

FINAL CLOSE OUT REPORT

ADDRESSING SORT AND LONG TERM WATER AND SANITATION NEEDS FOR UMM QASR



Umm Qasr R.O Plant 14/Mar/2009

Ultraviolet Sterilization Unit

1. Programme/Project Number

- ATLAS Project Number: UNDG 66874, UNDP Iraq 52775
- ATLAS Award Number: UNDG 54874, UNDP Iraq 44784
- Cluster No. E3-08

2. Programme/Project Location

- Region(s): South Iraq
- Governorate(s): Basrah Governorate.
- District(s):Umm Qasr Town

3. Programme/Project Timeline/Duration

- Overall Duration: 33 months: July 2006-April 2009
- Original Duration : 7 months: July 2006-February 2007
- Programme/ Project Extensions: until 30 June 2009

4. Background

The problem of the water and sanitation in Iraq is appalling at the moment; over the past two decades the water and sanitation sector in Iraq experienced a steady but devastating decline. The potable water systems suffered from sanctions and embargoes imposed since August 1990 and the shortage in the chemicals supply required for water treatment. A major sector deterioration contributor was the damage of the physical infrastructure caused by the three most recent consecutive wars, which caused severe drop in the offered service levels. It is worth noting that post war vandalism resulted in more damage compared to 13 years of embargo and wars.

The theoretical drop in the access rate to safe potable water summed to some 3 % only in the time span between 1991 and 2002 (from 95 % to 92 % coverage level), or from 330 liters per capita per day (l/c/d) to 218 l/c/d. However, this overall average figure is quite misleading given the fact that the majority of the population never gained access to such a large water consumption rate, especially those living by the end of the leaking and damaged water distribution system. This prominent unsafe water and unhygienic practices situation led to an alarming escalation in water-borne diseases, thus contributing to a fast growing problem of malnutrition, morbidity and mortality of infants as reflected by the ``Under Five Mortality Rates``; of particular importance is Basra Governorate where the WATSAN situation has severely deteriorated as illustrated by the recent Iraq Living Conditions Survey (See COSIT, FAFO and UNDP. 2004 (Table 6, p. 20)), which illustrates that the supply of drinking water is unsafe for 76% of the households.

UNDP identified urgent needs in Basrah Governorate where the water and sanitation (WatSan) situation has severely deteriorated as illustrated by the recent Iraq Living Conditions Survey that identifies 76% of the households have unsafe drinking water.

Prior to initiating the Project, a comprehensive water and sanitation assessment “35 Days Assessment” was conducted which identified gaps needs and opportunities covering several southern cities including: Umm Qasr, Safwan, Shuaiba, Khur Al-Zubair, Zubair, Abu – Al-Khaseeb and Basrah City. The Assessment was carried out in June 2006 by UNDP’s Consultant, Al-Ula Engineering Co, under the supervision and instructions of the UNDP WatSan Project Manager. Consequently, UNDP identified Umm Qasr Town as suffering immense shortage in potable water supply services and other basic social services.

In this context, UNDP-Iraq is addressing the water supply problem in the towns of Umm Qasr whereby the subject project intended to compliment the current level of water supply through provision of a 50 cum/hr RO plant. The objectives have been identified as:

1. Increase access to potable water to the local impoverished population by decreasing the Port’s commercial water demand and making it available at reasonable prices to the community;
2. Public Health risks from solid and organic waste build-up will be reduced;

3. Contribute to the socio-economic development of Umm Qasr City through (i) employment creation and (ii) alleviating the financial burdens on inhabitants by providing water to the port, thereby decreasing the demand on the expensive vendor supplied water for the population;
4. Assess the short and medium term needs and requirements of the water and sanitation sector in Umm Qasr;

As such, UNDP has procured the said RO unit, which has already been delivered to the jobsite for constructing, installing, erecting, etc the various elements comprising the RO plant and supplying minor items of equipment. On 30th August UNDP has engaged with Basrah Governorate in a Letter of Agreement context to implement such; LoA/I-002/06.

This project has focused on the rapid improvement of the water supply and wastewater conditions through the provision of sustainable potable water and access to improved sanitation to 54,000 inhabitants in Umm Qasr Town. Deliverables have included the provision of a 50 cum/hr Reverse Osmosis (RO) plant in addition to the supply of one (1) solid waste skip loader and one hundred (100) solid waste containers. Additionally, the Project built capacity for local structures to operate and maintain the Plant. This project contributed towards sustainability by addressing appropriate operational measures; including comprehensive Operation and Maintenance (O&M) training to build capacity skills required for more efficient and effective procedures by governmental officials.

5. Outcomes and Outputs

Outcome 1: Increase access to potable water to the local impoverished population by decreasing the Port commercial water demand, thus availing such at reasonable prices to the community.

Status: Fully Achieved; The project has contributed to the rapid improvement of the water supply in Umm Qasr Town through the provision of sustainable potable water and access to improved sanitation to 54,000 inhabitants in Umm Qasr Town through the provision of a 50 cum/hr RO plant.

The project also contributed towards sustainability by addressing appropriate operational and maintenance trainings for staff and technicians at Umm Qasr Water Treatment Plant to ensure sustainability of the provided assets.

Output 1.1: An autonomous source of potable water will be made available and operated by Umm Qasr Port.

- 50 cum/hr RO plant , spare parts and consumables have been procured, supplied and handed over to Basrah Governorate/Umm Qasr Town Council;
- Erection and installation works completed together with all related implementation activities on 21 April 2009;

- Final testing and commissioning completed on 28 April 2009;
- Issuance of the Certificate of Substantial Completion on 28 April 2009.

Output 1.2: RO Units Operation and Maintenance (O&M) training for local staff will ensure sustainability of provided assets.

- Training on operation and maintenance completed during the third week of April 2009 to strengthen the capacity of technicians and staff of Umm Qasr Treatment Plant in O&M to ensure the sustainability of the project.

Outcome 2: Public health risks from solid wastes and organic waste build up will be reduced.

Status: Fully Achieved; The project has contributed to the rapid improvement of the wastewater conditions and access to improved sanitation to 54,000 inhabitants in Umm Qasr Town through the supply of one (1) solid waste skip loader and one hundred (100) solid waste containers; through which tons of solid waste have been collected from the streets of Umm Qasr Town.

Output 2.1: 420 tons of solid waste (i.e. 10 trips per dayx8 cubic meters x 0.75 ton per cubic meter x 7 days) will be collected per collection cycle (week) from the streets of Umm Qasr City, thanks to the collection equipment provided.

- One (1) Solid Waste Skip Loader supplied and handed-over to Basrah Governorate/Umm Qasr Town Council;
- One hundred (100) Solid Waste Containers supplied and handed-over to Basrah Governorate/Umm Qasr Town Council.

Outcome 3: Contribute to the socio-economic development of Umm Qasr Town through (i) employment creation and (ii) alleviating the financial burdens on inhabitants by providing water to the Port and hence decreasing demand on the expensive vendor supplied water.

Status: Fully Achieved; The project has addressed the deteriorated health, socio-economic and living conditions for a wide spectrum of the town inhabitants.

Short term employment opportunities have been created for unskilled labor jobs during the cleaning of storm water drainage networks, repair and replacement of 15km water distribution networks in addition to the construction of 4 septic tanks; all of which have been implemented by other UN Agencies together with the support of Umm Qasr Town Council.

In addition, Project implementation has indirectly resulted in i) generating commercial activity and employment opportunities for local consultant and

national contractors through the entered services and works contracts and, ii) capacity building of the relevant Umm Qasr staff and technicians will result in improving their employment terms, conditions and future opportunities.

Output 3.1: Short and long term employment opportunities focusing on unskilled labor jobs will be created. The price of clean water will be reduced.

- Umm Qasr project created 15,000 workdays; staff and technicians at Umm Qasr Treatment Plant as well as the national contractors and local consultant;
- Short term employment opportunities were created for unskilled labor jobs during the cleaning of storm water drainage networks, repair and replacement of 15km water distribution networks in addition to the construction of 4 septic tanks; all of which have been implemented by Umm Qasr Town Council and other UN Agencies;
- Project implementation indirectly resulted in i) generating commercial activity and employment opportunities for local consultant and national contractors through the entered services and works contracts and, ii) capacity building of the relevant Umm Qasr staff and technicians will result in improving their employment terms, conditions and future opportunities.

Outcome 4: Assess the short and medium term needs and requirements of the water and sanitation sector in Umm Qasr.

Status: Fully Achieved; A comprehensive water and sanitation assessment “35 Days Assessment” was conducted which identified gaps needs and opportunities covering several southern cities including: Umm Qasr, Safwan, Shuaiba, Khur Al-Zubair, Zubair, Abu – Al-Khaseeb and Basrah City. The Pre-Evaluation/Assessment was carried out in June 2006 by UNDP’s Consultant, Al-Ula Engineering Co, under the supervision and instructions of the UNDP WatSan Project Manager. Consequently, UNDP identified Umm Qasr Town as suffering immense shortage in potable water supply services and other basic social services.

All the consultancy detail design deliverables have been completed.

The works contract was awarded to Messrs. “Al Burkan Company for General Contracts” for implementing the required scope of works; the installation and erection activities have been completed.

The construction supervision services have been awarded to Messrs. “Al-Ula Engineering”; implementation works have been completed.

Certificate of Substantial Completion (CSC) was signed by all parties on 28 April 2009 and Umm Qasr Treatment Plant was handed over to the counterparts of

Umm Qasr Town Council/Basrah Governorate signaling the operational closure of the project in 2nd Quarter 2009.

Output 4.1: Water supply, wastewater systems and solid waste management needs, which will facilitate impact assessment studies, shall be accessed through a consultancy services assignment by a local consultant firm working in close collaboration with all relevant local authorities keyed to assessing the short, medium and long term requirements.

- Consultancy Services were awarded and the contract was signed by both parties, UNDP and the Project Consultant, early 2007;
- The final consultancy assignment deliverables have been submitted including the part relevant for the bidding documents;
- Consultancy services, to provide construction supervision, awarded and contract signed early January 2008;
- Completed construction supervision activities on 21 April 2009;
- Completed final testing and commissioning on 28 April 2009;
- Issuance of the Certificate of Substantial Completion on 28 April 2009;
- Evaluation Report was submitted by the Project Consultant early June 2009.

6. Relevancy of the Project

- UN Assistance Strategy for Iraq: UN Cluster 3 Water and Sanitation:

There is an articulated need to address the challenge of access to safe drinking water within the Strategy which will require a 50 per cent reduction to meet the MDG Goal 7. Within the Strategy there is a link made between water, the national infant mortality rate and improvement of nutrition. Umm Qasr Project directly provided sustainable potable water and access to improved sanitation to 54,000 inhabitants.

- UN Millennium Development Goals (MDG):

Umm Qasr Project directly relates to MDG Goal 7 Target 3: To reduce the percentage of people without access to safe drinking water and sanitation by 50 per cent by 2015 (MDG/ICSD). Additionally this project positively impacts on infant mortality rate and nutrition within the MDG. The project possibly promotes gender equality and empowers women, as it assists in reducing the workload of women in respect to responsibilities and tending to sick family members contributing to MDG Goal 3.

- Iraqi National Development Strategy:

Umm Qasr Project contributes to Pillar 3 1 that prioritizes improving access to clean water and sanitation. It was elaborated that according to the Iraq Living Conditions Survey (ILCS) only 54 per cent of households in Iraq have access to safe and stable water supply and in Basrah 76% of the households have unsafe drinking water.

- The International Compact with Iraq (ICI):

Umm Qasr Project is directly linked to Section 4.4 on Human Development and Human Security. Of specific reference is 4.4.1 Delivering Basic Services: Working towards the Millennium Development Goals. “Goal: The Government will work towards achieving its interim 2011 Millennium Development Goals in an efficient and sustainable way. To this end it will work to: Improve access to safe drinking water and sanitation by one third.”

7. Beneficiaries

- Key Beneficiaries “stakeholders”: Umm Qasr Town Council (Umm Qasr TC), Basrah Governorate (BG), and the Ministry of Municipalities and Public Works (MMPW)
- Direct Beneficiaries: Approximately 54,000 inhabitants residing in Umm Qasr City directly benefited from the sustainable potable water and access to improved sanitation conditions.
- Indirect Beneficiaries: Those employed through the 15,000 workdays; staff and technicians at Umm Qasr Treatment Plant as well as the national contractors and local consultant.

Project implementation indirectly resulted in i) generating commercial activity and employment opportunities for local consultant and national contractors through the entered services and works contracts and, ii) capacity building of the relevant Umm Qasr staff and technicians will result in improving their employment terms, conditions and future opportunities.

8. Contribution of key partnerships

UNDP’s counterparts were Umm Qasr Town Council and Basrah Governorate.

The counterparts during all Project development phases from initial conceptualization through final handing over were involved. The counterparts reviewed all technical materials (scopes of work, drawings, Bills of Quantities...etc.). In addition, counterparts had an active role during the construction activities by being part of the designated site decision making mechanism; payments were processed after the receipt of the certificate of payment issued by the Engineer, approving each invoice amount.

Payment of the final invoice was effected by UNDP after issuance of the Certificate of Substantial Completion upon the agreement of the counterparts via official written letters of acceptance.

In addition, UNDP will release the Contractor's performance bond upon issuance of the Certificate of Final Completion by Umm Qasr Town Council/Basrah Governorate.

In order to promote national ownership and ensure active counterparts' participation in all project activities, UNDP entered into a Letter of Agreement (LoA) with Basrah Governorate for implanting the Reverse Osmosis Plant installation works in August 2007 in a NEX modality. Overtime it became apparent that Basrah Governorate was reluctant to issue the bids. This was confirmed upon receipt of a letter from Basrah Governorate Officials on 26 May 2008 requesting UNDP to implement the required scope of work according to standard approaches within a DEX modality. This resulted in a delay of 9 months due to modality of implementation and Basrah Governorate. Upon receipt of the said letter, UNDP started the competitive bidding process.

Furthermore, all Project related arrangements including preparation of Pre-Qualification (P/Q) documents and Requests for Proposals (RfP) for consultants, appointment of the consultant and contractor, among others have been carried out in close collaboration with UNDP counterparts.

At Project outset, a Steering Committee (SC) was established including representation of Umm Qasr Town Council/Basrah Governorate and the Umm Qasr Water Treatment Plant Manager. The Steering Committee was responsible for making critical decisions on all project implementation matters and reviewed all project technical studies, documents, invoices, quality test results, monitored work quality, and oversaw the substantial completion and final completion processes.

9. Project Development

a. At Early Stages

The following presents the project development of events at the early stages of the project:

- All project equipment have been delivered in due time to Umm Qasr.
- The completion of the consultancy assignment deliverables were delayed for 1 month due to the deteriorating security situation.
- In the course of carrying out the consultancy assignment, the local authorities requested a major change in project scope (i.e. provision of a new RO plant as opposed to repair of the existing plant). This was further verified following assessing the repair costs, which concluded as much higher than the costs associated with providing a new plant.
- UNDP completed the Invitation to Bid (ITB) documents in July 2007, pre-qualified local contractors and issued the ITB.

- In late July 2007 and upon a major security incident, UNDP decided to enter into a Letter of Agreement (LoA) with Basrah Governorate (BG) for implementing the site works.
- The LoA between UNDP and BG was entered in August 2007.
- BG issued the ITB accordingly.
- BG did not receive an adequate number of bids (only one bid).
- Upon investigation, UNDP concluded that the ITB was not issued to an adequate number of contractors which resulted in the above.
- UNDP embarked on lengthy discussions with BG in order to re-issue the ITB and identify means to receive more bids, means to attract interest of local contractors, etc. Finally, in January 2008, UNDP supported BG in developing a new short-list of local contractors to whom the ITB may be issued.
- In February 2008, BG approval was internally granted to issue the ITB.
- Having not issued the ITB by March 2008 and following inquiry by UNDP, BG claimed that it cannot issue the ITN before receipt of the advance payment as per the LoA stipulation. UNDP communicated proof of disbursing the payment in October 2007 to BG.
- In 28 April 2008, Umm Qasr Town Council sent a letter requesting UNDP to directly implement the required scope of works. Basrah Governorate further communicated a letter to UNDP on 25 May 2008 requesting the same on the premises of delays at UNDP's side to affect the advance payment in due course, although UNDP has already affected this and informed Basrah Governorate accordingly.
- The down payment of 10% of the LoA works totaling US\$13,441.79 was disbursed to Basrah Governorate on 28 October 2007, Receipt No. 9297 and the voucher ID 17730. This amount was confirmed to be received by the counterparts bank with a reference No. OT02290711010231-BTR6139.
- In order to settle the financial matters and address the situation whereby the down payment has already been disbursed, UNDP deducted the already disbursed amount of \$US\$3,441.79 from the final payment due to Basrah Governorate under LoA No. LOA/I-002/06 for Construction, Installation and Erection of Reverse Osmosis Plant for Khor Al Zubair Town in Basra Governorate as part of the 'Emergency Water, Sanitation and Health Support for the Basra Governorate in Iraq'. Having done that, UNDP is not in any position of overpayment.

b. Implementation Arrangements for the Consultancy Services

Following a competitive bidding process, UNDP awarded the contract to Messrs. “Al-Ula Engineering” for the provision of engineering construction services for the ‘RO Treatment Plant in Um Qasr’ as part of the engineering consultancy services for the ‘Emergency Water Supply and Sanitation for Abu al Khaseeb Town’; and therefore PO IRQ10-P/AM004/08 was issued with a total PO amount of US\$ 117,200.

c. Implementation Arrangements for the Consultancy Services

Following a competitive bidding process, UNDP awarded a contract to Messrs. “Al Burkan Company for General Contracts” for implementing the required scope of works concerned with the installation and erection of a new reverse osmosis unit.

In this connection, Purchase Order No. IRQ10-P/AM256/08 was issued with a total contract value of US\$ 128,587.00. Contract amendment No.1 was signed on 29 March 2009 by both parties to reflect the extra works and cancelled items revealed during the kick off meeting and before the course of implementation for the above mentioned Project which increased the contract value to US\$ 156,893.00.

d. Financial Arrangements

The signed contract with Messrs. “Al-Ula Engineering” in conjunction with the required scope totaled US\$ 117,200. According to the terms of payment, the company payments are affected on monthly basis. Payment of the final invoice had effected by UNDP after the satisfactory submittal of the Process Evaluation Report.

The awarded contract to Messrs. “Al Burkan Company for General Contracts” was signed in November 28, 2008 with an effective date of 22 December 2008. Following site handover to the awarded contractor; Basra Governorate informed all that the Iraqi Ports Company (IPC) clearance needs to be obtained upon which this clearance letter was obtained during the first week of February 2009. According to the contract stipulations, the substant completion is due in 2.5 months following the contract effective date. Following to the Contract Amendment, the contract works was totaling US\$ 156,893.00.

The Contractor submitted invoices for payment on monthly basis, based on progress of work. To support its payments, the Contractor submitted an overall progress report depicting progress to submission date and incremental progress together with a full file of progress photographs representing overall, incremental, etc progress.

As agreed with the steering committee at implementation contest, UNDP had only affected payments after receipt of the certificate of payment issued by the Engineer (i.e UNDP’s Consultant and Um Qasr Town Council/Basrah Governorate), approving the invoice amount. Payment of the final invoice had effected by UNDP after issuance of the Certificate of Substantial Completion by the Engineer.

The Engineer has issued the Certificate of Substantial Completion and Handing Over on 28 April 2009 which have been received and approved by UNDP.

Additionally, the Contractor has submitted the Performance Bond to the Procurement Unit on 16 May 2009; Reference No 166/920/2009 issued by the Gulf Commercial Bank valued US\$15,689.0 Valid until 25 May 2010. It is worth mentioning that the originals copy have been received by the procurement unit on 4 June 2009.

Finally, the Engineer has issued the Certificate of Final Completion on 12 May 2010 and approved by UNDP accordingly.

e. Management Arrangements

Given the unstable security situation, UNDP cannot have any of its staff permanently on site. Furthermore, site visits are only granted to UNDP staff if the security situation allows.

Besides regular reporting to UNDP's project manager, the national consulting firm carried out, among others, the: technical oversight, construction monitoring and supervision, progress control and related procedures, quality control and related procedures, certification of quantities and the certification of payment certificates.

Furthermore and as it was agreed during the kick off meeting, the beneficiary (i.e. Um Qasr Town Council/Basrah Governorate) had endorsed the quantities against which the Contractor claims payment as a secondary measure of assurance. In addition to their endorsement on the substantial completion, handing over and final completion.

With the above-mentioned deliverables in conjunction with progress photographs, UNDP's project manager has a firm grip on all project related activities.

f. Verification of Payment Certificates

Of particular importance to all UNDP, offshore managed project is the verification process of any payment certificates. In this respect and within the context of the current project, the following precautionary verification measures were pursued:

- The project manager received a narrative report from the National Consulting Firm in support for each invoice for payment.
- The implemented quantities of works have been checked, verified and certified by the National Consulting Firm together with the counterparts (i.e. Um Qasr Town Council/Basrah Governorate) in terms of quality and quantity and as per the contract specifications.
- The project manager received a certification report from the national consulting firm supporting the contractor's invoice.
- The project manager has been in close contact with the counterparts through telecommunications and e-correspondences. The counterparts confirmed that the works for which payments are claimed have been satisfactorily implemented.

- The project manager received photographic illustrations of the works.
- The project manager received and approved the Certificate of Substantial Completion issued by the Engineer.

The project manager has furthermore safeguarded the entire project by having a performance bond totaling 10% of the contract works value in place as a mean of last resort, which have been released in June 2010 and only after the receipt of the Certificate of Final Completion.

In this context, the project manager hereby certifies that to the best of his knowledge and verification capacity he has satisfied himself that all works under the subject payment certificate have been implemented in the quoted quantities and up to the bid document specifications.

10. Cross-Cutting Issues

The project is not designed to create employment opportunities under the labour intensive implementation modality. However, project implementation resulted in:

- Creating and sustaining numerous employment opportunities for the National Consultant;
- Creating and sustaining numerous employment opportunities for the National Contractor; 25 people of different skills have been directly employed by the contractor to implement the works;
- Indirectly created and sustained numerous employment opportunities for all project related contractors, suppliers, vendors...etc;
- Creating and sustaining employment opportunities for Umm Qasr Town Council;
- Capacity building of the Umm Qasr Water Treatment Plant technicians, Water Directorate at Umm Qasr Town Council, has resulted in enhancing the employment terms, conditions and future opportunities;
- Creation of short term employment opportunities for unskilled labor jobs during the cleaning of storm water drainage networks, repair and replacement of 15Km water distribution networks in addition to the construction of 4 septic tanks.

In addition, the project contributed to:

- Lifting part of the burden off the shoulders of women and young girls through reducing waterborne diseases and care-giving;
- The project also contributed to strengthening girls' education by freeing part of their time originally dedicated to managing sub-optimal water supplies;

- Health and Sanitation issues were addressed through having more in-house water;
- Environmental issues through converting wastewater systems to a water-borne system and, thus, eliminating on-site sanitation facilities' that customarily resulted in ponding of sewage on streets and contamination of groundwater;
- Capacity Building/Development;
- MDGs

11. Key constraints

The following key constraints and delays have been faced during the project implementation:

- Security situation impacted on:
 - Completing the consultancy assignment and thus completing the waterworks designs, drawings, etc.
 - A major security incident significantly impacted activities, which resulted in a decision to pursue implementation through engagement with Basrah Governorate in a Letter of Agreement context.
 - Conducting meetings with counterparts, carrying out site visits and verification activities due to limited movement;
 - Delay estimated at 5 months.
- The assessment study and situation analysis outputs:
 - Concluded that rehabilitating the existing RO units was unfeasible and that procurement of a new RO unit would maximize the project net economic benefits.
 - Entailed having to pursue a bidding process and construction work instead of rehabilitation works only; as reflected by the consultancy assignment assessment report.
 - Umm Qasr Town Council submitted a formal letter to UNDP requesting the revision of project design to address the urgent need for complementing the existing Umm Qasr waterworks production capacity by providing a new RO plant rather than rehabilitating the existing unit(s). This entailed having to pursue a completely different venue from the original project design. This request was received after completing a significant part of the project consultancy assignment.
 - Delay estimated at 10 months.
- Organizational – Institutional Capacity: insufficient procurement capacity, lack of adequate human resources in all aspects including numbers and technical capacity:

- Basrah Governorate (BG) was reluctant to issue the bids in NEX modality as confirmed upon the receipt of a Basrah Governorate letter on 26 May 2008 requesting UNDP to implement the required scope of work in a DEX modality.
 - Delay estimated at 9 months
- Organizational – institutional arrangement:
- Following site handover to the awarded contractor, Basra Governorate informed all that an Iraqi Ports Company (IPC) clearance would have to be obtained.
 - Delay estimated at 2 months

12. Lessons Learned

The following lessons learned have been recorded during the implementation of the Project that would facilitate the design and implementation of future projects:

- The assessment study and situation analysis should be concluded directly before the commencement of the project in order to prevent further deterioration of conditions; this makes the assessment more reliable and reflects more accurately the actual situation on-the-ground.
- Increase the contingency amount in future contracts to be able to cover additional works that may be revealed only later in the course of implementation.
- Detailed project scope development should be fully identified at early stages to prevent difficulties such as budget limitations and variation orders.
- Avoid National Execution as long as ground presence is sub-optimal as several mechanisms are not in place at national and governorate levels such as procurement.
- Maintain a consistent and continuous reporting system to counterparts to avoid loss of formal communications.
- Teleconferencing, VC...etc for communications in the remote management situation is a very helpful set of tools to build partnerships, skills and monitor the situation.
- Maintain close relations with counterparts to be on top of issues as they emerge.
- Maintain close contacts with local business associates to forecast and predict forthcoming events and changes.

ANNEXES

Annex I: Project Document (PD)

Annex II: Contracts and Amendments

Annex III: Purchase Orders (PO)

Annex IV : Performance Bond (PB)

Annex V : Certificate of Substantial Completion (CSC)

Annex VI : Certificate of Final Completion (CFC)

Annex VII : Final Process Evaluation Report

Annex VIII : Note to File (NTF)

Annex IX : Photos