

Dr. Fayez A. Abdulla

Hydrolog, Drought, Climate Change & Water Resources Engineering expert



Key Qualification

Mr. Abdulla holds a Ph.D. in Water resources and environmental engineering. He has more than 25 years of national, regional and international experience in water resources, climate change and drought assessment and environmental engineering.

He joined the Civil Engineering Department at Jordan University of Science & Technology in year 1995. During the period 2000-2004, he was the Director Queen Rania Al-Abdullah Center for Environmental Sciences and Technology (QRACEST) at Jordan University of Science and Technology (JUST).

In the last 18 years, Dr. Abdulla was involved in many Drought Assessment, Hydrological modelling (surface and groundwater) climate change and hydrological studies for Dams and Watersheds. He is recognized by many countries in the region as a regional expert on climate change and hydrology and drought Assessment. He is also well known in surface and groundwater modeling. He has more about 25 years experience in both academic and professional streams. He conducted many hydrological studies related to water resources, drought management. Water demand management and climate change. Also, he has the ability to construct a rainfall-runoff model for any watershed located in the semi-arid and arid regions and developing software such as Palmer drought index software and drought assessment software. In addition, he is good experience in using GIS software and other related softwares to water resources management such as SWAT, WEAP, HECRAS, SMADA and HECHms etc. .

He Supervised 28 graduate' Master Thesis on Wastewater, Water quality, Water Demand, Water Harvesting, Drought management and hydrological modelling. He is experienced in working and collaborating with international funding agencies including USAID, WHO, UNESCO, EU, UNDP, IDRC, Swiss Development Corporation (SDC). He has regional and international experience in water resource, climate change and environmental management in Jordan, West Bank, Syria, Yemen, Lebanon, Iraq and Egypt, Cyprus, Germany, and USA. From year 2006-2010, he served as an instructor for "Water Conservation" course in the IWRM master program of Cologne Applied Sciences University and University of Jordan. Also, he provided the "Water Demand and Drought Forecasting" course in the Water Demand Management Master Program at Jordan University of Science & Technology

Education

- 1- Ph.D. Civil Engineering/ Water Resources & Environmental Engineering, July,1995, Environmental Engineering & Science Program, University of Washington, Seattle, USA Thesis Title: Regionalization of a Macro-scale Hydrological Model
- 2- M.Sc. Civil Engineering/ Water Resources & Environmental Engineering, July, 1987, Jordan University of Science and Technology, Irbid, Jordan. Thesis Title: Development of a Stochastic Single-Site Seasonal Rainfall Simulator (For Application in Irbid Region)
- 3- B.Sc. Civil Engineering/ Water Resources & Environmental Engineering, June, 1985, Yarmouk University, Jordan. Graduation project: Design and Analysis of Three Different Types of Wastewater Treatment Plants for Irbid City.

Experiences

- 1- Aug. 2008 to present Professor: Water Resources and Environmental Engineering, Department of Civil Engineering, Jordan University of Science and Technology, Irbid, Jordan
- 2- Oct. 2000 to Aug. 2008 Associate Professor: Water Resources and Environmental Engineering, Department of Civil Engineering, Jordan University of Science and Technology, Irbid, Jordan
- 3- Sept. 2000 to Aug. 2004 Director Queen Rania Al-Abdullah Center for Environmental Sciences and Technology (QRACEST) at Jordan University of Science and Technology (JUST). The mandate of the center emphasizes sustainable development through environmental awareness, education and training; research and development; environmental management and auditing; and technical services. Responsibilities included: participating in building the capacity of the center. Planning the full scope of the center's activities both short and long term. Planning and participating in the meetings of the center's councils. Preparing and administering budgets. Writing and editing periodic reports and descriptive materials concerning the different programs of the center.
- 5- Sept. 95 to Sept. 2000 Assistant Professor: Water Resources and Environmental Engineering, Department of Civil Engineering, Jordan University of Science and Technology, Irbid, Jordan.
- 6- Aug. 98 to Aug. 99 Coordinator of the Environmental and Water Resources Engineering program at Jordan University of Science and Technology.
- 7- Sept. 91 to Aug. 95 Graduate Research Assistant, Environmental Engineering & Science Program, Department of Civil Engineering, University of Washington, WA, USA. Developed studies related to climate change, land surface parameterization, optimization, and hydrological modeling.
- 8- Sept. 89 to Aug. 91 Full time lecturer, Civil Engineering Division, Arab Community College. Taught courses entitled: Wastewater Treatment, Sanitary Engineering, and Water Resources.

- 9- Sept. 87 to Aug. 89 Site Engineer, Jordan Arab Army, Duties: Design and consultation for Water and wastewater projects.
- 10- Sept. 85 to Aug. 87 Graduate Teaching Assistant, Dept. of Civil Engineering, Jordan Univ. of Science and Technology

COURSES TAUGHT

Engineering static	Applied Probability and Statistic for Civil Engineers
Fluid Mechanics	Applied Mathematics for Engineers
Engineering Hydraulics	Water Resources planning and management
Fluid Mechanics and Hydraulic lab	Dam Engineering (Graduate and undergraduate)
Environmental Engineering	Environmental Engineering Design
Environmental Chemistry	Water and wastewater systems design
Hydrology & Groundwater	Open Channel Hydraulics (Graduate)
Drought Management and Forecasting	Groundwater Modeling
Water Demand Forecasting (Graduate)	Environmental Engineering lab
Water Resources Engineering (Graduate)	Surface and Subsurface Modeling (Graduate)
Applied Surface Hydrology (Graduate)	Groundwater Modelling (Graduate)
Engineering Mechanics	Hydraulic Structures (Graduate)

Projects and consultations

Relevant experience in water resources management, drought, hydrology and climate change

1. National consultant for the project “Capacity Building on Water Demand Management in Jordan and Tunisia” (“Project”). The project is managed by REKK Energiapiaci Tanácsadó Kft. 2016. June –December 2016.
2. National consultant for the project “WATER POrT: Capacity building on water resources management in a changing climate in Jordan and Tunisia” (“Project”). The project is managed by the Regional Environmental Center (“REC”) (Hungary). The main task is to carry out services for the project **Task 3 – Drought Management and Water Scarcity and Adaptation. May –Nov 2016**
3. National consultant Support for the pilot project “Promoting Inclusive Groundwater Governance in the Near East and North Africa the Food and Agriculture Organization of the United Nations (“FAO”). **The project has a component to assess the drought, climate change and water situation in Azraq Basin. March-July 2016.**
4. Assessing climate-change impacts on drought conditions in Jordan, project funded by Jordan University of Science and Technology, the project was developed during the two-year sabbatical leaves 2011-2013.
5. Supervisor for Master thesis **on Drought Regionalization in Jordan**, Civil Engineering Department, Jordan University of Science and Technology, 2015-til now.

6. Local consultant for the project “**Intersectoral coordination for the implementation of the climate policy of the Jordanian Environment Ministry (GF-ICE). For “Developing a Gap Analysis and Strategic recommendations for the institutional set up of a sustainable mechanism for GHG inventory leading to an MRV system in Jordan” this consultancy is funded by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. August 2015-October 2015**
7. International Consultant for the Regional Environmental for Central and Eastern Europe (REC). The task involves activities related to the Roundtable discussion on Water and Climate change in Arab Region, under the MENA Water World Cafe 2015 side event that will be organized by REC during the World Water Week 2015 in Stockholm, Sweden. This consultancy is within the completion of the project component “Water resources management good practices and knowledge transfer-WATER POrT” in the framework of the implementation of the regional project “Sustainable Use of Transboundary Government and Water Security Management” (WATER SUM), funded by the Swedish Government and monitored by the Swedish International Development Cooperation Agency.
8. International consultant for Stichting Onderzoek Wereldvoedselvoorziening van de VU Universiteit, Amsterdam (SOW-VU); also known as Centre for World Food Studies of the VU University, Amsterdam for the regional project entitled “Towards concerted sharing: development of a regional water economy model in the Jordan River Basin Project” March 2013-August 2016. **The project has an activity on climate change and drought of Jordan River Basin.**
9. National consultant for Ministry of Water and Irrigation “Technical Assistance on Climate change Analysis and Downscaling”, September 2014 to April 2015
10. National consultant for UNDP-Jordan “Quantification of Uncertainty of Greenhouse gases inventory” Third National Communication report of Jordan” August 2014-September 2015. Project funded by UNDP-Jordan.
11. National Consultant for Engicon Company “**Hydrological Studies for Raising Wala Dam Dam Project” January 2014-April 2015. Project funded by Ministry of Water and Irrigation.**
12. Review of design of (20) dams in different areas at Kingdom of Saudi Arabia
 1. **National Hydrologist for Orient Consulting Company (2010-2011)** Yarmouk River Basin Water Resources Assessment and Use. Funded by Jordan Valley Authority, Ministry of Water and Irrigation, Amman, Jordan. **The consultancy has a component on drought characterization of Yarmouk River basin.**
 2. Team Leader for the project entitled “Assessment of Direct and Indirect Impacts of Climate Change scenarios on water availability and quality in the Zarqa River Basin” The project is funded by UNDP (2009-2010) and implemented by Queen Rania Al_Abdullah Center for Environmental Sciences & Technology (QRACEST-JUST). **The project has a component on drought assessment of Zarqa River Basin.**
 3. Team Leader for the project entitled “Capacity Building of Northern Jordan

- Communities on Water Resources Vulnerability and Adaptation to climate change” funded by UNESCO (2010-2011) and implemented by Queen Rania Al_Abdullah Center for Environmental Sciences & Technology (QRACEST-JUST).
4. Regional Consultant for UNESCO (July 2009- January 2010), the assignment was to write a report on "**Climate change and drought risk management in Wadi Systems in Arab Region**". The study submitted and accepted by the UNESCO office Cairo, International Hydrological Program. Egypt Cairo.
 5. National Consultant for UNDP (2007) “Preparing a Joint Program Document for Jordan: Adaptation to Climate Change to sustain Jordan’s MDG Achievements”, funded by UNDP, 2 September – 2 October, 2007.
 6. International Consultant (2007) for the European Union's Food Security Programme for the Yemen Republic to develop training course on “ Analyses and interpretation of hydro- and meteorological data to establish a watershed management plan “ Tihama Development Authority (TDA), Hodeidah, Yemen, 13 April – 24 April, 2007. **The consultancy has a one day training on drought assessment and management.**
 7. National Team Leader for the Vulnerability and Adaptation to climate change project (2007-2008) funded by the UNDP. The study involved the Yarmouk River and Zarqa River Basins. Impact of climate change on surface waster resources and agriculture were assessed for both basins.
 8. National Consultant and Principal investigator (2006) for the hydrological study of Wadi Kufranja Dam funded by Jordan Valley Authority, Ministry of Water and Irrigation, Amman Jordan. **The study has on chapter on drought assessment in Kufranja basin.**
 9. Climate Change Consultant (2006) for the second phase of National Capacity Self Assessment for Global Environmental Management Project (NCSA) funded by the Global Environmental Facility (GEF).
 10. National Climate Change Consultant for the project entitled “Piloting climate change adaptation to protect human health” (2006). The project is supervised by World Health Organization/CEHA and funded by GEF/UNDP.
 11. Presentation entitled “Research Priorities on climate change and its health impact” in a regional workshop on Adaptation Strategies to Protect Health Under Climate Variability and Change in Water Stressed Countries in EMR, Organized by CEHA/WHO, Amman _ Jordan, 11-14 December 2006.
 12. Presentation entitled “Hydrological concepts for agricultural engineers” in the regional training program “Wastewater Reuse in Agriculture: Management & Practical Aspects Demonstration of Safe Water reuse, Irbid-Jordan, 8 December 2006.
 13. Team leader of the project “Reservoir Management for the Southern Systems of Jordan”, 2002-2004. Funded by the USAID. During this project hydrological studies and reservoir simulation programs will be developed for three watersheds (Tannur Dam, Wala Dam and Mujib Dam). These studies will be used for better management of the system.
 14. JUST Coordinator for “Skills Enhancement and Support to Decision-Makers in Jordan’s Water Sector”, 2002-2004. Funded by USAID. The objectives of this

- project are to enhance the skills of decision-makers of Ministry of Water and Irrigation (MWI), Water Authority of Jordan, and Jordan Valley Authority.
15. "Water Efficiency and Public information for Action". 2001-2002. Funded by USAID and implemented by AED. Team leader for JUST and the Northern Region. The main objectives of this project is to improve and expand public education on the water shortage situation in Jordan and promoting ways in which individuals and public and private sector institutions can conserve and manage scarce water resources.
 16. Management of saline soil using Remote Sensing and Geographic information Systems (GIS) In Jordan Valley, Funded by the Higher Council of Science and Technology (HCST), Amman, Jordan, 2000.
 17. Development of GIS-Hydrological model for Managing water Resources in the Zarqa River Basin, Funded by the Higher Council of Science and Technology (HCST), Amman, Jordan, 2000.
 18. Development of GIS based model for solid waste landfills sitting in Amman Zarqa Region. Funded by the Higher Council of Science and Technology (HCST), Amman, Jordan, 2000.
 19. **Drought Assessment and Management in Jordan using Geographic Information Systems (GIS), research proposal funded by the King Hussein Environmental Management Training Program and the Canadian International Development Agency, 1998-2000.**
 20. Economic evaluations of different wastewater treatment technologies in Jordan, research Proposal funded by the King Hussein Environmental Management Training Program and The Canadian International Development Agency, 1998-2000.
 21. Consultant and member of the National Committee for Dam: Duties preparing reports related to hydrology, hydraulics and environment related to dams. While serving in this committee the following activities are performed
 - Updating the hydrology studies for Al-Fedan Dam
 - Updating the yield study for Al-Wehdah Dam (the largest in Jordan)
 - **Drought Assessment study for Yarmouk River Basin**
 - Development of a Hydrological model for Yarmouk Basin
 - **Drought Assessment study for Wala Basin**
 - Updating the operation study for the King Talal Dam
 - Updating the operation study for the Jordan valley system
 - Reviewing progress report for the three dams under construction Mujib, Wala, and Tunnur Dams
 - Study the feasibility of the recharge of Wala Wells to the groundwater
 - Review the design of Ibin Hammad dam, AlQa'a Dam and Al-Karak Dam
 22. **Hydrological and meteorological data investigation and analysis for the Jordan Badia, Funded by Jordan Badia Research and Development Program, 1997-1999. In this project a drought assessment of Badia region was conducted.**
 23. Supervised several graduation projects related to Jordan Valley: Such as Design of Wadi Al-Arab Dam, Design of the Diversion weir of Adasiya, Hydrological modeling of the Zarqa River basin, evaluation of the water budget for several

- wadies in Jordan Valley, Evaluation of potential evaporation for several locations in Jordan Valley, and Climatic trend in several location in Jordan Valley
24. Impact of climate change on the water resources budget of the Zarqa River basin, research proposal funded by the Dean-ship of Scientific Research at JUST, March 1999.
 25. Consultant and Team leader for the Vulnerability and adaptation of the water resources of Jordan to Climate change. This project is funded by the UNDP. Main activities: Assessment of Climatic trends in different locations including part of the Jordan Valley (Zarqa River System), developing a water balance model for the Zarqa River System, developing a groundwater model for the Azraq Groundwater System (1999-2000, Al-hamel Engineering office)
 26. Evaluating the water budget of the Wadi Al-Arab basin under possible climate change scenarios (on going research)
 27. Participating in the study of the effect of climate change on the Agricultural Sector in Jordan. The study covers part of the Jordan Valley mainly the Zarqa River System.
 28. Consultant for phase 1 of the climate change project (the waste sector)
 29. Consultant for phase 2 of the climate change project (the waste sector)

ENVIRONMENTAL RELATED EXPERIENCES

1. Project leader for “ Medical Waste Management Project for Northern Jordan”, 2003-2005. Funded by USAID. The main objective of the project is to implement and enhance the operation of the pilot project of medical waste management facilities at Jordan University of Science and Technology to handle the medical waste generated at the northern region.
2. Chairman of the first National Conference entitled “Towards a Healthy Environment for Children”. July 8-9, 2003. This conference was under the Patronage of Her Majesty Queen Rania Al-Abdullah. The conference was conducted through the collaboration between the Regional Center for Environmental Health Activities/World Health Organization/ Eastern Mediterranean Region and Queen Rania Al-Abdullah Center for Environmental Sciences and Technology.
3. Project coordinator for Jordan Team “Enhancing Sustainability through Energy Efficiency and Renewable Energy Technology”. 2002-2004. Funded by US Department of State.
4. Attended the Environmental Technology Training in Geographic Information Systems (GIS) Phase II at the Brevard Teaching and Research Laboratories in coordination with the Partnership for Environmental Technology Education (PETE) of the United States and Jordan University of Science and Technology’s (JUST) Center for Environmental Science and Technology (CEST) under a grant program to train international faculty members sponsored by the United States Information Agency’s (USIA). Palm Bay, Florida, U.S.A., September 12, 1999 through September 26, 1999.
5. Attended the train-the-trainer workshop entitled “Integrating an Environmental Management System (ISO 14001) Into Your Workplace”, coordinated by the University of Florida, Center for Training, Research and

- Education for Environmental Occupations (TREEO Center) in coordination with the Partnership for Environmental Technology Education (PETE) of the United States and Jordan University of Science and Technology's (JUST) Center for Environmental Science and Technology (CEST) under a grant program to train international faculty members sponsored by the United States Information Agency's (USIA). Washington D.C., U.S.A., July 2, 1998 through July 3, 1998
6. Attended the Environmental Technology Training in Geographic Information Systems (GIS) and Global Positioning Systems (GPS) Phase I at the Brevard Teaching and Research Laboratories; Palm Bay, Florida, U.S.A., July 4, 1998 through July 26, 1998.
 7. Attended a specialized training workshop on "Stack emission and source sampling" By Walter Smith and Association, Raleigh North Carolina, U.S.A., February 14 through February 18, 2005.
 8. Participating in the International Coral Reef Initiative (ICRI) the Red Sea and Gulf Aden Regional Work Shop, Aqaba, Jordan, 21-25 September, 1997.

RELEVANT RESEARCH EXPERIENCE

1. Climate change impacts on water resources systems, agriculture, livestock and the ecosystem of coastal environment
2. GHG Emissions from different sectors in Jordan
3. Water Harvesting
4. Planning and management of water resources systems
5. Application of GIS in Hydrology and Water Resources as a tool for management
6. Drought Assessment and Management
7. Desalination studies
8. Evaluation and developing hydrologic, hydraulic and environmental studies related to dams in Jordan Valley
9. Application of Geographic Information System (GIS) in Environmental studies
10. Development of conceptual rainfall-runoff models for arid and semi arid area
11. Development of groundwater models for arid and semi-arid region
12. Water quality modeling
13. Medical Waste Management

Organized conference and workshops

1. Organize workshop entitled "Medical Waste Management Training Program Level 1" for Decision-makers, Health directors, Hospital Managers and Nurse Managers in hospitals" Monday 14th, June 2004
2. Organize workshop entitled "Medical Waste Management Training Program Level II" for Supervisors, Managers, Physicians, Senior nurses, and Chief pharmacists", June 21-23, 2004
3. Organize workshop entitled "Medical Waste Management Training Program Level III", for "Hospital Housekeeping Supervisors, Medical Waste Handling

Supervisors” April 12-13, 2005

4. Organize workshop entitled “Medical Waste Management Training Program Level IV”, for “Incinerator Operators, and Medical Waste Vehicle Drivers, April 19, 2005
5. Organize the first National Conference “Towards a Healthy Environment for Children”, in Collaboration with CEHA/WHO, 2003
6. Organize the workshop entitled “The Role of Northern Municipalities in Water Demand Management”, July, 18, 2001
7. Organize the workshop entitled “Water Audit and Water Saving Economics for Middle Municipalities”, Oct. 30, 2001.
8. Organize the workshop entitled “Water Audit and Water Saving Economics for Northern Municipalities”, Feb., 13, 2002.
9. Organize the workshop entitled “Knowledge Attitude Practices towards water uses”, March 2001.
10. Organize workshop entitled” Domestic and Industrial Wastewater treatment technologies and reuse” June, 2001.
11. Organize workshop entitled “Water Economics and Water Use Efficiency”, April 2001.
12. Organize workshop entitled “Biodiversity in Jordan” June 6-7, 2001.

Awards, honors and professional memberships

1. Member of National Committee for Dams
2. Member of the Advisory Committee for National Jordanian Child Museum
3. Team leader of the committee of Jordan Government Prize in the Area of Environmental Studies
4. JUST Energy Group coordinator 2001-2005
5. Member of the regional steering Committee Meeting on Regional Collaboration for Energy Efficiency and Renewable Energy Technology.
6. College of Engineering Honors list, Yarmouk University, 1981-1985.

7. First student recognition in the water resources and environmental engineering master program, Jordan University of Science and Technology, 1987.
8. King Hussein Royal Prize for the academic achievement in M.Sc. Program, 1989.
9. Scholarship for the Ph.D. degree by Jordan University of Science and Technology, 1991.
10. Member of the American Society of Civil Engineers (ASCE)
11. Member of the Jordanian Engineers Association
12. Member of the Jordan Environment Society
13. Member of the American Geophysical Union (AGU) member

Publications

Published in refereed, specialized, international, and indexed journals and books:

1. Fayez Abdulla and Tamer Eshtawi (2015), Climate Change Effect on Sediment Yield at King Talal Dam (Jordan) Civil and Environmental Research. Vol.7, No.7
2. Amayreh J. A., Abdulla F. A., and Al-Ja'afreh H. (2012) Impact of different water price levels on irrigated agriculture in Northern Jordan Valley, Irrigation Drainage Systems
3. Eshtawi T. And Abdulla F. (2011) Book entitled "Using Hydrological Models in the Management of a Semi Arid Watershed: Under the Umbrella of GIS. 124 pages. **Publisher:** LAP LAMBERT Academic Publishing **ISBN-10:** 3844329943 & **ISBN-13:** 978-3844329940
4. Qrenawi L., Qdais H., Abdulla F. (2011) Book entitled "Environmental and Health Risk Assessment of Al-Akaider Landfill". 160 pages. VDM Verlag Dr. Mueller e.K., 2011, ISBN 3639216350, 9783639216356
5. Al-Bakri J., Suleiman A., Abdulla F., and Ayad J. (2010) Potential impacts of climate change on the rainfed agriculture of a semi-arid basin in Jordan, Physics and Chemistry of the Earth, 35: 125-134
6. Abdulla, F.A and Al-Assad T.A. (2010). Artificial Groundwater Recharge to a Semi-arid Basin: Case study Mujib Aquifer-Jordan, Environmental Earth

Sciences, 60(4): 845-859

7. Abu Qdais H., Abdulla F., and Qrenawi L. (2010), Solid Waste Landfills as a Sources of Green Energy: Case Study of Al Akeeder Landfill, Jordan Journal of Mechanical and Industrial Engineering, 4 (1): 69-74
8. Al-Omari A., Al-Quraan S. Al-Salihi A. and Abdulla F (2009), A Water Management Support System for Amman Zarqa Basin in Jordan, Water Resources Management, 23: 3165–3189
9. Abdulla, F.A, Eshtawi T., and Assaf H. (2009), Assessment of the impact of Potential Climate Change on the Water Balance of Semi-arid Watershed, Water Resources Management, 23: 2051-2068
10. Abu Qdais H., Al- Abed N., Al- Ghazawi Z., and Abdulla F.A. (2009) Prediction of Trihalomethane Formation in Water Distribution Systems, Desalination and water treatment, 2: 162-169
11. Abdulla, F.A. and Al-Shareef, A. W. (2009). Roof Rainwater Harvesting Systems for Household Water Supply in Jordan, Desalination, 243: 195-207.
12. Al-Omari A and Abdulla F. (2009). A model for the determination of residential water demand by the use of tracers, Advances in Engineering Software, 40:85-94
13. Abdulla F. and Al-Omari A. (2008). Impact of climate change on the monthly runoff of a semi-arid catchment: Case study Zarqa River Basin (Jordan). Journal of Applied Biological Sciences 2 (1): 43-50
14. Abu Qdais H., Abdulla F., and Qrenawi L.(2008), Simulation of Leachate Production from an Arid Solid Waste Landfill Using Hydrologic Evaluation of Landfill Performance (HELP) Model. The Journal of Solid Waste Technology and Management, Volume 34, No. 3, 177-186
15. Al-Ghazzawi Z.D and Abdulla F.A. (2008), Mitigation of Methane Emissions from Sanitary Landfills and Sewage Treatment Plants in Jordan, Clean Technologies and Environmental policy, Volume 10, No. 4, 341-450.
16. Abdulla F.A. and Eshtawi T. (2007), Application of Automated Geospatial Watershed Assessment (AGWA) Tool to Evaluate the Sediment Yield in a semi-arid Region: Case Study, Kufranja Basin-Jordan, Jordan Journal of Civil Engineering, Volume 1, No. 3, 234-244.
17. Al-Abed N., F.A. Abdulla, and Zahrawi R. (2007). Evaluation of Irrigation Water Total Suspended Solids (TSS) on a Farm Scale. Archives of Agronomy and Soil

Science, 53(3): 345-353

18. Al-Abed N., F.A. Abdulla, and Zahrawi R. (2007), Assessment of suspended solids dynamics and their effect in the irrigation networks in the Northern Jordan Valley. *Irrigation and Drainage Systems*, Vol. 21 (1), pp. 45-59
19. Qdais H. A, Rabi A. and Abdulla F. (2007), Characteristics of the Medical Waste Generated at the Jordanian Hospitals, *Clean Technologies and Environmental Policy*, Vol. 9, Number 2, p 147-152.
20. Abdulla F., Abu Qdais H., Atallah R. (2008). Site Investigation on Medical Waste Management Practices in Northern Jordan, *Waste Management*, 28: 450-458
21. Abdulla F. and Al-Assa'd T. (2006). Modelling groundwater flow for Mujib Aquifer, Jordan, *Journal of Earth System Science*, Vol. 115, No.3, pp. 289-298
22. Abdulla F. and Al-Assa'd T. (2006). Groundwater Model Development for a Jordanian Watershed, *Arab Water World (AWW)*, 30 (4), pp. 52-54.
23. Al-Abed N., F. Abdulla and Abu Khyarah A. (2005). "GIS-hydrological models for managing water resources in the Zarqa River basin", *Environmental Geology*, 47:405-411.
24. Abdulla, F.A., J.A. Amayreh, and A.H. Hossain, (2002). "Single Event Model for Simulating Runoff Hydrograph in Desert Regions", *Water Resources Management*, 16: 221-238, 2002.
25. Al-khatib M., Abdulla F.A. and Rimawi O. (2001). Three dimensional groundwater flow model for the two aquifers (Upper and Middle) of the Azraq basin, *Freiberger Forschungshefte*, C 494, S137-148
26. Abdulla, F.A., B. Al-Badranih (2000). Application of a rainfall-runoff model to three catchments in Iraq. *Hydrological Science Journal*, 45(1), pp. 13-25
27. Abdulla F.A., M. Al-Khatib and Al-Ghazzawi Z.D, Groundwater Modeling for Azraq basin -Jordan, *Environmental Geology* Vol. 40, 1-2, p11-18, 2000
28. Abdulla, F. A., and D.P. Lettenmaier, Estimation of the ARNO Model Baseflow Parameters Using Daily Streamflow Data, *Journal of Hydrology*, Vol. 222, pp 37-54, 1999.
29. Abdulla, F.A., and D.P. Lettenmaier, Development of Regional Parameter Estimation Equations for Land Surface Hydrologic Model, *Journal of hydrology*, Vol. 197, p. 230-257, 1997.

30. Abdulla, F. A., and D.P. Lettenmaier, Application of Regional Parameter Estimation to Simulate the Water Balance of Large Continental River, Journal of Hydrology, Vol. 197, p. 258-285, 1997.
31. Abdulla, F.A., D.P. Lettenmaier, E.F. Wood, and J.A. Smith, Application of a Macroscale Hydrologic Model to Estimate the Water Balance of the Arkansas-Red River Basin, Journal of Geophysical Research, Vol. 101, No. D3, pp 7449-7459, 1996.
32. Abdulla F. A (1995) Regionalization of a Macro-scale Hydrological Model. Publisher: University of Washington, Page 388.
33. Abdulla, F.A., D.P. Lettenmaier, E.F. Wood, and J.A. Smith, Comparisons of evaporation for the Red-Arkansas Basin, GEWEX News, Vol. 5, No. 4, 1995.
34. Abdulla, F.A. and Al-Ghazzawi Z.D., Methane Emissions from Domestic Waste Management Facilities in Jordan- Applicability of IPCC Methodology, Journal of the Air and Waste Management Association, 50: 234-239, 2000
35. Malkawi Husein A., Hassan W. F., and Abdulla F. A., " Uncertainty and Reliability analysis Applied to slope stability", Structural Safety, 22, pp. 161-187, pp11-18, 2000.
36. Malkawi Husein A., and Abdulla F.A., Barakat S.A. , and Al-Sheriadeh M. "Application of extreme value statistics to annual maximum magnitudes in Jordan employing a mixture distribution", Earthquake Spectra, The Professional Journal of the Earthquake Engineering Research Institute, Vol. 15, No. 4, 1999
37. Abdulla F.A. and Al-Ghazzawi Z.D., Assessment of Methane Emissions from Industrial and Municipal Wastewater Treatment Plants in Jordan, The Institution of Engineers (India), Vol. 79, pp. 1-4, 1998.
38. Al-Ghazzawi Z.D. and Abdulla F.A., Assessment of CH₄ Emissions from Sanitary Landfills and Raw Sewage water Dumping Ponds in Jordan. The Institution of Engineers (India), Vol. 82, pp. 75-79, 1998.

Manuscripts in review

1. Abdulla, F.A, Abu-Ashour J., and Abu-Zreig M., Evaluation of Wastewater treatment and reuse practices in Jordan, Water and Environment, in Review, 2011
2. Abdulla F., Al-Abed N., Hadadin M., **Evaluating Drought using Rainfall Data in**

Zarqa River Basin, Jordan, Environmental Geology, in Review, 2015

Conferences (Presentation and Proceedings Publications)

1. Sustainable Use of Transboundary Water Resources and Water Security Management (Water Sum), Regional Kick-off Conference, June 11-13, 2015, REC Conference Center, Szentendre-Hungary.
2. Presentation on: Statistical Downscaling of Climate change for Different Regions in Jordan, Regional Coordination on Improved Water Resources and Capacity Building, closing workshop, 6-7 May, 2015, Dead Sea-Jordan
3. Participation and team member of project "Towards concerted sharing: Development of a regional water economy model in the Jordan River Basin", Kick-off Meeting 11-12 February, 2013, Amman-Jordan.
4. Participating in Training Workshop on: Calibration stages of the water economy model, Centre for World Food Studies, VU University Amsterdam, 1 - 12 June, 2015, Amsterdam-Netherlands.
5. Training workshop on: Mathematical Modeling tools for water resources management, JUST, 18-29 August, 2013, Irbid-Jordan.
6. Attending and participation in "Training Workshop on: spatial data management: creating a harmonized data platform for the water economy model", Centre for World Food Studies, VU University Amsterdam, 18 - 28 August, 2014, Amsterdam-Netherlands
7. Abdulla F. A (2010) "**UNCCD Desertification and Land Degradation : Alignment of national, sub-regional and regional action programmes**" paper presented in the Training Workshop on Integrated Drought Preparedness and Management in Iraq In collaboration with the National Drought Mitigation Center, Lincoln, USA, Amman-Jordan, 13 – 15 February, 2010
8. Abdulla F. A (2010) "**Sustainable Methods for Improving Water and Land Productivities under Water Scarcity and Drought Situation**" paper presented in the Training Workshop on **Integrated Drought Preparedness and Management** in Iraq In collaboration with the National Drought Mitigation Center, Lincoln, USA, Amman-Jordan, 13 – 15 February, 2010
9. Abdulla F. A. and Hammouri N. (2009). Water Sector: Analysis of the sector and the potential for adaptation, National Inter-Ministerial Dialogue on Climate Change Workshop, 11th and 12th November, 2009, Amman-Jordan.
10. Abdulla F. A (2009) Impact of climate change on the hydrological processes in the Arab Countries. Presented at The Twelfth International Training

Workshop in Wadi Hydrology: Integrated Watershed Management in Wadi Systems Using DSS 2-6 Aug 2009 Amman – Jordan

11. Abdulla F. A (2009) Climate Change impacts on the surface water resources in Jordan, paper presented at 14th Jordan Science Week, Higher Council of Science and Technology, Amman-Jordan
12. Abdulla F. A (2009) **Climate change evidences and implications in the Middle East, Meeting on Drought:Trends, Humanitarian impact and solutions**, Amman –Jordan, 4-5 May
13. Abdulla F. A (2009) **Adaptation to climate change: some results in Jordan, Meeting on Drought:Trends, Humanitarian impact and solutions**, Amman – Jordan, 4-5 May.
14. Abdulla F.A. (2008) Climate Change impacts on the West Asia and North Africa (WANA) region, WANA FORUM Preparatory Workshop, 6-7 Nonmember, 2008, Amman Jordan
15. Abdulla F. (2008) Assessment the potential impacts of climate change on the water resources of semi-arid basins, paper presented in the Regional Process of the 5th World Water Forum, Regional Meeting on Water in the Mediterranean Basin, 09-11 October, 2008, Near East University, Lefkosa, TRNC
16. Abdulla F (2007) “Overview on the estimation of GHG emissions” Paper presented at the first National Technical Workshop for Enabling Activities for the Preparation of Syria’s Initial National Communication to the UNFCC, 5th of November, 2007, Damascus, Syria.
17. Abdulla F (2007) “Studies and Activities Related to Climate Change in Jordan” Paper presented at the first National Technical Workshop for Enabling Activities for the Preparation of Syria’s Initial National Communication to the UNFCC, 5th of November, 2007, Damascus, Syria.
18. Abdulla F (2008) Regional Circulation Models and Downscaling to the Watershed Scale, Climatic GCM, presented in Training of Trainers Workshop on Climate Change and its Impacts on Water Resources Management, Organized by ACSAD, RCTWS-Cairo, UNESCO Cairo office and RCUWM-Tehran, 13-16 October, 2008, Damascus- Syria
19. Abdulla F (2008) “Climate Change Scenarios Development and Applications, Case study of Jordan” presented in Training of Trainers Workshop on Climate Change and its Impacts on Water Resources Management, Organized by

- ACSAD, RCTWS-Cairo, UNESCO Cairo office and RCUWM-Tehran, 13-16 October, 2008, Damascus- Syria
20. Abdulla F (2008) "Climate Change and its Impacts on Water Resources in the Mediterranean Region" paper presented in the International Workshop "Water Resources in the Middle East – Reality and Aspiration- Organized by DAAD, Technische Universitat Munchen, and JUST, 19-21, October, Irbid Jordan.
 21. Abdulla F (2008) " Water Resources and Climate Change" paper presented in the Regional Conference " Climate Change Policies in the Arab Middle East, Challenges for Decision Makers and Activists" organized by the United Nations University (UNN) and Heinrich Boll Stiftung, 21-22 October 2008, Amman Jordan
 22. Abdulla F.A. and Eshtawi T., Climate change effect on sediment yield using Soil and Water Assessment Tool (SWAT): Case study Zarqa basin-Jordan, International Workshop on Flood or Drought? - in the Middle East, Funded by DAAD, Irbid-Jordan, 26-28, pp 1-16, Nov., 2006
 23. Al-Abed N., Abdulla F.A., and M. Hadadin, **Estimation of meteorological and hydrological drought characteristics of Kufrinja basin**, Jordan International Workshop on Flood or Drought? - in the Middle East, Funded by DAAD, Irbid-Jordan, 26-28, Nov., pp 55-66, 2006
 24. Abdulla F. A., Climate change Models (General Circulation Models): Overview. Eleventh International Course on Wadi Hydrology: Impact of Climate Change on Watershed Management, 13-17 July 2008, Amman Jordan.
 25. Abdulla F. A., General Circulation Models vs. Regional Climate Models. Eleventh International Course on Wadi Hydrology: Impact of Climate Change on Watershed Management, 13-17 July 2008, Amman Jordan
 26. Al-Abed N., Abdulla F.A., and M. Hadadin, **Drought Assessment and Management for Zarqa River Basin Using Geographic Information System (GIS)**, paper presented and published in the First National GIS Symposium in Saudi Arabia, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia. 21-23 Nov., 2005
 27. Abdulla F. A. and Tamer Al-Assad, The Use of Modflow to Study the Possibilities of Artificial Groundwater Recharge to Mujib Watershed, The Third International Conference on Wadi Hydrology, Sana'a, Yemen, 12-14 December, 2005

28. Abdulla F. A. and Amani Al-Shareef, Assessment of Rainwater Roof Harvesting for Household Water Supply in Jordan, paper presented in the Integrated Urban Water Resources Management, NATO Advanced Research Workshop, Senec, Slovakia, October 19-23, 2005, pp 391-400.
29. Abdulla F. A. and Tamer Al-Assad, "Development of Groundwater Model for Mujib Watershed-Jordan", paper presented in the 4th International Water Conference in the Arab Countries (ARWATEX 2005), Beirut Lebanon, pp. 154-169, 27-30 June, 2005
30. Abdulla F.A., "Evaluation of the impact of climate change on the monthly runoff of a semi-arid catchment-Jordan", paper presented on the "Joint UNESCO-WRCP Invited Workshop on Applicability of Climate Research and Information for Water Resources Management in Semi-arid and Arid region", Cairo, Egypt, 18-21 April 2005.
31. Abdulla F. A. and Malkawi Husein, Sedimentation problem in Jordanian Dams: Case study King Talal and Kafrein Dams, paper presented in the 3rd International Water Conference in the Arab Countries (ARWATEX 2004), Beirut Lebanon, pp. 114-124, 27-30 September, 2004
32. Abdulla F. A., "Impact of climate change on the hydrological Budget of Zarqa River Basin-Jordan", WSTA Sixth Gulf Water Conference in Concurrence with Second Symposium on Water Use Conservation in the Kingdom of Saudi Arabia, 8-12 March, 2003, Riyad, Saudi Arabia.
33. Abdulla F., Al-Ghazzawi Z. and M. Al-Khatib, Development of groundwater Modelling for the Azraq Basin-Jordan, paper presented in the International Conference on Calibration and Reliability in Groundwater Modelling: coping with uncertainty, Zurich, Switzerland, 20-23 Sept., 1999.
34. Abdulla F.A., Impacts of climate change on the water resources of Jordan, paper presented for GCEP/UNDP, Climate change Project, Amman 1998.
35. Abdulla, F. A., Analysis and Modeling of Rainfall Pattern in Northern Part of Jordan, paper presented in the Second International Conference on Wadi Hydrology, 1-4 July, 2003, Amman, Jordan, October 1997.
36. Abdulla F.A., B. Nijssen, D.P. Lettenmaier, E.F. Wood, and J.A. Smith, Modeling Large Scale Surface Energy Fluxes Using VIC-2L Model, Paper presented at the European Geophysical Society, General Assembly, Hamburg, Germany, April, 1995.
37. Abdulla, F.A. and D.P. Lettenmaier, Development of Regional Equations for

- Parameterization of land Surface Schemes, paper presented at the American Geophysical Union Fall Meeting, San Francisco, USA, December 1994.
38. Al-Ghazzawi Z.D. and Abdulla F. A., Appropriateness of Waste Stabilization Ponds to Arid and Semi –arid Regions of Middle East. in Proceedings of the second International conference on Sustainability in Desert Region, 20-22 November, 1999. United Arab Emirates University, UAE.
 39. Abdulla F.A. and S. Tekeli, Modeling of Rainfall Pattern in Northern Part of Jordan, First Week Engineering Conference by Jordanian Engineers Association, pp.563- 578, Amman, Jordan, October 1997.
 40. Abdulla F.A. and Al-Ghazzawi Z.D., Assessment of Methane Emissions from Industrial and Municipal Wastewater Treatment Plants in Jordan, in Proceedings of Water Resources Problems in Middle East, International Conference., Cyprus, Nicosia, pp 477-484, 1997.
 41. Al-Ghazzawi Z.D. and Abdulla F.A., Assessment of CH₄ Emissions from Sanitary Landfills and Raw Sewage-water Dumping Ponds in Jordan in Proceedings of Water Resources Problems in Middle East, International Conference., Cyprus, Nicosia, pp 485-491, 1997
 42. Abdulla F.A. and Al-Ghazzawi Z.D., Assessment of Methane Emissions from Industrial and Municipal Wastewater Treatment Plants in Jordan, paper presented for GCEP/UNDP, Climate change Project, Amman 1997.
 43. Al-Ghazzawi Z.D. and Abdulla F.A., Assessment of CH₄ Emissions from Sanitary Landfills and Raw Sewage-water Dumping Ponds in Jordan. paper presented for GCEP/UNDP, Climate change Project, Amman 1997.
 44. Abdulla F.A, “Sustainable Energy at JUST-Jordan”, paper presented in the second Steering Committee Meeting on Regional Collaboration for Energy Efficiency and Renewable Energy Technology, Sponsored by the US Department of State, Office of Citizen Exchange, American University of Beirut, Beirut, Lebanon, 24 January, 2005.
 45. Abdulla F.A, “Jordanian paper on National Energy Policies”, paper presented in the Stakeholders Workshop on Regional Energy Policy Outline on Energy Access and Renewable Energy, Sponsored by the Global Network on Energy for Sustainable Development- GNESD, American University of Beirut, Beirut, Lebanon, 5 January, 2005.
 46. Chedid R., Abdulla F, El-Fadel M., Ghaddar N., Mezher T., Khoury H., Harb A., Hamzeh Ali “Initial Assessment of the contribution of renewable energy

- technologies in Jordan, Syria and Lebanon, paper presented. in the Stakeholders Workshop on Regional Energy Policy Outline on Energy Access and Renewable Energy, Sponsored by the Global Network on Energy for Sustainable Development- GNESD, American University of Beirut, Beirut, Lebanon, 5 January, 2005.
47. Abdulla F.A., Widyan M., Al-Ghazawi Z., Kiwan S., Abu Qdais H., Hayajneh M., Harb A., Al-Nimr M., "Status of Jordan Renewable Energy Sector: Problems, Needs and Challenges, paper presented in the regional workshop on Energy Efficiency and Renewable Energy Technology, Sponsored by the US Department of State, Office of Citizen Exchange, American University of Beirut, Beirut, Lebanon, 26-30 April, 2004.
 48. Karaki S., Chaaban F., Chedid R., and Mezher T., Hamzeh A., Harb A., and Abdulla F. Electric Energy Access in Jordan, Lebanon and Syria. Paper Prepared for "Energy Access II" Working Group Global Network on Energy for Sustainable Development
 49. Abdulla F. A., "Preliminary Study on Household Water Security in Irbid City", First National Conference "Towards a Healthy Environment for Children", 8-9 July, 2003, Irbid-Jordan.
 50. Al-Omari B. and Abdulla F. A., Pedestrian Accidents among Children in Jordan, First National Conference "Towards a Healthy Environment for Children", 8-9 July, 2003, Irbid-Jordan.

MANUALS AND REPORTS

1. Report on "Climate change downscaling for Jordan" within a project entitled "Regional coordination on improved water Resources Management and capacity building" Funded by GEF, World Bank and NASA, Ministry of Water Irrigation, 2015.
2. Report on "**Quantifying the Uncertainty in the National GHG Inventory for the year 2006**" within **Third National Communications (TNC) (2014)**, funded by UNDP, Ministry of Environment , Amman, Jordan
3. Developing a training manual on "DATA EVALUATION AND STATISTICAL CLIMATE CHANGE SCENARIOS DOWNSACLING" TRAINNING MANUAL" within a project entitled "Regional coordination on improved water Resources Management and capacity building" Funded by GEF, World Bank and NASA, Ministry of Water Irrigation, 2015

4. Report on “21st century projections for precipitation and temperature change in Jordan” within a project entitled “Regional coordination on improved water Resources Management and capacity building” Funded by GEF, World Bank and NASA, Ministry of Water Irrigation, 2015.
5. Abdulla F., Al-Abed N., Malkawee A. and Eshitawe T. Report on the "Development of GIS-Hydrological model for Managing water Resources in the Zarqa River Basin", Higher Council of Science and Technology (HCST), Amman, Jordan, 2009
6. Abdulla, F.A., Regionalization of a Macroscale Hydrological Model, Water Resources Series, Technical Report No., 144, University of Washington, Seattle, Washington, U.S.A, 1995.
7. Abdulla, F.A., Abu Qdais H., Rabi A., Medical waste management in northern Jordan. Final Report, submitted to United States Agency for International Development (USAID), Jordan, 2005.
8. Abdulla, F. A., Hydrological investigation of the Kufranja Dam site, Jordan Valley Authority, Ministry of Water and Irrigation, Amman, Jordan, 2006.
9. Abdulla F. A. and others (2009) "Vulnerability Assessment and Adaptation Measures", Chapter 4, in Jordan's Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), Ministry of Environment, pp 71-112.
10. Abdulla F.A, "Climate change risk management in Wadi Systems in Arab Region" a study submitted to the UNESCO office Cairo, International Hydrological Program. Egypt Cairo.

Supervised Master Thesis's

1. Contribution from solid waste disposal sites to greenhouse gases emissions in Jordan, Lubna Nwaysieh, December, 2007
2. Forecasting of irrigation water demand in Jordan valley under different water pricing polices, Haitham Ja'afreh, January, 2008
3. Spatial and temporal analysis of monthly and annual rainfall in Jordan, Maha Abu-Mwais, Thesis under preparation, 2007
4. Water Demand Management as a tool for Bridging the Gap between supply and demand in Jordan, Eynas Al-Qdauh, August, 2006.
5. Using the hydrological models (HSPF & SWAT) in the management of a semi arid

- watershed, Tamer Eshtawi, July, 2006
6. Health and Environmental Risk Assessment of Al-Akaider Landfill, Luay Qrenawi, June 2006
 7. Modeling Biogas Production from Russaifah Closed Landfill, Rasha Qedaisat, 2005.
 8. Development of a Mathematical Groundwater Model for the Amman-Zarqa Basin, Bashar Abu Douleh, November, 2005.
 9. The use of MODFLOW to study the possibility of artificial groundwater recharge for Mujeb Basin (Jordan), Tamer Antton, May 2004
 10. Development of three dimensional groundwater model for Dhuleil Area/ Amman-Zarqa basin, Enas Shawaqfah, June 2005.
 11. Evaluation and Analysis of suspended sediments on irrigation network in northern Jordan Valley, Raed Zahrawee, May, 2005
 12. Modeling the Performance of Reverse Osmosis Desalination for Jordanian Brackish Water, Osama Al-Agbar, May 2003.
 - 13. Drought Assessment and Management in Jordan using Geographic Information Systems (GIS), Muttasum Hadadeen. June 2002.**
 14. Application of Geographic Information System as a Management Tool for the Zarqa River basin System, Aymen Abu-Kyarah, July 2002.
 15. Development of a groundwater model for the two upper aquifers (Shallow and Middle) of the Azraq basin, Mohammed Al-Khatib, January, 1999.
 16. Application of hydrological rainfall-runoff models for Greater Zab river basin in the North of Iraq, by Laith Al-Badranih, August. 1998
 17. Development of hydrological models for arid and semiarid regions of the Iraqi Western Desert, Adel Hossain, June 1998
 18. Feasibility of Solid Waste Recycling for Irbid City, Lubna Al-Kaledy, June, 2002.
 19. Economics of wastewater treatment in Jordan/ Developing an Expert System, Suzan Bataineh, June 2000.
 20. Retrofit of RBC System for Nitrogen Removal Experimental Investigation and computer Simulation, Hoissam Al-kelani, June 1999
 21. Application of Global optimization techniques to design optimum RCC water tanks. Mohammed Al-Hassanat, June 1998

1. Simulation of Trihalomethane Formation in Water Distribution Systems, Funded by the Higher Council of Science and Technology (HCST), Amman, Jordan, 2000 (US\$10,000)
2. Preparing a Joint Program Document for Jordan: Adaptation to Climate Change to sustain Jordan's MDG Achievements", funded by UNDP, 2 September – 2 October, 2007. (US\$ 25,000)
3. Piloting climate change adaptation to protect human health" (2006). The project is supervised by World Health Organization/CEHA and funded by GEF/UNDP (US\$20,000)
4. Management of saline soil using Remote Sensing and Geographic information Systems (GIS), Funded by the Higher Council of Science and Technology (HCST), Amman, Jordan, 2000 (US\$19,000)
5. Hydrological study of Wadi Kufranja Dam, funded by Jordan Valley Authority, Ministry of Water and Irrigation, Amman Jordan. (US\$15,000)
6. Household Water Security for Irbid City, Funded by CEHA/WHO, Amman Jordan, 2003.
7. Medical Waste Management Project for Northern Jordan", 2003-2005. Funded by USAID (US\$450,000).
8. Reservoir Management for the Southern Systems of Jordan", 2002-2004. Funded by the USAID.
9. Development of GIS-Hydrological model for Managing water Resources in the Zarqa River Basin, Funded by the Higher Council of Science and Technology (HCST), Amman, Jordan, 2000 (US\$ 9,000)
10. Development of GIS based model for solid waste landfills siting, Funded by the Higher Council of Science and Technology (HCST), Amman, Jordan, 2000 (US\$15,000)
11. Development of a groundwater model for the two upper aquifers (Shallow and Middle) of the Azraq basin, research proposal funded by the Dean-ship of Scientific Research at JUST, March 1999
12. Hydrological and meteorological data investigation and analysis for the Jordan Badia, Funded by Jordan Badia Research and Development Program and the Higher Council of Science and Technology (HCST), Amman, Jordan, Jan. 1997-1999.
13. Impact of climate change on the water resources budget of the Zarqa River basin, research proposal funded by the Dean-ship of Scientific Research at JUST, March 1999.
14. Drought Assessment and Management in Jordan using Geographic Information Systems (GIS), research proposal funded by the King Hussein Environmental Management Training Program and the Canadian International Development Agency, 1998-2000.
15. Waste water treatment Economics, Funded by the Higher Council of Science and Technology (HCST), Amman, Jordan, 2001 (US\$10,000)
16. Ecosystem Approaches to Human Health in North Jordan Valley" Funded by International Development Research Center (IDRC), Canada , 2001. (20,000 Canadian Dollars)

Community service

1. Consultant for phase 1 of the climate change project (the waste sector)
2. Consultant for phase 2 of the climate change project (the waste sector)
3. Participating in all the Climate Change Workshops in Jordan
4. Building Capacity for GHGs Inventory and Action Plans in Response to UNFCCC Communications Obligations Project (GHGs Inventory Workshop), GCEP, Amman Jordan, 15-16 March, 1997. The following papers were presented:
5. Prediction of GHGs Emissions from Solid and Liquid Wastes Treatment Processes up to the year 2040 According to IPCC Approach, Presented in GHGs Inventory Workshop, Climate Change Project, GCEP, Amman, March 1997.
6. 1994, GHGs Emissions/ Liquid and Solid Wastes Treatment Processes, Presented in GHGs Inventory Workshop, Climate Change Project, GCEP, Amman, March 1997.
7. Consultant and member of the National Committee for Dam: Duties preparing reports related to hydrology, hydraulics and environment related to dams.

Training courses

Coordinating and developing the following training courses through the project "Jordan Water Skills Enhancement and Information"

1. Characterization and Analysis of Physical and Chemical Parameters for Drinking Water. 3–14 September 2000
2. Characterization and analysis of biological parameters for drinking water. 17-28 September 2000
3. Quality Assurance, Quality Control and Laboratory Certification. 8-19 October 2000
4. Sources of Water Pollution and their Control. 7-18 January 2001
5. Drinking Water Supply Systems. 4-22 February 2001
6. Wastewater Treatment and Reuse. 11-29 March 2001
7. Media Education on Water and Environmental Issues. July 29 – August 9, 2001
8. Technology Transfer and Extension Techniques for Efficient Irrigation Management. 19-30 August 2001
9. Management of Wastewater Treatment plants. 21 October –1 November 2001
10. Sustainable Management of Crops and Soils Irrigated with Brackish and Treated waters. 4-15 November 2001
11. Low-scale, Low-Cost Wastewater Treatment for Reuse in Jordan. 6-10 January 2002 & 27–31 January 2002
12. Water Economics. 10-21 February 2002
13. Management of Drinking Water Treatment plants. 27–31 January 2002
- 14. Drought assessment and management . 6-12 March 2002**
15. Advanced GIS-based Water Resources Management. 15-19 December 2002
16. Watershed Management. 5-9 January 2003
17. Reservoir Management. 12-16 January 2003
18. Solid and Hazardous Waste Management
19. Principles for Senior Management 16-20 March 2003
20. Desalination Principles 20-24 April 2003

21. Desalination Operation and Maintenance 20-24 April 2003

Special Training

1. Source Sampling & CEMS Workshop, produced by Walter Smith & Associates, February 14-18, 2005 at the Brownstone Hotel in Raleigh, North Carolina, USA
2. Education and Evaluation Training Program; General, workshop organized by Jordan University of Science and Technology, two weeks, 1998.
3. Education and Evaluation Technology; Measurement and Evaluation, workshop organized by Jordan University of Science and Technology, two weeks, 1997.
4. Participating in the Workshop of "The impacts of Climate change and Grazing Upon Desertification" Held by Unisco Chair for Desert and Desertification Control, 29-30 May, 2000, "Current climate change projections (temperature, rainfall and seasonality... Northern Jordan vs. southern Jordan)
5. Participating in the Workshop of "The impacts of Climate change on the water Resources of Jordan" Held by UNDP, GCEP and Al-Shamel Engineerin Office, March 5-9, 2000. Three lectures:
6. Building Capacity for GHGs Inventory and Action Plans in Response to UNFCCC Communications Obilgations Project (GHGs Inventory Workshop), GCEP, Amman Jordan, 15-16 March, 1997.
7. Prediction of GHGs Emissions from Solid and Liquid Wastes Treatment Processes up to the year 2040 According to IPCC Approach, Presented in GHGs Inventory Workshop, Climate Change Project, GCEP, Amman, March 1997.
8. 1994, GHGs Emissions/ Liquid and Solid Wastes Treatment Processes, Presented in GHGs Inventory Workshop, Climate Change Project, GCEP, Amman, March 1997.

Language

Arabic : Mother Language

English : Excellent, read, write and speak.

Contact Information

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