**, Fuqiang Liu, Yongfeng Nie. Analytical solution of gravity separation model (GSM): Separation of water droplets from vapor in submerged combustion evaporator. *Chemical Engineering Journal* 126, 171–180, 2007.

24. Dongbei Yue, Yudong Xu and **Rasool B. Mahar**, Yongfeng Nie. Laboratory-scale experiments applied to the design of a two-stage submerged combustion evaporation system. *Waste Management* 27, 5,704-710, 2007.
25. M.H.S.Wattoo, T.G.Kazi, S.A.Tirmizi, M.I.Bhanger, **R.B.Mahar**, J. Iqbal "Quality characterization of Phulali canal water for agricultural purposes" *The Nucleus* Vol:41 pp:69-75, 2004.
26. Mukhtiar A. Unar and Rasool B. Mahar. Neural network application for hydraulic characteristics of drop and jump. *Mehran University Research Journal Engineering and Technology*.21, 3, 133-140, 2002
27. Abdul Q. Bhatti, **Rasool B. Mahar** and Abdul A. Memon. Hospital infectious waste and its proper disposal. *Mehran University Research Journal Engineering and Technology*.21, 3, 147-153, 2002.
28. **Rasool B. Mahar**, Abdul R. Memon and Misbahuddin M. Impact of Industrial Effluents on the Water Quality of Phulleli Canal. *Mehran University Research Journal Engineering and Technology*.20, 1, 37-42, 2001.
29. Abdul R. Memon and **Rasool B. Mahar**. Evaluation process of global environmental impact: Assessment guidelines. *Mehran University Research Journal Engineering and Technology*.20, 3, 129-138, 2001.
30. **Rasool B. Mahar**, Haji M. Memon and Mohammad Y. Khuhawar. Effect of Lakhara Thermal Power Station (LTPS) effluents' on the River Indus water quality. *Pak Journal of Analytical Chemistry*. 1, 91-98, 2000.

b) *Papers Published In Conference Proceedings*

1. M. Safar, **R. B. Mahar** and M.A. Uqaili. Composting the Organic Fraction of Municipal Solid Waste (OFMSW) of Hyderabad City. *Energy, Environment and Sustainable development*, 2012.
2. Abdul Razaque Sahito , **R.B Mahar** and K.M. Brohi. Prediction of Gross Calorific Values of Lignocellulosic Biomass from Volatile and Fixed Solids. *Energy, Environment and Sustainable development*, 2012.
3. **R B Mahar**, Korai M S, Sahito A R. "Characterization and Quantification of MSW of Hyderabad City Pakistan: Proceeding of the 12th International conference on Environmental Science and Technology, Rhodes, Greece, 8-10 September 2011.
4. **R. B. Mahar**, K. Ansari and H. Ursani. Flood 2010: Causes and Impacts in Sindh. International Conference on "Floods 2010: A Dialogue to Transform Devastation to Opportunity", 23 - 24 February, 2011 at NUST, Islamabad.
5. **R. B. Mahar**. Current Status of Municipal Solid Waste Management in Pakistan. Integrated Sustainable Solid Waste Management in Asia(*ISSOWAMA*).European Commission – funded Coordination and Support Actions (Coordinating)Beijing, P.R.China 17-18 July 2010.

6. Mazhar Kolachi, Aamna Balouch, **Rasool Bux Mahar**, Muhammad Iqbal Bhangher. Removal of Fluoride From Ground Water By Solid Phase Adsorption Utilizing Natural Adsorbents. Proceeding in 2nd National Conference on Fuel and Environment, Baragali Summer Campus, University of Peshawar, July 23 – 27, 2010.
7. A. Pathan; **R. B. Mahar**; M.I. Bhangher; F. A. Memon ; A. K. Ansari. Development of Continuous Flow Type Rotating Biological Contactor (RBC) Simulator for Greywater Treatment. First International Conference on Sustainable Water Management (SWM),15 – 17 September 2010.
8. K.M.Brohi, **R.B.Mahar** and M.A Uqaili Air Pollution Control in Road Network of Pakistan. 1st International Conference on Energy Environment and sustainable Development, 4-5 May, 2009.
9. **R. B. Mahar**; A.A. Pathan; F. A. Memon ; N. Memon A. K. Ansari. Characterizing and Treatment of Greywater through Rotating Biological Contactor. 3rd Specialized Conference on Decentralized Water & Wastewater International Network-.Kathmandu, Nepal 11 – 13 November 2009.
10. M. H. Rajpoot, A.K Ansari, F.A. Memon and **R.B. Mahar**. Grey Water Treatment Through Grey Technology in Pakistan. Proceeding of International Conference on Sustainable Development for Water and Wastewater Treatment. Yogyakarta, Indonesia, December,14-15, 2009.
11. **Rasool B. Mahar**, Jianguo Liu, Dongbei Yue, and Yongfeng Nie Sustainable landfilling Approach: Two-Stage Bioreactor Fifth Asian Pacific landfill Symposium Sapporo, Japan, from October 22 -24, 2008
12. **Rasool B. Mahar**, Jianguo Liu, Dongbei Yue, and Yongfeng Nie . Biological pretreatment of municipal solid waste prior to landfilling. 10th International Conference on Environmental Science and Technology CEST Greece, September, 5-7 2007.
13. **Rasool B. Mahar**, Jianguo Liu, Dongbei Yue, and Yongfeng Nie. Sustainable Landfill: Pre-treatment of MSW prior to landfilling, Fourth Asian Pacific landfill Symposium Shanghai from October 18 -20, 2006.
14. **Rasool B. Mahar**, Jin Yiying, and Yongfeng Nie Mechanical-biological pretreatment of municipal solid waste prior to landfilling. International conference on environment and circular economy in Tianjin, China. December, 9-11, 2004.
15. **Rasool B. Mahar**, Li Jinhui and Nie Yongfeng. Coal fired power plants' effects on ecology and risk assessment. 2nd International Conference on Environmental Concerns: Innovative Technologies and Management Options Xiamen, China. October 18-21, 2004.

c) **Books Published As An Author/Co-Author/Editor:**

Editor of Book, titled, “Sustainable Water Management in Developing Countries: Challenges and opportunities” 2010. ISBN:0-9539140-4-6

Co-Author of Book titled, “Characterization and Quantification of Waste Agriculture Biomass in Pakistan: A case study 2012. ISBN: 978-3-659-18862-6

Editor, Mehran University Research Journal of Engineering and Technology,
Quarterly Journal

G. AWARD RECEIVED

1. Best Engineer Award 2012, by Mehran University Alumni Association
2. Best University Teacher Award, 2011 by HEC Pakistan
3. Excellent Research Award : Equivalent to 1000 US\$ awarded by Tsinghua University
4. PhD Scholarship Award by Higher Education Commission(HEC) of Pakistan
5. Master's Thesis Sponsorship Award by Sindh, EPA from World Bank funded project and amount received Rs. 1000, 00.00
6. Qaiud Azam Ali Garh Trust Scholarship Award

E. COMPUTER SKILLS

Primavera, MATLAB, MS Office SPSS, Mini Tab, ANSYS, AUTOCAD, FORTAN, VB (Visual Basic) & C++

F. PROFESSIONAL MEMBERSHIP

1. Pakistan Engineering Council
2. Registered as an Environmental Consultant with Federal and Sind EPA
3. Global Partnership in Waste Management IETC, UNEP, Osaka Japan.
4. International Waste Working Group (IWWG) Not for profit Waste Management Organization, Italy
5. Member Expert Committee on Solid Waste Management in Asia and Pacific Islands (SWAPI)
6. Member of Curriculum Development Committee Constituted by Higher Education Commission of Pakistan
7. Member of Sindh Irrigation and Drainage Authority (SIDA)
8. Member Left Bank Canal Circle Area Water Board (LBCAWB)

G. LANGUAGE SKILLS

Languages	Reading	Writing	Speaking
Balochi	-	-	Good
Sindhi	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent

Urdu	Excellent	Excellent	Excellent
Siraiki	Good	Good	Good
Marwari			Good

H. PERSONAL DETAILS

Date of Birth	01 January, 1968
Nationality	Pakistani
NIC Number	44107-7296369-3
Domicile	Sanghar (Rural)
Marital Status	Married
Countries Visited	Japan, Malaysia, China, Turkey, Thailand, UAE, UK, Italy, Greece, Saudia Arabia and Indonesia

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