

# ***Dr. Abdel Kawi Ahmed Mokhtar Khalifa***

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## ***Awarded Ain Shames University appreciation for the year 2021***

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### KEY QUALIFICATIONS

Over 45 years of local, regional and international experience in the field of water projects management, civil engineering, with intensive practices in the irrigation designs, drainage systems, domestic water supply, sewerage networks, water resources, water budget study, hydrology & storm water management, harbor and coastal engineering. Highly experienced in the field of ground and surface hydrology as well as environmental engineering. Designed and teaching many courses related to irrigation, drainage, hydrology, coastal engineering, environmental engineering, water resources and construction management. Experience with international organizations and donors in number of projects.

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### EDUCATION

#### **1976 - 1980:**

**Ph.D., Civil Engineering, University of Windsor, Windsor, Ontario, Canada**

**Major: Water Resources**

**University of Windsor Scholarship**

#### **1974 - 1976:**

**M.Sc., Petroleum Engineering, University of Pittsburgh, Pennsylvania, USA**

**University of Pittsburgh Scholarship**

#### **1970 - 1973:**

**M.Sc., Civil Engineering, Ain Shams University, Cairo, Egypt**

**Major: Hydraulics and Irrigation**

#### **1964 - 1969:**

**B.Sc.( Distinction, Honor), Civil Engineering, Ain Shams University, Cairo, Egypt**

**Major: Hydraulics and Irrigation**

**Outstanding Students Scholarship**

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## TEACHING EXPERIENCE

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### **JUNE 2013 TILL NOW**

Professor at Faculty of engineering, Ain shams university, teaching a number of subjects in the field of hydraulics, water resources and supervision of doctoral dissertations and masters.

### **2004 – 2005**

Head of Water Resources & Irrigation Dept., Faculty of Engineering, Ain Shams University, Cairo, Egypt

### **1998-2003**

Head of the Environmental Engineering Department, Institute of environmental research and studies, Ain Shams University, Cairo, Egypt

### **1996-1998**

Professor, Faculty of Engineering, Ain Shams University, teaching fluid mechanics, hydrology, groundwater and hydraulics.

### **1993-1996**

Professor, Faculty of Engineering, United Arab Emirates University, teaching fluid mechanics, hydrology, groundwater and construction project management, UAE.

### **1990 - 1993**

Associate Professor, Faculty of Engineering, United Arab Emirates University, teaching fluid mechanics, hydrology, groundwater and construction project management, UAE.

### **1988 - 1990**

Associate Professor, Faculty of Engineering, Ain Shams University, Cairo, Egypt, teaching hydraulics and irrigation.

### **1983 - 1988**

Assistant Professor, Faculty of Engineering, Ain Shams University, Cairo, Egypt, teaching hydraulics and irrigation.

### **1976 - 1981**

Teaching Assistant, Civil Engineering Department, University of Windsor, Ontario, Canada, teaching hydraulics, hydrology, surveying, environmental engineering and graphical communications.

### **1969 - 1973**

Teaching Assistant, Irrigation and Hydraulics Department, Ain Shams University, Cairo, Egypt, teaching tutorials in hydraulics, fluid mechanics and coastal and navigational engineering, and supervising bachelor projects in the water resources and irrigation program.

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## ADMINISTRATIVE EXPERIENCE

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### **AUGUST 2012 TO JUNE 2013**

MINISTER OF WATER AND WASTEWATER UTILITIES (EGYPT).

The main duties were:

- Directed the preparation of an organization structure for the ministry to be able to

oversee and follow up the construction, the operation and maintenance activities, and rehabilitation of water and wastewater activities for 90 million citizens. These activities were the direct responsibility of four entities being the National Organization for Potable Water and Sanitary Drainage (NOPWASD), the Cairo Alexandria Potable Water and Wastewater Organization (CAPWO), the Egyptian Water Regulatory Agency (EWRA), and the Holding Company for Water and Wastewater (HCWW) and its 25 subsidiary companies.

- Supervised the strategic plan of the sector.
- Supervised the preparation of sector policies and strategies.
- Led the preparation of a national plan to increase the sanitation coverage for deprived Egyptian villages for around 42 million peoples. The plan includes the participation of government and private sector and civil society in financing sanitation projects while the technical supervision will remain under the responsibility of the Ministry. These projects depend on low cost technologies.
- Supervised the Holding Company and its 25 subsidiaries in carrying out operation and maintenance and replacement and renovation across the country.
- Supervised the work of (NOPWASD) and (CAPWO) projects being the execution body of investment projects in the sector for an amount around 15 billion Egyptian pounds annually.
- Supervised the work of the Egyptian Regulatory Agency EWRA in monitoring and following up all water and wastewater activities across the country.

#### **APRIL 2011 TO AUGUST 2012**

##### **GOVERNOR OF CAIRO, CAPITAL OF EGYPT**

The main duties were:

- Supervised and monitored the day to day services provided to inhabitants in the governorate that varies from security services to other business, financial and industrial activities in a governorate inhabited about 10 Million citizens in addition to other services offered by the capital to other governorates.
- Supervised collection efforts and safe disposal of garbage of around 15000 tons/day.
- Overviewed and supervised the traffic circulation and flow in Cairo.
- Supervised the transport networks in Cairo Governorate.
- Worked closely with Ministry of Interior's agency to guarantee security to Cairo inhabitants.
- Supervised schools and educational departments, supply offices, and hospitals ... etc.
- Outlined a plan to deal with informal (slums) and hazardous neighborhoods.
- Monitored implementation of investment plans to maintain and provide the required land for investments activities.

#### **AUGUST 2004 TO APRIL 2011**

##### **CHAIRMAN OF HOLDING COMPANY FOR WATER AND WASTEWATER, EGYPT.**

The main duties were:

- Managed and handled the reform process of the water and wastewater sector that transformed water and wastewater governmental agencies into companies to be able to

operate in economic manner. The reform aimed to provide excellent services to citizens and giving attention to human resources development through intensive training programs accompanied by wages restructuring.

- Witnessed the establishment of the Holding Company for drinking water and sanitation and 25 subsidiaries in Egypt to provide drinking water and sanitation services for 90 million citizens.
- Oversaw training programs to upgrade the human resources development of the sector.
- Approved the restructuring of remuneration plans for employees in the sector aiming at improving performance.
- Established vocational schools to provide technicians in the field of drinking water and sanitation.
- Entered into a protocol with the Faculty of Engineering in Cairo University to establish a water and sanitation section to graduate engineers specialized in this field.
- Revitalized vocational training centers.
- Signed and supervised a number of international agreements with different agencies to provide technical and financial support to the sector such as the Organization for Economic Cooperation and Development (OECD), the German Government and its agencies KfW and GIZ, the European Union and its organizations EC delegation, EIB, and EBRD, and the US Agency for international Development (USAID) in addition to the World Bank.
- Followed up regular and preventive operation and maintenance programs for HCWW and 25 for subsidizing.
- Monitored the data collection and data analysis of water quality governance programs through the establishment of central, reference, local and mobile laboratories.
- Managed data centralization for the water and sewage to be analyzed and presented to make appropriate decisions in all types of work in the sector.
- Reviewed special studies related to water tariffs, and the ability of citizens to afford to pay it, and subsidies system.
- Reviewed the governmental subsidy plan for the sector.
- Supervised the preparation of a strategic plan for the sector for 92 million citizens living in Egypt that contained three main elements:
  - The establishment of GIS database for all facilities in the sector of water and sanitation such as networks, plants...etc.
  - Implementation of the hydraulic analysis for drinking water and sanitation in each province and define the urgent projects that could be implemented during one year to improve the situation and to provide the tender documents for these projects.
  - Set up a strategic plan from 2007 until the year 2037 for the renewal of all the projects to be carried out to provide service to the Egyptian citizens according to the Egyptian and international codes and standards.
- Monitored the issuance of billing through water billing system and collection of revenues.
- Supervised the update of water meters in the sector and attracted investors to establish factories for manufacturing meters locally.

- Monitored closely the performance of the complaint hotlines and customer service centers.
- Encouraged Use of all modern technologies in the water and wastewater sector such as repairing pipes without digging, modern seawater desalination using solar energy, modern equipment to detect the leakage of drinking water pipes, SCADA systems, and other systems to follow up and monitor the operation of plants and networks.
- Oversaw wastewater reuse in irrigating industrial crops in line with the Egyptian code for reuse.
- Monitor and assess regularly the subsidiary companies performance using performance indicators and check results.
- Supervised the preparation of the organizational structure of the Holding Company and subsidiary companies to carry out the tasks entrusted to them.
- Supervised the urgent plan to increase the coverage of drinking water throughout the country to 97% by urging the implementation of projects (integrated water plants, wells, networks, and transmission lines).

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#### PROFESSIONAL EXPERIENCE

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##### **2014-TILL NOW**

**OWNER OF KHALIFA CONSULTING ENGINEERS WORKING AS INFRASTRUCTURE & ENVIRONMENTAL CONSULTANT IN THE FOLLOWING PROJECTS**

- Preparation of Egypt Water Resources Policy and Strategy, including the available water resourced surface water, groundwater and desalinated water. Water consumption for different uses agriculture, drinking and industries. Water balance. Plans for reuse of water and optimization of the fresh water uses. Programs for water development and water conservation in all uses. Development of human resources in water sector. Set the role of each Ministry in the water development and conservation of water resources.
- Design, supervision and Update of the existing irrigation system to be automated and connected to central control room and design agriculture drainage system, Madinet, Cairo governorate, Egypt.
- Supervising the construction of second stage of Elhawamdya WTP to upgrade the capacity from 20,000 m<sup>3</sup>/day to 40,000 m<sup>3</sup>/day using MBBR system, Elhawamdya, Giza governorate, Egypt
- Preparation of detailed design and construction drawings Kafr Elfriha wastewater treatment plant with capacity 7500 m<sup>3</sup>/day, Awlad Saker, El Sharkia governorate, Egypt
- Preparation of detailed design and construction drawings Qasasen Alazhar wastewater treatment plant with capacity 10000 m<sup>3</sup>/day, Awlad Saker, El Sharkia governorate, Egypt
- Preparation of detailed design and construction drawings Sids wastewater treatment plant with capacity 5000 m<sup>3</sup>/day, Elibrahmiya, El Sharkia governorate, Egypt
- Preparation of detailed design and construction drawings Kafr Dabos wastewater treatment plant with capacity 7500 m<sup>3</sup>/day, Hehya, El Sharkia governorate, Egypt
- Preparation of detailed design and construction drawings Zafar wastewater treatment plant with capacity 12000 m<sup>3</sup>/day, Tamy Elamdid, El Dakahlia Governorate, Egypt
- Preparation of detailed design and construction drawings Dyarb Negm wastewater

treatment plant with capacity 15000 m<sup>3</sup>/day, Dyrb Negm, El Sharkia governorate, Egypt

- Preparation of detailed design and construction drawings Brijat wastewater treatment plant with capacity 10000 m<sup>3</sup>/day, Brijat, El Behiera governorate, Egypt
- Preparation of detailed design and construction drawings Abu kbeer wastewater treatment plant with capacity 25000 m<sup>3</sup>/day, Abu kbeer, el sharkia governorate, Egypt
- El Gabel El Asfar WWTP Stage 3, emergency bypass.
- Supervision El Gizera El Khadra village sewage and storm water network and pump station, Kafer El Sheikh Governorate, Egypt.
- Supervision Borg Megezel & El Sokary village sewage and storm water network and pump station, Kafer El Sheikh Governorate, Egypt.
- Supervision Abo Khashba village sewage and storm water network and pump station, Kafer El Sheikh Governorate, Egypt.
- Supervision El Kola village sewage and storm water network and pump station, Sohag Governorate, Egypt.
- Evaluation of 10th of Ramdan cooker factory firefighting network, El Sharkia governorate, Egypt.
- Design and preparation of the tender documents for Atfih water treatment plant (second stage) 700 lit/sec Atfih, Giza Governorate, Egypt.
- Design and preparation of the tender documents for Belhasa village sewage and storm water network and pump station, El Minya Governorate, Egypt.
- Design and preparation of the tender documents for Abo Haseba village sewage and storm water network and pump station, El Minya Governorate, Egypt.
- Design and preparation of the tender documents for Nazlet El Hasiba village sewage and storm water network and pump station, El Minya Governorate, Egypt.
- Design and preparation of the tender documents for El Dalil village sewage network and pump station, El Minya Governorate, Egypt.
- Design and preparation of the tender documents for El Kola village sewage and storm water network and pump station, Sohag Governorate, Egypt.
- Design and preparation of the tender documents for El Esawya village sewage and storm water network and pump station, Sohag Governorate, Egypt.
- Environmental impact assessment (EIA) of Menofia and Gharbia governorates, Egypt.
- Environmental impact assessment (EIA) of Eight governorates, Upper Egypt.
- Design and detailed drawings of pump station no. 3 & 4, 6th October, Giza Governorate Egypt.

**1996-2004**

**OWNER OF KHALIFA CONSULTING ENGINEERS WORKING AS INFRASTRUCTURE & ENVIRONMENTAL CONSULTANT IN THE FOLLOWING PROJECTS**

- Irrigation of Tree Forest in Abo-Teeg to re-use the treated sewage water, Assuite Governorate, Egypt.
- Irrigation of Tree Forest in Abo-Tesht to re-use the treated sewage water, Qena Governorate, Egypt.

- Irrigation of Tree Forest in Wadi El Alakee to re-use the treated sewage water, Asswan Governorate, Egypt.
- Irrigation of Tree Forest in Luxor to re-use the treated sewage water, Loxor Governorate, Egypt.
- The 4.5 km supportive water line for Azeema – Nagah Villages in Badr District, Behira Governorate, Egypt.
- The 7.5 km supportive water line in Ahmed Orabi – El Sokhna Villages in Badr District, Behira Governorate, Egypt.
- The supportive 800 mm line for the second zone in Badr City, Cairo Governorate, Egypt.
- Protection of Gas Line Kossaima – Rafah – El Areesh against flash floods, North Sinai Governorate, Egypt.
- Protection of El-Kattamia – Ain El Sokhna Road against flash floods, Egypt
- Design of water network and irrigation system for the Green Belt of 6 October City, Giza Governorate, Egypt.
- Study for lowering the GWT in New Cairo City, Cairo Governorate, Egypt.
- Protection of the structures in Saint Catherine City against flash floods, South Sinai, Egypt.
- Design of water network, drainage system, storm water networks and irrigation of green areas in the project “Urban Design for 88 feddans” in 6 October city, Giza Governorate, Egypt.
- Reclamation of 15000 feddans in Wadi Sannor and the design of the trickle irrigation system, Beni Suef Governorate, Egypt.
- Preparation of detailed design of the domestic water supply sewerage system, storm water network and solid wastes studies for El Kenayat City, El Sharkeya Governorate, Egypt.
- Modification of irrigation network (including execution supervision) for Marina Recreational Resort, Marsa Matrouh Governorate, Egypt.
- Design and preparation of the tender documents for the water supply network and water purification plant for Hehya, Ibraheymeya and Dyarb Negm Directorates, Sharkeya Governorate, Egypt.
- Design and preparation of the tender documents for the water supply network and water purification plant for El Bagour Directorate, Menoufeya Governorate, Egypt.
- Design and preparation of the tender documents for the water supply network and water purification plant for Hosh Eisa Directorate, Beheira Governorate, Egypt.
- Design and preparation of the tender documents for the water supply network and water purification plant for Etfieh Directorate, Beni Suef Governorate, Egypt.
- Design and preparation of the tender documents for the water supply network and water purification plant for Beni Suef Directorate, Beni Suef Governorate, Egypt.
- Design and preparation of the tender documents for the domestic sewerage and storm water network and pump station for the two villages El Galatma & El Manashy, Embaba Directorate, Giza Governorate, Egypt.
- Preparation of the hydraulic design of El Koraymat/Hurgada Pipeline and construction

supervision, Egypt.

- Preparation of the workshop drawings and supervising the construction of the water and sewerage and storm water networks at Mubarak Police Academy, Cairo Governorate, Egypt.
- Design and preparation of the tender documents for the irrigation system of the 6th of October Greenbelt, 6th of October City, Giza Governorate, Egypt.
- Preparation of the workshop drawings for the wastewater network for the industrial city of Biyad Elarab, Beni Suef Governorate, Egypt.
- Design the protection works against the runoff for the city of Marsa Alam, Red Sea Governorate, Egypt.
- Preparation of the workshop drawings for the wastewater and storm water network for the industrial city of New Damietta, Damietta Governorate, Egypt.
- The Hydraulic design of El Gabal El Asfar Wastewater Treatment Plant outfall, Belbeis, El Sharkia Governorate, Egypt.
- Preparing workshop drawings for the protection works against scouring for Marina Recreational Resort, Marsa Matrouh Governorate, Egypt
- Design and preparation of the tender documents for the wastewater and storm water network and treatment plant for the city of Marsa Alam, Red Sea Governorate, Egypt.
- Design the protection works against storm water runoff for the city of New Sohag, Sohag Governorate, Egypt.
- Design and preparation of the tender documents for the sewerage and storm water network and pump station for the Nuclear Matter Association, El Kattameya, Cairo, Egypt.
- Design and preparation of the tender documents for the water supply and domestic sewerage and storm water networks and the associative pump stations for the city of New Damietta, Damietta Governorate, Egypt.
- Comprehensive Analysis of El Sheikh Zayed City's main domestic water supply line.
- Preparation of domestic water supply, sewerage and storm water networks, solid wastes studies for Beba City, Beni Suef Governorate, Egypt.
- Preparation of domestic water supply, sewerage and storm water networks, solid wastes studies for El Fashn City, Beni Suef Governorate, Egypt.
- Design of the ground water desalination plant for domestic water supply in New Minia City.
- Study, design and prepare tender documents of the domestic water supply and sewerage and storm water networks for the dredging zone (east of the navigational channel), New Damietta City, Damietta Governorate, Egypt
- Study and modify the irrigation network for Ahmad Orabi Land Reclamation Company, Qalubia Governorate, Egypt.
- Study, design and prepare tender documents for the irrigation and domestic water supply networks for the 6th of October Land Reclamation Corporation, Giza Governorate, Egypt.
- Domestic review the hydraulic design of El Gabal El Asfar Wastewater Treatment Plant,



**Qalubia Governorate, Egypt.**

- **Design and prepare the workshop drawings for the wastewater and storm water network of Biyad El Arab Industrial Compound, Beni Suef Governorate, Egypt.**
- **Design the main water supply line for New Beni Suef City, Beni Seuf Governorate, Egypt.**
- **Preparation of the tender documents for Marsa Alam Wastewater Treatment Plant, Red sea Governorate, Egypt**
- **Design and prepare the workshop drawings and supervising the construction of the water and sewage networks for Mubarak Police Academy, Cairo Governorate, Egypt.**
- **Design the domestic water distribution and sewage networks for the Special County in Badr City, Beheira Governorate, Egypt.**
- **Detail design of the water, wastewater, irrigation, and fire system for New Assiout City, Assiout Governorate, Egypt.**
- **Study the water supply and sewerage infrastructure of Sahl Hasheesh, Hurghada, Red sea Governorate, Egypt**
- **Study and design the domestic water supply and sewerage of the Industrial County, Biyad El Arab, Beni Suef Governorate, Egypt.**
- **Dynamic analysis of the main pipeline feeding El Obour City, El Qalubia Governorate, Egypt.**
- **Evaluate the groundwater quality in El Sadat City.**
- **Design the sewerage network of the Nuclear Substance Association, El Kattameya, Cairo Governorate, Egypt.**
- **Design of the runoff protection works for New Beni Suef City, Beni Suef Governorate, Egypt.**
- **Design of the runoff protection works for Mansheyet Nasser County, Cairo Governorate, Egypt.**
- **Hydraulic design of Edfo - Marsa Alam water transmission pipeline (220 km), Egypt.**
- **Study, design and prepare tender documents of the domestic water supply and sewerage and storm water networks for El Masreyeen Residential Compound, El Sheikh Zayed City, Giza Governorate, Egypt.**
- **Hydraulic design of the storm water drainage network for Cairo Governorate, Egypt**
- **Design the protection works against the runoff for the New City of El Minia, Minia Governorate, Egypt.**
- **Participating in the design of the main water supply line for Suez Gulf project, Suez Governorate, Egypt.**
- **Design the protection works against the runoff for Borg El Arab City, Alexandria Governorate, Egypt**
- **Design a dewatering scheme for El Kabbary culvert under railway, Alexandria Governorate, Egypt.**
- **Study, design and prepare tender documents of the domestic water supply, irrigation and sewerage and storm water networks for Counties No. 7 & 9, El Tagamo'a El Awwal, New Cairo, Cairo governorate, Egypt.**

- Planning the road and the crossing between El Sheikh Gaber Canal and the Ismaileya-Port Said main highway, Ismaileya governorate, Egypt.
- Prepare the tender documents for the expansion of the water treatment plant of El Salheya New City, Ismaileya governorate, Egypt.
- Prepare the tender documents for the New Minia Desalination Plant, El Minya governorate, Egypt
- Design and prepare the tender documents for El Borollos Fishing Port, Kafr El Sheikh governorate, Egypt
- Design a protection system against runoff in Riviera Resort, Taba, South Sinai governorate, Egypt.
- Design a protection system against runoff for Noweibaa City, South Sinai governorate, Egypt.
- Design of the potable water supply and sewerage and storm water networks for Entertainment Park, New Beni Suef City, Beni Suef governorate, Egypt.
- Study of hydrology and drainage system for the Egyptian Northern Boundary Road, Egypt.
- Study of hydrology and drainage system for Dahab – Sharm El Sheikh Road, South Sinai governorate, Egypt.
- Study of hydrology and drainage system for The Egyptian East Boundary Road, Sinai, Egypt.
- Design of the domestic water supply and sewerage and storm water networks for the main Road, 6th of October City, Giza governorate, Egypt.
- Design of the new quays / jetties for recreational / touristic boats, Luxor governorate, Egypt.
- Study of hydrology and drainage system for “N.A. Road”, Cairo governorate, Egypt.
- Study, design and prepare tender documents of the domestic water supply, irrigation and and storm water sewerage networks for Disaster-Relief County, New Assiut City, Assiut governorate, Egypt.
- Study and assessment of the domestic water main line of El Obour City, El Qalubia governorate, Egypt.
- Study of hydrology and drainage system of Borg El Arab City, Alexandria governorate Egypt.
- Study of hydrology and drainage system of New Minia City, El Minya governorate Egypt.
- Evaluation of the groundwater as a main source of the city water supply for El Sadat City, El Menofia governorate, Egypt.
- Supervise the construction of El Maadia Fishing Port, El Behira governorate, Egypt.
- Detailed design for water and wastewater systems for New Assiut City, Assiut governorate Egypt.
- Hydrological study of Badr City, a newly developed suburban city of Cairo governorate, Egypt.
- Hydrological study and flood protection of Helnan Dahab Hotel, South Sinai governorate,

**Egypt.**

- **Design of the irrigation network for the tree plantation around El Noubaria New City El Behira governorate, Egypt.**
- **Design the force main for the sewage treatment plant of New Noubaria City, El Behira governorate, Egypt.**
- **Detailed design for water and wastewater systems for a new developed area at Zayed City, Giza governorate, Egypt..**
- **Evaluate bidders for El-Obour untreated water pipeline, El Qalubia governorate, Egypt.**
- **Study and design of the irrigation system for tree plantation of Cairo Ring Road, Cairo governorate, Egypt.**
- **Design a dam and an irrigation system for an area of 7500 Acre, in Albania.**

**1997 - 1998**

**CONSULTANT ENGINEER,**

**THE LOCAL CORPORATION OF AGRICULTURAL DEVELOPMENT:**

**Design and review of some irrigation networks.**

**1990 - 1996**

**CONSULTANT ENGINEER**

- **Study of rainfall and runoff drainage system for El Fujaira, United Arab Emirates.**
- **Modify and design of the water distribution system of Al-Ain City, United Arab Emirates.**
- **Study of rainfall and runoff drainage system for Al-Ain City, United Arab Emirates.**

**1988 - 1990**

**CONSULTANT FOR THE HYDRAULICS & SEDIMENTS RESEARCH INSTITUTE, MINISTRY OF PUBLIC WORKS AND WATER RESOURCES, EGYPT.**

**Participated in the following projects:**

- **Physical model for the hydraulic investigation of thermal power plant out fall to Nile River.**
- **Physical model for new Esna Barrage on River Nile, Upper Egypt.**
- **Physical mobile-bed model to study navigation pass along the Nile River.**
- **Physical model to study the effect of Nile bridges on navigation channels.**
- **Physical model for selecting of Beni Suef water treatment intake on Nile River.**

**1983 - 1990**

**ASSOCIATE, CONSULTING ENGINEERS WAFIIE & ASSOCIATES (CEWA), CAIRO, EGYPT.**

**Participated in the following projects:**

- **Wadi El-Maghara, Study of rainfall and runoff and design of drainage system and storage dam, North Sinai, Egypt.**

- **Wadi El-Karm, Study of rainfall and runoff and design of drainage system and storage dam, North Sinai, Egypt**
- **Prepare and supervise some of the training courses for the Ministry of Public Works and Water Resources, Egypt.**
- **Structure design and construction supervision of reinforced concrete pipe factory in Cairo, Egypt.**
- **Structure design and construction supervision of the workshop area of 33,000 m<sup>2</sup> for the bus overhaul facility of Greater Cairo Urban Development Project, Cairo, Egypt.**
- **Design of irrigation system for an area of 2000 ha for wastewater reuse planning in Madenia Area, Saudi Arabia.**
- **Design and supervise the execution of irrigation and drainage system for sugar cane area of 3000 ha in Zaire.**
- **Design and supervise the irrigation system for planting the Cairo Alexandria Desert Road. Design of surface piped irrigation system in Minia Governorate for the area of 15,000 feddans.**

**1986 – 1988:**

CONSULTANT, HARZA ENGINEERING COMPANY

Participated in the following projects:

Implementation of the renovation and replacement program for irrigation structures establishments. A USAID financed project of 75 million dollars to replace 40% of the intermediate and small irrigation structures throughout Egypt.

**1982 - 1983**

SENIOR IRRIGATION AND DRAINAGE ENGINEER, HALCROW-ULG, LTD., CAIRO REPRESENTATIVE OFFICE.

Participated in the following project:

**Design of the Irrigation and Drainage System for the West Noubaria settlement project. (West Noubaria settlement project is a land reclamation project for an area of 17,000 feddans.), El Behira Governorate, Egypt.**

**1980 - 1981**

CIVIL GROUP ENGINEER, STONE, & WEBSTER CANADA LIMITED, TORONTO, ONTARIO.

**Design pipe support for Enrico Fermi Atomic Power Plant.**

**1976 - 1979**

**Associate Researcher in University of Windsor, Ontario, Canada.**

Participated in the following projects:

- **Calibration of Sanitary Sewage System for Union Water System, St. Clair Beach, Tecumseh, and Sandwich South, Windsor, Ontario, Canada.**
- **Study of Surging in Stilling Wells in the Distribution Chamber at Western of Windsor**

**Pollution Control Plant, Windsor, Ontario, Canada.**

- **Design of Selkirk Irrigation and Drainage System, Leamington, utilizing a generalized computer program HEC-2, Ontario, Canada.**
- **Model Studies of Wallace burg, Irrigation Drop Structure, Ontario, Canada.**
- **.Field Study of Western Windsor Pollution Control Plant Clarifiers, Ontario, Canada.**
- **Hydraulic Model Study of primary settling tanks, Windsor treatment plant, Ontario, Canada.**
- **Model Studies of the Irrigation Control Structure for the W.Darcy Mckeough Dam, Ontario, Canada.**
- **Water hammer Study for a pumping station and force main.**

**1969 - 1973**

**Design Engineer with the Consulting Firm Arab Consulting Engineers (Dr. A. Muharram & Dr. M. Bakhoum), Cairo, Egypt.**

**Participated in the design of number of water resources, irrigation and civil engineering projects.**

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#### **PROFESSIONAL ORGANIZATIONS**

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**Member, Egyptian Association of Professional Engineers.**

**Member, Egypt Irrigation Improvement Project Committee.**

**Member, the National Egyptian Committee of Hydrology and Water Resources.**

**Member, Association of Professional Engineers of Ontario.**

**Member, Canadian Society of Civil Engineers.**

**Member, American Society of Civil Engineers.**

**Member, International Association for Hydraulic Research (IAHR).**

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#### **SCIENTIFIC COMMITTEE**

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**- Ex-member in the Scientific committee for irrigation and hydraulics, Supreme council of universities.**

**Ex-member in the scientific committee for irrigation and hydraulics, National Center for Water Resources, Ministry of Water Resources and Irrigation,**