



EXTERNAL EVALUATION REPORT

Water Quality Control and Surveillance in Iraq (Phase Two) (E3-11)

**Submitted to
World Health Organization (WHO)**

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Abbreviations and acronyms

GOI:	Government of Iraq
ITF:	Iraq Trust Fund
LIMS:	Laboratory Information Management System
MDG:	Millennium Development Goals
MoEv:	Ministry of Environment
MoB:	Mayoralty of Baghdad
MMPW:	Ministry of Municipalities and Public Works
NDS:	National Development Strategies
OECD-DAC:	Organization for Economic Cooperation and Development–Development Assistance Committee
SOC:	Stars Orbit Consultants and Management
UNICEF:	United Nations Children Fund
UNEG:	United Nations Evaluation Guidelines
WHO:	World Health Organization

2. Executive Summary

Water supply systems in Iraq sustained major damage brought about by wars, economic sanctions, unabated waves of violence, looting of equipment and failure to carry out regular maintenance and quality control testing and monitoring. As a result, morbidity and mortality from water-borne infections had increased to unprecedented levels especially among children the under 5 years of age.

According UNICEF¹, less than half of Iraq's population can claim reliable access to potable water and less than 10% of urban households outside Baghdad are connected to sanitary sewage systems, and where they do exist, there are frequent failures operating on limited electricity, ideal sewage pumping stations and treatment plants flood neighborhood sides and discharge raw waste water into Iraq's rivers.

In order to ameliorate the situation and help the most affected families, UNICEF launched a water tankering service in the aftermath of 2003 war, which was part of rehabilitation activities of many water treatment projects and represented a life line for more than 200,000 Iraqi people.

The project "Water Quality Control and Surveillance in Iraq (phase two) is a joint initiative of WHO and UNICEF in collaboration with the Ministry of Environment and Ministry of Municipalities and Public Works of Iraq and, the Mayoralty of Baghdad and Ministry of Health and Ministry of Environment/KRG Erbil.

The first phase of the project was funded at USD 6.26 million and aimed at expanding the water quality monitoring network, include waste water treatment plants and perform extra quality analysis to meet Iraqi national and WHO standards for drinking water. A network of 15 governorate, 30 district and 220 water quality laboratories were established at water treatment plants. The second Phase of the project aimed at expanding and strengthening what has been achieved during the first phase by procurement of equipment and supplies for additional water and some waste water quality control laboratories, capacity development of national staff and launching of public awareness campaigns.

The key developmental goal of the project was to ensure further reinforcement of the water quality monitoring programme with the overall purpose of supporting the provision of safe drinking water to the consumers according to Iraqi Standards and WHO guidelines for potable drinking water by establishing an expanded network of quality control laboratories, development of human capacity among laboratory managers and technicians ,establishing a laboratory information system and launching public health education campaigns in high risk areas.

The project was funded under the UNDG-ITF, Cluster E (Water and Sanitation) at USD 4,297,643. The original project duration was 12 months starting 22 December 2006 and was extended four times, the last of which was until 31 December 2009.

WHO has operationally completed all planned activities and the project has been closed from WHO's side by December 2008, meanwhile, UNICEF has developed and installed the Laboratory Information Management System (LIMS) at central laboratories in Ministry of Environment, Ministry of Municipalities and Public Works and Mayoralty of Baghdad. The software was installed at 30 laboratories of Ministries of Municipalities and Environment at 15 governorates. Also LIMS was installed and is operating at 8 projects in Mayoralty of Baghdad. There is however some minor issues related to the operation of the software, which needs to be overcome.

Equipment, laboratory supplies and reagents have been procured and received by the laboratories. This has enhanced the water testing procedures and facilitated the analysis of many tests which were

¹ Press Release on World Water Day 20 March 2008

not previously possible in these facilities, as well as increasing new water quality parameter tests by almost 60%. The three rehabilitated wastewater laboratories have contributed to strengthened wastewater testing capabilities in Najaf, Ninewah and Diwaniyah.

In addition to the 50 on-the-job trainings, the 12 Train-of-Trainers has made a positive effect on the performance of staff by exposing them to modern technology and procedures in water quality testing, monitoring, awareness campaigns and community mobilization in 8 governorates. Twelve wastewater laboratory staff was trained in Amman on testing of basic parameters and Quality Assurance & Quality Control in wastewater sampling and analysis. Another 23 laboratory staff was trained in Basra on Water Quality control and testing.

Following installation training for 61 LIMS users for governorate laboratory staff in three batches at the Basra, Najaf and Kirkuk training centres during April – May 2009. Also training of users of 19 laboratory staff was conducted in November 2009.

In late April 2009, UNICEF obtained ITF approval for utilizing savings achieved during project implementation to undertake the development of LIMS in the KRG, as well as the construction of the Central Wastewater Quality control laboratory in Baghdad.

Work related to the construction/expansion of the Central Sewerage Laboratory building has commenced and is currently operational.

The hygiene awareness campaigns targeting 4,000 community and religious leaders have had a direct impact on raising the awareness and are expected to improve hygiene practices of the communities leading to the reduction of water-borne diseases among children.

However, regarding the procurement and delivery of 7 water quality monitoring mobile laboratories (3 for Ministry of Environment, 2 for Ministry of Municipalities and one each for Mayoralty of Baghdad and Erbil) and had become operational or in the process of being operational.

The project was in-line with the priorities identified in the National Development Strategy (NDS), 2005-2007 with regard to improving quality of life of the Iraqi people with special emphasis on water and sanitation. Also the project contributed towards attaining the MDG goals in particular to Goal # 4 = Reduce Child Mortality, Goal # 7 = Ensure Environmental Sustainability and Goal # 8 = Develop Global Partnership for Development

According to the evaluation results, the main challenges encountered during the project implementation were:

- The unstable security situation affecting movement of staff.
- Delays by the Authorities in formulating their needs and articulating their requirements in terms of type, parameters, layout and frequency of reports generated by the system;
- Frequent changes in the Authorities' requirements leading to repeated re-work. This was further delayed by the protracted review and provision of comments by the Authorities to the procurement contractor;
- Lengthy programming process requiring the Contractor to transfer the comments received either on structural layout or statistical calculations of report format to programming language;
- Varying levels of staff skills and differing needs for LIMS structure among the three Authorities;
- The Contractor's inability to manage multiple Authorities with their differing needs simultaneously and a number of holidays during the last two months of the year also severely affected the implementation.
- Lengthy UN procurement procedures.

Recommendations for the main stakeholders:

1. Notwithstanding that the GoI is currently embarking on a large scale development programme of the country's infrastructure nevertheless a comprehensive approach to the water quality problem should be pursued based on adopting a twofold developmental strategy to expand and rehabilitate the country's basic infrastructure of water and wastewater facilities on the one hand, and to reinforce regulations and implement an effective system for prevention and control of high risk practices that contribute to contamination of natural water resources on the other hand.
2. Maintain the joint WHO/UNICEF efforts to support GOI for Enhancing Water Quality Control and Surveillance in Iraq, addressed the consequences of water unsafely and insecurity.
3. Related GOI departments should develop, plan and implement proper maintenance of water and wastewater quality laboratories. Experience from many developing countries suggest that in many instances, sophisticated equipment could easily be exposed to damage and become beyond economic repair if not utilized and regularly maintained. This is even more likely in countries plagued by ongoing violence and instability.
4. Public awareness and community participation in protection of natural water sources, abiding by good hygienic environmentally-friendly practices make a significant contribution towards maintaining water and sanitation facilities. Concepts of hygiene and clean environment currently integrated within the school curriculum should be further developed and more teachers trained on promotion of environment-friendly towns and villages.
5. The MoEv and MMPW in KRG should ensure that an effective monitoring system is developed and implemented to control hazardous practices of dumping domestic, industrial, agricultural and medical waste into rivers and other natural water sources.
6. The MoEv and MMPW should establish a Task Force comprising representatives from the Ministries of Health, Education, Higher Education, NGOs and civil society organizations in order to develop and implement an ongoing health educational awareness programme to raise public awareness on the importance of maintaining hygienic behavior and avoiding practices that endanger the environment and contribute to disease transmission. The assistance and support of WHO and UNICEF in this respect would be indispensable. The technical assistance of WHO and UNICEF would be desirable in this respect.
7. The process of national capacity building that has been started through phase one and phase two of this project should be continued by GOI in close cooperation with WHO and UNICEF in order to develop national ownership of the water quality control and surveillance activities and reverse the current trend of morbidity and mortality from water-borne diseases.

3. Introduction

Iraq has two major natural water sources, namely the Tigris and Euphrates rivers; nevertheless water shortage is a real problem in some parts of the country as a large part of Iraq is desert. Three devastating wars and thirteen years of severe economic sanctions have had their toll on basic infrastructure of water and sanitation as well as on humanitarian conditions. Water treatment plants, pumping stations and networks suffered from lack of maintenance and were allowed to fall in disrepair.

The wartime destruction of military and industrial infrastructure has released heavy metals and other hazardous substances into the soil and ground waters. Numerous spills have resulted from damage to Iraq's oil infrastructure thus further contributing to contamination of water sources. Even before the 2003 war began, millions of people were struggling with broken or corroded pipes and faulty systems, but since then Iraq's water problems have multiplied.

Water sources are generally polluted, biologically and chemically, due to lack of appropriate systems for safe disposal of sewage, wastewater, industrial, agricultural and medical waste and lack of control over high risk practices that contribute to environmental degradation and contamination of natural water resources. Baghdad and Anbar are the most affected areas for water supplies. Vulnerable groups, such as the internally displaced people have had no choice but to drink from polluted river water.

The issue of water quality control has been completely neglected due to the economic sanctions, which imposed a ban on import of a wide range of essential supplies, including water disinfection chemicals. Consequently, no supplies were provided to the laboratories and no training was provided to concerned staff, which resulted in a situation where the country has to live on outdated systems and considerably reduced performance capacity for testing and monitoring water quality.

WHO and UNICEF, who have been working in close cooperation with the government of Iraq since several years, were deeply concerned about this situation and keen to provide assistance for improving the health status of the general population and reducing morbidity and mortality through activities focused on protecting and promoting the quality and safety of water supplies by establishing an expanded network of water quality control laboratories all over the country in order to ensure that water supplied to the consumers is well monitored and in compliance with national standards and WHO guidelines on the quality of drinking water.

4. Project Description

The project under evaluation is a joint WHO, UNICEF project and was launched as a continuation for the first phase, which was funded by UNDG ITF, whereby, a network of water quality control laboratories comprising 15 central, 30 district and 220 at water treatment plants have been established for both ministries (Ministry of Environment and Ministry of Municipalities and Public Works). The second phase of the project expanded and strengthened what have been achieved during the first phase, including procurement of equipment and supplies for additional water and some waste water quality control laboratories, capacity building for the technicians responsible for quality monitoring and, hygiene education campaigns. The project generated about 1600 job opportunity during the implementation and about 27 million are expected to benefit from it in the long run.

The main goal of this project is to ensure further reinforcement of the water quality monitoring program with the overall purpose of supporting the provision of safe drinking water as a right to the consumers according to Iraqi Standards and WHO guidelines for potable drinking water. This will

include introducing systematic approach to water quality monitoring throughout the governorates and consequently will assist in reducing morbidity and child mortality from water- borne diseases.

The immediate objectives of the project were;

1. Strengthen the capacity of Ministry of Environment, Ministry of Municipalities and Mayoralty of Baghdad at central, governorate and district levels in terms of planning, implementation and monitoring, main concentration will be improving technical and managerial capacities of laboratories and the staff responsible for water and waste water quality control.
2. Empower the Ministry of Environment, Ministry of Municipalities and Mayoralty of Baghdad to ensure the provision of potable water and the enforcement of the rules and regulation related to the protection of the water resources from pollution. .
3. Raise public awareness among communities for the protection and preservation of water resources.

The original duration of the project under evaluation was 12 months starting 22 December 2006, but four extensions were approved, the last of which until 31 December 2009

The original budget of this project was US\$ 4,297,643, of which US\$ 2,700,895 earmarked for WHO and 1,596,748 for UNICEF.

5. Evaluation Purpose and Scope

This evaluation exercise is part of the UNDG-ITF project evaluation where specific criteria were applied to select some projects for evaluation purposes. This independent evaluation comes at the end of the implementation cycle of the project and aimed to assess the overall contribution of the project towards water safety and quality control programs in Iraq while distilling lessons and good practices to feed into future programming. The evaluation provided recommendations to enhance operational and programmatic effectiveness of similar initiatives in comparable situations. In addition, the evaluation assessed how WHO and UNICEF have contributed towards an enhanced partnership with GOI in addressing critical issues affecting water quality in Iraq.

The evaluation findings will be disseminated to all stakeholders at different levels including decision makers both within the Government of Iraq and the UN to support future policy development especially in the areas of environmental health.

The evaluation findings will serve as an advocacy tool to demonstrate the impact and feasibility of water quality control and surveillance programs. The project evaluation will also provide donors with a comprehensive assessment of the impact and utilization of their investment in these programmatic areas. In addition, the evaluation will support WHO and UNICEF own capacity for programming, project management and accountability towards donors, GOI and the target population. The lessons from the evaluation and the evaluative evidence will also feed into the upcoming UNDG ITF lessons learned process as well as the proposed UNDG ITF project evaluations.

6. Evaluation Methodology

The evaluation addressed the Organization for Economic Cooperation and Development – Development Assistance Committee (OECD-DAC) evaluation criteria including relevance, effectiveness, efficiency, and sustainability. In addition, the evaluation also look at the contribution of the project towards partnership building within UN, GoI and civil society. Specifically, the evaluation had been guided by the following key objectives:

1. To assess and showcase the achieved progress and results against stipulated project objectives and outputs for improved water quality control and surveillance in Iraq
2. To assess the efficiency and effectiveness of the interventions included in the project
3. To assess the relevance of project components in strengthening the water quality control and surveillance in Iraq vis-à-vis needs of the target population at the catchments area
4. To understand the extent to which this project has contributed to forging partnership with at different levels including with GoI the Government of Iraq, Civil Society and UN/donors;
5. To appreciate the management arrangements in place by the GoI and/ or the beneficiary communities towards the sustainability of various project-initiated services and benefits;
6. To assess the management arrangements (Including procurement procedures. coordination, monitoring) in place by GoI and/or the beneficiaries towards the sustainability of various programs/ project initiated services and benefits
7. To generate lessons on good practices based on assessment from the aforementioned evaluation objectives and to provide recommendations to GoI , UNICEF and WHO on how to maximize the results from similar initiatives in comparable situations

A. Evaluation methodology:

The evaluation process comprised of the following:

Desk review

The evaluation team reviewed the project document, progress reports with focus on UNDG ITF and other documentary materials generated during project implementation to extract information, identify key trends and issues, develop key questions and criteria for analysis, and compile relevant data during the preparatory phase of the evaluation. The evaluation team also reviewed relevant national strategies to see the links between the project objectives and national priorities.

In consultation with WHO and UNICEF, related governmental departments, the evaluation team identified all stakeholders to be included in the evaluation exercise. Once stakeholders were identified, the evaluation team devised participatory approaches for collecting first-hand information. These included interviews, focus group discussions, observations, end-user feedback survey through questionnaires, etc.

Field visits to target districts

Field visits and meetings were held with partner institutions. To the extent possible, beneficiary populations were engaged in the evaluation process to get their feedback and reflection on project benefits.

- Focus group discussions were held with the beneficiaries;
- Questionnaires were used for beneficiaries from the different capacity building activities.

The evaluation teams interviewed and met more than 250 stakeholder and beneficiaries to obtain their feedback and assess their role during the project implementation,

Evaluation Guidelines

In preparation of the evaluation report; due consideration was given to the UNEG evaluation guidelines and the UNDG-ITF guidelines on Development Effectiveness and Operational Effectiveness.

Moreover, the evaluation provided a brief description on the following:

- Key implementing agencies;
- Intended outcome(s) and output(s);
- Underlying logic of project design;
- Key assumptions that guided the design and implementation strategies;
- Any major divergences in the design and/or implementation strategy.

- Monitoring arrangements
- Lessons learned.

B. Pre-Evaluation Meetings:

Prior to the start of the evaluation convention, two days workshop took place with the purpose of ensuring the effective coordination between the WHO, UNICEF, MoEv, MMPW, MoH, and evaluation team. These meetings laid the groundwork for the evaluation of E3-11 and served to introduce the evaluation team to key staff within the MoEv, MMPW, MoH, UNICEF and WHO. The following is a summary of these meeting's goals and the people in attendance.

This meeting took place in ElBatra Hall, Land Mark Hotel, Amman on 8 & 9 February 2010, this meeting was attended by more than 27 participants from MoEv, MMPW, MoH, UNDG, WHO, UNICEF & FAO. Attendance of this meeting in Annex C

The main objectives of this meeting were:

- Lunch the evaluation convention.
- Insure the support of the related ministries and their deputies in support of the evaluation convention.
- To orient the related ministries Counterparts on the Terms of References for the Independent Evaluation including the evaluation purpose, scope, objectives, methodology and management arrangements.
- The evaluation team to update the meeting on the methodology and the data collecting tools that will be used during the field evaluation.
- To agree on the implementation timetable

C. Evaluation Field Activities:

A detailed evaluation methodology, approach and programme of work were agreed upon between WHO, UNICEF and SOC evaluation team before the start of the evaluation. The evaluation team met in Amman for orientation, briefing and initial interviews with WHO and UNICEF staff in Amman followed by similar discussions/briefings by WHO and UNICEF focal points based in Baghdad and the national counterparts.

As the evaluation team started the field work, staff of WHO Iraq Office and focal points facilitated the mission of the team, be it through in-depth interviews or by providing supporting documents on the progress of the various components of the project.

SOC mobilized nine teams that covered Baghdad, Basrah, Kerbala, Najaf, Kirkuk, Mosel, Erbil, Sulaymania and Dohuk, comprised of one expert field evaluator and one field assistant. The evaluation team collected information and reported to the field coordinator who is based in Baghdad.

WHO focal points also supported and facilitated the evaluation through providing information about the project implementation and arranging interviews with government officials and visits to the targeted regions

D. Limitations:

There were no major limitations affecting completion of this evaluation.

7. Evaluation Findings

B. Achievements and Results:

The Programme related to the UN Assistance Strategy with regard to “Rehabilitating and developing the country’s social, economic, financial, physical and institutional infrastructure to ensure sustainable livelihoods and durable solutions to displaced populations in the country”.

The project also contributed to attainment of the Millennium Development Goals (MDGs), in particular;

Goal #6: Combat diseases, by reducing the risks of contracting diarrhea, infectious hepatitis and enteric group fevers.

Goal #7: Ensure environmental sustainability, by controlling water quality and reducing environmental pollution.

Goal #8: Develop global partnership for development, by sustaining the close partnership between UN organizations and the GOI.

Furthermore, the project related to the National Development Strategy, through Goal 6 which is to “Achieve universal access to safe drinking water and sanitation” and to Target 8 in the Strategy which is to “Ensure that all people have sustainable access to safe drinking water and improved sanitation.”

The project also contributed to article 4.4.1.5 of ICI Benchmarks (as per the Joint Monitoring Matrix 2008) - Reduce population without access to safe drinking water to 10% in Urban areas (Baseline: UNDP Unmet Basic Needs Survey – 40.4% population without access to safe drinking water of which 20% in Urban and 60.4% in Rural areas); and also contributes to the following water and sanitation sector outcomes –

1. Increase sustainable access to safe water for urban and rural populations in 10 governorates, especially for the vulnerable.
2. Increase sustainable access to improved sanitation for urban and rural populations, especially for the vulnerable.
3. Capacities for effective management of water and sanitation enhanced

Regarding the progress towards achievement of the specific components, following are results achieved in relation to the stipulated project objectives;

Outcome # 1:

Water quality surveillance system supported, where a comprehensive water quality programme is implemented through out the country.

Output # 1.1:

Procurement of 7 mobile laboratories (3 for the MoEv, 2 for MMPW one each for MoB and Erbil):

The technical specifications for the mobile laboratories including the equipment were procured and finalized in coordination with the technical staff of MoEv, MMPW and MoB. The procurement process was finalized by WHO Regional Office and the mobile laboratories were delivered to MoEv, MMPW and MoB as follows:

- The MMPW was provided with 2 laboratories at the governorates of Anbar and Kerbala and both are operational.
- One laboratory was provided to the governorate of Erbil KRG and is operational.
- One laboratory for MoB and is expected to start operating soon.

- 3 laboratories were provided MoEv, 1 for the governorate of Basra which is operated on need, another one for Kirkuk which is well functioning whereas, the third was originally designated for Baghdad but later transferred to Anbar and is expected to be operational soon.

Output # 1.2:

Conduct sanitary inspections for main water resources in 5 governorates namely Baghdad, Basra, Erbil, Thi-Qar and Ninawa:

Water inspections were carried out in 5 governorates and covered several locations. Sites inspected and number of inspections is outlined below:

Location	Number
Basra	52
Baghdad	32
Mosul	36
Thi-Qar	45
Erbil	85
Total	250

Output #1.3:

Rehabilitating some of the existing water and wastewater quality control laboratories:

Extension works for the MoEv Central Water Quality Control Laboratory in Hay Al-Andalus/Baghdad was completed. The planned rehabilitation works for the three sewage laboratories in Najaf, Ninewa and Dwaniya governorates were also completed. Meantime the construction of the central wastewater laboratory is ongoing.

Outcome # 2:

Technical and managerial capacity of about 1,120 professionals dealing with water and wastewater quality monitoring enhanced.

Output # 2.1:

Development of human capacity among laboratory managers, technicians and sanitation professionals through training and workshops:

- 10 decision makers from MoEv, MMPW and KRG participated in a technical meeting in Amman with the participation of WHO and UNICEF technical staff to discuss and develop a plan of action for implementation of the project components.
- 84 technicians were trained outside Iraq as trainers, of whom 42% were females, on use of sophisticated laboratory equipment. Such as Gas chromatography and Mini-API through 8 training sessions. This represents full achievement of the planned target
- 700 laboratory technicians were trained inside Iraq on different laboratory techniques (40% females). The training was provided by TOTs who received training outside Iraq. This represents full achievement of the planned target.

Outcome #3:

Sustainable water quality laboratories affiliated to MoEv, MMPw and MoB, fully finished, equipped and provided with essential equipment for water testing;

Output #3:

Equipment, laboratory supplies and reagents provided for Ministry of Environment Water quality control laboratories.

- Technical specifications for the equipment and laboratory supplies including the laboratory reagents were finalized with technical staff of MoEv, MMPW and MoB. The procurement was carried out by WHO and UNICEF Regional and Headquarters Offices respectively.
- All supplies were received by the end users, including equipment, reagents and glassware including delivery to the laboratories. The beneficiaries included, the water and sewerage laboratories of MMPW, Baghdad Water Administration belonging to MoB and laboratories in the North/KRG

Outcome # 4:

Laboratory Information Management System strengthened for entire water quality Laboratories network as a tool for efficient monitoring and decision making:

Output # 4:

Establish Laboratory Information Management System (LIMS):

- A number of technical meetings were conducted in Baghdad with participation of representatives from all key ministries (MoEv, MMPW, MoB), UNICEF, WHO and the software vendor, to discuss the essential hard and software needs for LIMS and to finalize the parameters needed for inclusion in the software. The setting up of LIMS was delayed pending completion of these tasks. Meantime, essential hardware, mainly computers and UPSs were delivered to the intended users (21 sets were provided to the three authorities)
- Additional time was required to allow the contractor to complete the development, installation and subsequent training of participants from Baghdad and the 15 governorates, excluding KRG. While UNICEF was following up with the contractor to overcome the bottlenecks, a time extension until end of June 2009 was necessary. 61 laboratory personnel representing the 15 governorates from the MoEv and MMPW and 19 laboratory staff from MoB were trained in the government training centres in Bagdad, Kirkuk, Najaf and Basrah.

Outcome #5:

Four hygiene Awareness campaigns related to water-borne diseases targeting high risk areas implemented:

Output #5:

Implement a hygiene education campaign, with special attention to the high risk areas in terms of water-borne diseases; Hygiene education campaign were conducted targeting community leaders and school teachers in 8 governorates, namely Baghdad, Najaf, Kut, Basrah, Diwania, Erbil, Thi-Qar and Missan (8 governorates instead of the originally planned 4 governorates i.e. 200% implementation rate). A total of 4,000 school teachers and community leaders participated in the campaigns, of whom, 45% were females. This represented full achievement of the planned activities.

As can be noticed from the above all the project planned activities were fully implemented including the component relevant to establishing the Laboratory Information Management System, where some issues relevant to operation of the software need to be overcome, taking into account the needs and requirements of the national partners, as expressed during consultation meetings.

C. Efficiency and Effectiveness:

According to the evaluation results, the project under evaluation was efficiently implemented and was effective as the envisioned outcomes were achieved.

Should the Iraqi national partners to WHO and UNICEF, assume their duties and responsibilities, the water quality mobile laboratories were fully operational based on the wide capacity that has been effectively developed within human resources through this project. Furthermore, water quality monitoring and control systems were strengthened due to utilization of water laboratory equipment, supplies and reagents leading to the reduction of morbidity and child mortality from water-borne diseases.

D. Relevance:

The project under evaluation was overall consistent with the planned outcomes and followed the design recommendations of the project preparation activities and expected outcomes. The project was responsive to the goal of reinforcing the water quality monitoring programme with the overall purpose of supporting the provision of safe drinking water.

It is worth mentioning that the project under evaluation was in line with the national policies and strategic plans as outlined in the National Development strategy for Iraq, 2007-2010 and was tailored to the current Iraqi context by providing water quality mobile laboratories instead of established a network of stationed laboratories, where it would be difficult to monitor water quality in all areas under the current unstable security situation.

E. Partnerships

The main national partners involved in the implementation were the MOEv, MMPW, MOB and local contractors. The role of the local authorities is to coordinate with WHO and UNICEF to set the specifications for the needed equipment and supplies, and to implement the training activities inside the country and to ensure the enforcement of rules and regulations related to the water quality control. In addition, they are required to implement the water quality monitoring programme to ensure that the water delivered to the end users is tested and it is within the Iraqi National and WHO Standards for Drinking Water. The local contractors are responsible for the rehabilitation of the MOEv Central Water Quality Control Laboratory and the wastewater quality control laboratories according to the specifications set by MMPW and both WHO and UNICEF. The rehabilitation work is supervised by both WHO/UNICEF site engineers on the site who monitor the implementation progress and document the progress through daily, weekly and monthly reports supported by photographs.

Both WHO and UNICEF focal points were in almost daily contact with line ministries (MOEv, MMPW and MOB), in addition to adhoc visits to the water quality control laboratories to monitor and provide technical advice to ministries' staff. Monthly meetings were conducted to update them on the implementation status of the project components. In addition, one meeting was conducted in Amman between WHO/UNICEF and high official representatives from the line ministries to set the work plan for the implementation of the project components.

The good coordination and continuous cooperation between all key players (MOEv, MMPW, MOB, WHO and UNICEF) has led to smooth implementation of the major activities, which is expected to have positive impact on the performance and functionality of the water quality monitoring system and will lead to more precise diagnosis of the pollution sources and will help decision-makers to choose the best available solutions.

The delivery mechanisms adopted were as follows:

- WHO/UNICEF in consultation with their counterparts prepared the technical specifications for the necessary water analysis equipment and supplies.
- WHO/UNICEF in consultation with MOEv, MMPW and MOB technical staff assessed the chemicals and other laboratory reagents needed for water quality analysis.
- The procurement was carried out through the procurement section at either WHO/UNICEF country, regional and Headquarters offices as shown in the below diagram.

- WHO/UNICEF in consultation with the counterparts facilitated the implementation of training of trainers programs outside Iraq where the participants become trainers for the technical staff.
- WHO in consultation with their counterparts, designed and supported the implementation of hygiene awareness programs for the community leaders.
- UNICEF in consultation with counterparts designed and supported the implementation of the internal training programmes inside Iraq.
- In terms of the rehabilitation works, WHO in coordination with MOEv prepared all the drawings, bill of quantities and the bidding documents. MOEv announced the tender in an Iraqi local newspaper, after receiving offers from local contractors the offers went through multiple committees (Bid opening, analysis and review committee), then were double-checked by WHO at the field level and at WHO temporary office in Amman to ensure that all processes were according to both WHO and MOEv rules and regulations. During the commencement of the work, both WHO and MOEv engineers, supervised and monitored the work, and a weekly report supported by photos was received from WHO engineer who conducted daily monitoring on the progress of work.

UNICEF applied a similar mechanism for rehabilitation, where BOQs were jointly prepared in coordination with the government. UNICEF initiated the bidding process in Amman inviting qualified local Iraqi contractors. Works was jointly supervised by the government and UNICEF.

WHO and UNICEF focal points (national staff and hired engineers and facilitators) inside Iraq followed-up the implementation of the project components and monitored the progress of all the activities on the ground and prepared visit reports in addition to the weekly and monthly reports supported by photos from the field. WHO and UNICEF offices in Amman received feedback on regular basis from Iraq for analysis and decision making. In addition, there is a task force committee composed of MoEv, MMPW, MoB, WHO and UNICEF, the committee is chaired by Deputy Minister of Environment and meets on a monthly basis to discuss and follow up the implementation progress of the project components and find solutions for any obstacles facing the progress of the work plan.

WHO/UNICEF in consultation with MoEv, MMPW and MoB technical staff assessed the chemicals and other laboratory reagents needed for water quality analysis. Similar assessments were undertaken to the laboratories identified for rehabilitation. Bills of quantities were jointly prepared by WHO/UNICEF staff and representatives from the relevant government authority. The structure and parameters for the Laboratory Information Management System were developed in close consultation with the three Authorities. In addition to that WHO supported MoEv, MMPW, MoB in implementing a comprehensive sanitary inspection for water resources in five governorates namely Baghdad, Ninawa, Erbil, Basra and Nasirya.

F. Sustainability;

The project was officially closed by WHO and facilities were taken over by the concerned government Authorities, namely the MoEv, MMPW and MoB.

The role of WHO and UNICEF was centered on procurement of equipment and supplies, capacity development and technical advice.

The project resulted in transfer of knowledge from those who were trained to other national counterparts. However, all these achievements could be compromised and the investment made could be wasted if the Ministries of Environment and Municipality & Public Works do not take prompt and appropriate action to accelerate implementation of the newly introduced monitoring systems and do not allocate the necessary human and financial resources to ensure the functioning of the water quality mobile laboratories.

G. Other Considerations Relevant to Development;

In general, the project addresses many cross-cutting issues:

In terms of the environment, the project was targeting the protection of water resources from pollution through good diagnosis mechanisms. As a result it had a positive impact on the environment.

In terms of gender, the project benefited all water consumers (men, women and children) and with regards to capacity building, there was a conscious gender balance. In the training conducted by WHO/UNICEF, there was more than 40% women participation.

In relation to human rights, one of the primary goals of WHO and its Member States is that “all people, whatever their stage of development and their social and economic conditions, have the right to have access to an adequate supply of safe drinking water”.

In terms of employment creation, the rehabilitation works and local procurement and transport of goods created approximately 1,600 job opportunities.

In terms of public participation, the hygiene campaign was based purely on public participation.

8. Lessons learned

1. The urgent needs and priorities in such projects should be clearly defined and agreed upon between major partners ahead the start of project in order to avoid delays and setting incompatible priorities during project implementation.
2. Inter-ministerial coordination at the national level is fundamental for implementation of developmental activities and achievement of the contemplated objectives. Disputes and disagreements within national partners affect their credibility and pose serious threats for the future sustainability of projects implemented with the support of UN agencies.
3. Public awareness and community participation in activities aiming at promoting hygienic practices and avoiding hazardous practices that involve serious risk to human life and natural resources should be an integral component of any development project seeking to improve water and sanitation.

9. Recommendations for main stakeholders

1. Notwithstanding that the GoI is currently embarking on a large scale development programme of the country's infrastructure nevertheless a comprehensive approach to the water quality problem should be pursued based on adopting a twofold developmental strategy to expand and rehabilitate the country's basic infrastructure of water and wastewater facilities on the one hand, and to reinforce regulations and implement an effective system for prevention and control of high risk practices that contribute to contamination of natural water resources on the other hand.
2. Maintain the joint WHO/UNICEF efforts to support GOI for Enhancing Water Quality Control and Surveillance in Iraq, addressed the consequences of water unsafely and insecurity.
3. Related GOI departments should develop, plan and implement proper maintenance of water and wastewater quality laboratories. Experience from many developing countries suggest that in many instances, sophisticated equipment could easily be exposed to damage and become

beyond economic repair if not utilized and regularly maintained. This is even more likely in countries plagued by ongoing violence and instability.

4. Public awareness and community participation in protection of natural water sources, abiding by good hygienic environmentally-friendly practices make a significant contribution towards maintaining water and sanitation facilities. Concepts of hygiene and clean environment currently integrated within the school curriculum should be further developed and more teachers trained on promotion of environment-friendly towns and villages.
5. The MoEv and MMPW should ensure that an effective monitoring system is developed and implemented to control hazardous practices of dumping domestic, industrial, agricultural and medical waste into rivers and other natural water sources.
6. The MoEv and MMPW should establish a Task Force comprising representatives from the Ministries of Health, Education, Higher Education, NGOs and civil society organizations in order to develop and implement an ongoing health educational awareness programme to raise public awareness on the importance of maintaining hygienic behavior and avoiding practices that endanger the environment and contribute to disease transmission. The assistance and support of WHO and UNICEF in this respect would be indispensable. The technical assistance of WHO and UNICEF would be desirable in this respect.
7. The process of national capacity building that has been started through phase one and phase two of this project should be continued by GOI in close cooperation with WHO and UNICEF in order to develop national ownership of the water quality control and surveillance activities and reverse the current trend of morbidity and mortality from water-borne diseases.

ANNEX A: Terms of Reference**Evaluation Terms of Reference
Water Quality Control and Surveillance in Iraq (Phase Two)****1. Introduction and Context**

Modifiable environmental risk factors are responsible for approximately one quarter of the global burden of disease. This environmental burden of disease is distributed extremely unequally: in developing countries 15 times more healthy life years are lost per capita than in developed countries, with diarrhoea and acute lower respiratory infections among children being the largest contributors. The two principal environmental risk complexes for these diseases – drinking-water/sanitation/hygiene and indoor air pollution from solid fuel use – cause more than 2 million deaths annually.

Known effective solutions include: ensuring that households have access to and use safe drinking-water and improved sanitation facilities; encouraging household water treatment; promoting the use of cleaner-burning stoves and switching from traditional solid fuels to cleaner modern fuels. They are good value for money, yielding health-care savings, health-related productivity gains, time savings and environmental benefits that far exceed costs.

In Iraq, many waterborne diseases, such as diarrhoeal diseases, hepatitis, typhoid, malaria and other parasitical diseases, which once had been under control, have regained their foothold in recent years. 70 per cent of childhood illnesses, including diarrhoea, are linked to the consumption of unsafe water or to inadequate water use. The prevalence of diarrhoeal disease in children under five increased from an average of 4 bouts per year in 1990 to almost 15 in 1996 (WHO 2003). This retrogression could be due to poor sanitary conditions and deterioration of water quality throughout the governorates. The open sewage drainage and open dumping of garbage not only directly contribute to the contamination of water-supply, but also lead to insect and rodent infestation, posing direct health hazards to the residents.

WHO and UNICEF have long history of partnerships and work with the health and water and sanitation sector in Iraq that goes for many decades. Currently WHO is leading and UNICEF is deputizing the UN Health and Nutrition Sector Outcome Team since 2004. In addition UNICEF is leading the UN WATSAN sector while WHO is also actively participating in the functions of the sector

WHO and UNICEF health response is tailored to address the eight Primary Health Care components (that was agreed during Al Mata declaration in 1978) which are: 1) Prevention and control of communicable and non-communicable diseases; 2) Promotion of food supply and proper nutrition 3) Education concerning the prevailing health problems and methods of preventing and control 4) Maternal and Child Health including family Planning 5) Immunization against the major vaccine preventable diseases 6) Adequate supply of safe water and basic sanitation 7) appropriate treatment of common diseases and injuries and 8) Provision of essential drugs. WHO has been implementing projects countrywide, covering the whole population and area specific in accordance to the needs that were identified by the Government of Iraq.

Adequate supply of water and basic sanitation is a key component of WHO and UNICEF current partnership with GOI that seeks improved health and reduction of mortality and morbidity resulting from water-borne diseases through activities in protecting and promoting the safety and security of water supply. This involves carrying out sanitary inspections for protection of water sources and distribution networks; improved and strengthened water quality surveillance, monitoring and testing systems; increased awareness as well as safe use and maintenance of hygienic conditions at household level; development of appropriate primary health information management systems; and establishing linkages between environmental conditions and health.

One of the project that was implemented to improve the water services is the ITF funded project "Water Quality Control and Surveillance in Iraq (Phase Two)" that was jointly implemented by WHO and UNICEF in close collaboration with the national counterparts particularly Ministry of Environment, Ministry of Municipalities and Mayoralty of Baghdad

The key developmental objective of the project was "To ensure further reinforcement of the water quality monitoring program with the overall purpose of supporting the provision of safe drinking water as a right to the consumers according to Iraqi Standards and WHO guidelines for potable drinking water. This included introducing systematic approach to water quality monitoring through out the governorates" and consequently would assist in reducing percentage of water born diseases.

The key immediate objectives as highlighted in the Prodoc were:

- 1. Strengthen the capacity of Ministry of Environment, Ministry of Municipalities and Mayoralty of Baghdad at central, governorate and district levels in terms of planning, implementation and monitoring, main concentration will be improving technical and managerial capacities of laboratories and the staff responsible for water and waste water quality control.*
- 2. Empower the Ministry of Environment, Ministry of Municipalities and Mayoralty of Baghdad to ensure the provision of potable water and the enforcement of the rules and regulation related to the protection of the water resources from pollution. .The project geographical coverage has included all governorates in Iraq*
- 3. Raise public awareness among communities for the protection and preservation of water resources.*

In line with the project objectives, the following outputs were identified at the planning stage to assess and evaluate the results achieved through this project

- Water quality surveillance system supported, where a comprehensive water quality program is implemented through out the country.
- Technical and managerial capacity of about 1120 professionals dealing with water quality monitoring enhanced.
- Sustainable water quality laboratories affiliated to the Ministry of Environment and at water and waste water treatment plants under the umbrella of the, Ministry of Municipalities and Mayoralty of Baghdad , fully furnished and equipped with essential equipment for water testing.
- Laboratory Information Management System strengthened for the entire water quality laboratories network as a tool for efficient monitoring and decision making. Four hygiene awareness campaign related to water born diseases targeting high risky are implemented

The project was implemented during the period of December 2006 to December 2008 for the WHO component which is already closed while UNICEF component is still ongoing and until December 2009. The project was implemented at a national level with some interventions focused on selected governorate. It was funded from UNDG-ITF with a total ITF budget of 4,297,643USD.

This WHO and UNICEF joint project is a continuation for the first phase that was also funded by UNDG ITF with budget US\$ 6.26 million and was completed on 30 June 2006. Based on the success of the implementation of the first phase, and to expand the water quality monitoring network to cover additional water sources and include wastewater treatment plants and to perform extra water quality analysis to meet Iraqi National Standard for Drinking Water this project under evaluation was developed. During the first phase a network of water quality control laboratories comprises 15 central, 30 district and 220 at water treatment plants have been established for both ministries (Ministry of Environment and Ministry of Municipalities and Public Works). The second phase would expand and strengthen what have been achieved during the first phase, that include procurement of equipment and supplies for additional water and some waste water quality control laboratories, capacity building for the technicians responsible for quality monitoring and hygiene education campaigns. The project is expected to generate about 1600 job opportunity during the implementation and 27 million will benefit from it at long run

The implementation phase of the project has witnessed a complex and volatile security situation. The

2005-2007 time periods was referred to as most insecure period with very high incidences of violence. The fragile situation resulted in massive turnover in the government in general and in particular the ministerial staff at all levels, this situation was complicated with attacks against health professionals and migration of the skilled health professionals. The security situation on the ground not allowing for free movement has affected the implementation of this project resulting in prolonged and extended implementation period

2. Purpose of the Evaluation

This evaluation exercise is part of the UNDG-ITF project evaluation where specific criteria were applied to select some projects for evaluation purposes. This independent evaluation comes at the end of the implementation cycle of the project and aims to assess the overall contribution of the project towards water safety and quality control programs in Iraq while distilling lessons and good practices to feed into future programming. The evaluation will provide recommendations to enhance operational and programmatic effectiveness of similar initiatives in comparable situations. In addition, the evaluation will assess how WHO and UNICEF have contributed towards an enhanced partnership with GOI in addressing critical issues affecting water quality in Iraq

The evaluation findings will be disseminated to all stakeholders at different levels including decision makers both within the Government of Iraq and the UN to support future policy development especially in the areas of environmental health.

The evaluation findings will serve as an advocacy tool to demonstrate the results and feasibility of water quality control and surveillance programs. The project evaluation will also provide donors with a comprehensive assessment of the results and utilization of their investment in these programmatic areas. In addition, the evaluation will support WHO and UNICEF own capacity for programming, project management and accountability towards donors, GOI and the target population. The lessons from the evaluation and the evaluative evidence will also feed into the upcoming UNDG ITF lessons learned process as well as the proposed UNDG ITF project evaluations.

3. Evaluation Objectives

The evaluation will address the Organization for Economic Cooperation and Development – Development Assistance Committee (OECD-DAC) evaluation criteria including relevance, effectiveness, efficiency, and sustainability. In addition, the evaluation will also look at the contribution of the project towards partnership building within UN, GoI and civil society. Specifically, the evaluation will be guided by the following key objectives:

1. To assess and showcase the achieved progress and results against stipulated project objectives and outputs for improved water quality control and surveillance in Iraq
2. To assess the efficiency and effectiveness of the interventions included in the project
3. To assess the relevance of project components in strengthening the water quality control and surveillance in Iraq vis-à-vis needs of the target population at the catchments area
4. To understand the extent to which this project has contributed to forging partnership with at different levels including with GoI the Government of Iraq, Civil Society and UN/donors;
5. To appreciate the management arrangements in place by the GoI and/ or the beneficiary communities towards the sustainability of various project-initiated services and benefits;
6. To assess the management arrangements (Including procurement procedures ,coordination , monitoring) in place by GoI and/or the beneficiaries towards the sustainability of various programs/ project initiated services and benefits
7. To generate lessons on good practices based on assessment from the aforementioned evaluation objectives and to provide recommendations to GoI , UNICEF and WHO on how to maximize the results from similar initiatives in comparable situations

4. Scope of the evaluation

This evaluation will follow the project geographical coverage and will be of national scope. However, for specific interventions and as guided by the project document, more focus would be given to selected districts where intensified interventions were conducted. The project will target activities implemented across all selected water quality control labs at the target districts, focusing on both direct and indirect project beneficiaries and implementing partners including water quality control and surveillance officers at central, governorate and district levels, community representatives, and WHO and UNICEF staff.

Technically, the evaluation will cover all key components as per project design including:

- Procurement and delivery of 8 water quality monitoring mobile laboratories (3 for Ministry of Environment, 3 for Ministry of Municipalities and one each for Mayorality of Baghdad and Erbil).
- Conduct sanitary inspection for main water resources in 4 governorates.
- Rehabilitation some of the existing water quality control laboratories.
- Conduct 8 TOT for 160 staff and 50 on job training courses for 1000 staff responsible about water quality monitoring and control in both drinking water and wastewater (The 58 trainings to be conducted by 3 counterparts supported by WHO and UNICEF).
- Procurement and delivery of laboratory equipment, supplies and reagents for Ministry of Environment, Ministry of Municipalities and Mayorality of Baghdad water quality control laboratories.
- Procurement, delivery and installation of hardware and software to ensure proper water quality data management system within the laboratories network.
- Conduct 4 hygiene awareness campaign targeting high risky areas in terms of waterborne diseases with the insurance of community leaders' involvement

5. Key Evaluation Questions

Achievements and results

- How the project components have contributed to the realization of underlying project objectives, as perceived by the beneficiaries?
- Has the project been able to achieve the stipulated project results?
- How the project contributed to strengthening water quality control programs at a national level and the high priority districts?
- What has been the contribution of this project towards national priorities identified in NDS, ICI and MDGs?

Efficiency and effectiveness

- The extent to which the project activities were implemented in a cost-effective way vis-à-vis the Iraqi context
- How project results contribute to improved access and coverage to improved water quality for the target population

Relevance

- Has the project been responsive to the overall issues of water quality in Iraq and how?
- Were the project strategies tailored to the current Iraqi context and in line with the national policies and strategic plans?

Partnerships

- Who are the partners in this project? How they are selected? Has the project forged new partnerships/ strengthened existing partnerships and how?
- What factors hindered or fostered effective partnership development?
- To what extent has the project contributed to capacity development of the involved partners?

Sustainability

- What is current status of the project components? Are functions and facilities still maintained? Who is responsible for the management and oversight of project facilities after the project closure?
- What is current status of services provision in the country and high priority governorates? Has the service provision been affected (negatively or positively) after the end of the project cycle and why?
- Has the project resulted in knowledge transfer from those who were trained and capacitated in different competencies and how?
- How the project did address the issues of insecurity during the implementation phase? Were there any risk mitigation undertaken? If yes, how?

Lessons learned and good practices

- What are the good practices that have resulted from this project? How and why some these practices can be labeled as a ‘good practice’? Substantiate with evidence.
- What are the key lessons learned from the project implementation? What recommendations could be replicated in similar projects implemented in comparable situations?
- Are there any specific recommendations to be considered when designing similar projects in the future?

Other considerations:

- Value-added of the programmes and projects in comparison with alternatives
- UN’s partnership strategy and its relation to effectiveness in achieving the outcome
- UN’s strategic positioning and its comparative advantage
- Cross-cutting issues applicable to the project/ programme
- Operational effectiveness of the programme/ project and the extent to which underlying strategies, processes and management structures contribute to development effectiveness of each UNDG ITF programme/ project
- Each evaluation question should be substantiated with evidence and disaggregated information by gender, ethnicity, location and/ or other relevant criteria

Please also refer to Annex 1 and Annex 2 of the Terms of References and Guidance from RCO which provide recommended questions on development and operational effectiveness respectively. The suggested questions will generate the necessary evaluative evidence and information at programme/ project level to feed into the UNDG ITF Lessons Learned Exercise.

6. Evaluation Methodology

A detailed evaluation methodology, approach and programme of work will be agreed upon between WHO, UNICEF and the evaluation team before the start of the evaluation. The evaluation team will meet in Amman for orientation, briefing and initial interviews with WHO and UNICEF staff in Amman followed by similar discussions/ briefings by WHO and UNICEF staff based in Baghdad and Erbil and the national counterparts. An inception report will be prepared by the Evaluation Team Leader outlining the evaluation framework, key challenges if any and implementation arrangements including a detailed work plan.

1 DESK REVIEW

The evaluation team will review the project document, progress reports, external reviews and evaluations with focus on UNDG ITF and other documentary materials generated during project implementation to extract information, identify key trends and issues, develop key questions and criteria for analysis, and compile relevant data during the preparatory phase of the evaluation. The team will also review relevant national strategies to see the links between the project objectives and national priorities.

2 DATA COLLECTION AND ANALYSIS

In consultation with WHO and UNICEF the evaluation team will identify all stakeholders to be included in the evaluation exercise. Once stakeholders are identified, the evaluation team will devise participatory approaches for collecting first hand information. These will include interviews, focus group discussions, observations, end-user feedback survey through questionnaires, etc.

Field visits to target districts

Field visits will be conducted to all project sites and meetings will be held with all partner institutions including water quality labs at national and high priority governorates where intensified project activities were implemented. To the extent possible, field surveillance officers and beneficiary populations in all districts will be engaged in the evaluation process to get their feedback and reflection on project benefits.

- Field visits to MOE and Ministry of Municipalities as well as Mayoralty of Baghdad and Erbil – central level staff, where focus group discussion will be held;
- Field visits to the water quality labs where questionnaire, focus group discussion, interviews and site observations will be used to gather the needed information.;
- Field visits to the district levels/ at the water facility level where questionnaire, focus group discussion, interviews and site observations will be used to gather the needed information;
- Focus group discussions will be held with the community leaders and Sheikhs and the beneficiaries from the upgraded services;
- Questionnaires will be used for beneficiaries from the different capacity building activities including lab technicians and water surveillance officers.

7. Expected Deliverables

The expected outputs from the evaluation exercise are:

- Output and possible outcomes Evaluation Report agreeable to the UN Evaluation Groups (UNEG) standards and requirements is produced;
- Presentation of the final report to WHO and UNICEF team.

The evaluation report will contain but not limited to:

- A detailed assessment of project achievements – what went well and why? What went wrong and why?
- Relevance of the project design in addressing underlying problems
- Sustainability of the project
- Assessment of project's effectiveness in addressing the key problems associated with water quality
- Efficiency of the project components/ approaches in delivering water quality control services (resource usage)
- Overview of partnerships developed and coordination mechanisms in support of project implementation
- Lessons learned
- Recommendations on future projects development and implementation:
 - Defining good management/ implementation practices, opportunities and challenges.
 - Other appropriate recommendations on implementation arrangements.

It should include a description of:

- how gender issues were implemented as a cross-cutting theme in programming, and if the project gave sufficient attention to promote gender equality and gender-sensitivity;

- whether the project paid attention to effects on marginalized, vulnerable and hard-to-reach groups;
- whether the project was informed by human rights treaties and instruments;
- to what extent the project identified the relevant human rights claims and obligations;
- how gaps were identified in the capacity of rights-holders to claim their rights, and of duty-bearers to fulfill their obligations, including an analysis of gender and marginalized and vulnerable groups, and how the design and implementation of the project addressed these gaps;
- How the project monitored and viewed results within this rights framework.

The evaluation report outline should be structured along the following lines:

1. Executive summary
2. Introduction
3. Description of evaluation methodology with challenges
4. An analysis of situation in line with evaluation objectives and key evaluation questions
5. Findings and Conclusions
6. Recommendations
7. Lessons learned
8. Annexes

The evaluation report should not exceed 30 pages in total (excluding annexes). First draft of the report should be submitted to WHO and UNICEF Iraq Offices within 2 weeks of completion of in-country evaluation process.

8. Management Arrangements

The Evaluation will be undertaken by independent evaluator/s (individual consultant/s or organization) that is in line with the UNEG Norms and Standards and in accordance with the parameters included in the terms of reference.

The evaluation will be undertaken in close consultation with the three line ministries and efforts will be made to allow the GoI partner/s to drive the evaluation process in line with UNEG Norms and Standards.

Role of WHO and UNICEF:

- Provide project background information and any other relevant data required by the evaluation team
- Ensure that all stakeholders are informed about the evaluation process
- Oversee the process in accordance with the agreed terms of reference and the UNEG Norms and Standards, and ensure that the process remains neutral, impartial and independent
- Approve the evaluation final report and disseminate evaluation findings
- Facilitate the field work for the evaluation team and contact with the MoH , MOE and other relevant partners and stakeholder
- Provide management response to evaluation findings and recommendations

Role of National Counterparts

In line with Paris Declaration, the national counterparts will be encouraged to participate in the evaluation process right from planning to sourcing information to the dissemination of evaluation

findings and contribution to management response. This would enhance national ownership of the process and promote the spirit of mutual accountability.

Role of Evaluation Team/ Evaluator/s

The Evaluation Team is responsible for:

- Undertaking the evaluation in consultation with WHO , UNICEF and line ministries and in full accordance with the terms of reference;
- Complying with UNEG Norms and Standards as well as UNEG Ethical Guidelines;
- Bringing any critical issues to the attention of the Evaluation Manager (appointed by WHO) that could possible jeopardize the independence of the evaluation process or impede the evaluation process;
- Adhering to the work plan, to be mutually agreed with WHO and UNICEF, as commissioner for this evaluation; and
- Ensuring that the deliverables are delivered on time, following highest professional standards.

The evaluation team will report to the Evaluation Task Manager while providing regular progress updates on the overall process to WHO and UNICEF Senior Management and the Evaluation Task Force.

GOI-WHO-UNICEF Task Force:

A WHO-UNICEF-GOI team will be formed to provide oversight and overall guidance to the evaluation process. The team will comprise of coordinators nominated by the three line ministries to coordinate this process within the ministries at central, governorate and district levels as well as a focal points from WHO and UNICEF

The team will oversee that the evaluation process is in line with the TORs, UNEG Norms and Standards and implemented in a participatory, neutral and impartial manner.

9. Indicative Work Plan

Phase	Key Activities	Time Frame*	Responsibility
Preparatory phase	Agreement on methodology and detail work plan	November and Dec 2009	Evaluation Team, UNICEF, WHO and GOI
	Participate at the initial stakeholder meeting to launch the evaluation process	January 2010	WHO (Lead) , UNICEF and Evaluation Team
Field work/ Data Collection	Review of documents, reports, supporting materials	ongoing	Evaluation Team
	Meetings with GOI counterparts in, Baghdad and KRG on the field work	January 2010	
	Finalize questionnaires for primary data collections	January 2010	
	Visit project facilities	February 2010	
	Meeting with secondary beneficiaries (community	February 2010	

	leaders, sheikhs and project beneficiaries)		
Data Analysis	Undertake data analysis of the qualitative and quantitative data acquired from the field work and data collection processes	March 2010	Evaluation Team
Reporting preparation	Preparation of the draft evaluation report	March 2010	Evaluation Team
	Presentation on draft findings/ report to WHO and , UNICEF	April 2010	
	Finalization of the Report based on feedback from peers, MOH , MOE , UNICEF and WHO	April 2010	
	Submission of Evaluation report to WHO , UNICEF and GOI	April 2010	
Dissemination		To be advised	WHO and UNICEF

* Tentative and to be finalized in discussion with Evaluation Team/ Evaluator(s)

ANNEX B: Source of Information

I. Desk study documents:

Project Documents

- UNDG-ITF Water Quality Control and Surveillance in Iraq (Phase Two) (E3-11)
- UNDG-ITF Progress Reports
- UNDG-ITF Final Narrative report

Strategic Programme Documents

- UN Assistance Strategy 2008-10

Normative Guidance

- UNEG Norms for Evaluation
- UNEG Standards for Evaluation
- UNEG Ethical Guidelines
- UNDG RBM Harmonized Terminology

ANNEX C:

1. Attendance of Pre - evaluation meeting:

GoI / related ministries	WHO	UNICEF	UNDG	SOC
MoH:	• Dr. Naeema Al-Gasseer-WR	Mr. Saeed Hameed	Mr. Usman Akrum RCO	SOC evaluation team
• Dr. Saif Al Din Ezldin / Erbil DoH	• Eng. Mohammed Hamasha			
MoEv:	• Dr. Faris Farid			
• Mr. Mohammed Jori – WHO expert	• Dr. Eltayab Mansour			
• Mr. Tahseen Mohammed – Central Lab	• Dr. Omar Makki			
• Mr. Jabar Abd Zayed – Technical department	• Dr. Ezechiel Bisalinkumi			
• Ms. Sabah – Director of media department				
MMPW:				
• Ms Taghreed Sadik – Director of Quality control department				

2. in depth interviews

Governorates	Location / Job description	Names
Baghdad	WHO – focal point	Dr. Mohammed Jowry
Baghdad	Ministry of Environment / technical department	Mr. Jabar Abdul Zaied
Baghdad	Ministry of Environment / technical department	Ms. Shatha Kadhum Khalaf
Baghdad	Ministry of Municipalities / sewage department / director of quality control	Mr. Raheem Muhsen Ismail
Baghdad	Ministry of Environment	Mr. Sabah Mohammed Lateef
Baghdad	Municipality of Baghdad	Ms. Julnar Abdul Saheb Alsharqi
Baghdad	Ministry of Municipalities / quality control department	Mr. Fareed Sadeq Ali
Baghdad	Ministry of Environment	Mr. Thair Shafeq Tawfeq
Baghdad	Ministry of Environment	Mr. Tahssen Mohammed Ali
Basra	Directorate of Environment	Ms. Khairia Abood Yaseen
Basra	Directorate of Environment / Planning department	Mr. Ali Abdul Samad
Basra	Directorate of Environment / Technical department	Ms. Ibtehal Katea
Basra	Directorate of Water	Ms. Nada Qussay
Basra	Directorate of Water	Ms. Saba Jassim Mohammed
Basra	Directorate of Environment / Lab Staff	
Erbil	Ministry of Environment / Director of Technical Affairs	Mr. Anees Abdul Ahad Nabati
Erbil	Health Department / Director of Water Quality Control	Mr. Mostafa Rafeeq Mostafa
Erbil	Directorate of Technical Affairs and the prevention of radiation / Chemical Engineer	Eng. Noor Sabah Hameed
Erbil	Directorate of Technical Affairs and the Prevention of radiation / Water Resources Engineer	Ms. Ikram Kareem Hana
Erbil	Health Department / Director of the Professional Control Unit Water	Mr. Maroof Ola Hamed
Erbil	Health Department / Director of the prevention of	Dr. Sarhenk Jalal

	diseases, non-transition	
Erbil	Director of Health Department	Mr. Delshar Abdullrahman Mohammed
Erbil	Director of Bacterial department	Ms. Lamia Mohammed Hassan
Erbil	Department of Education and Media	Ms. Sheirman Hamd Khoshnaw
Erbil	Manager of Education department	Mr. Karwan Rasheed Hassan
Erbil	Director of Media department	Mr. Zaredshet Hassan
Kirkuk	Directorate of Environment / Director of Environment department	
Mosel	Directorate of Water	Ms. Nada Ahmed
Mosel	Directorate of sewage	Mr. Josaif Hana
Mosel	Directorate of Environment / Director of Environment department	Mr. Ali Qassim
Najaf	Directorate of Water / Bacterial / Quality control department	Mr. Adel Abass Karim

Annex D: Field Guidelines & Questionnaires:

General Information

Project Title:

Project Number:

Approved budget:

Original project duration:

Started time:

Completion time:

Additional extensions time (if any):

Names of the Governorate covered by the project:

Number of beneficiaries:

Information on the Person interviewed.

Name:

Position:

Department:

Gender:

Duration at this department and position:

Interview date:

SOC evaluator name:

1. Introduction:-

1.1 Please provide any data or statistics available to illustrate the dimensions of the problems that have been addressed by the project activities and to address them or to limit its effects (indicating the information source and date).

1.2 Have there been any previous studies or surveys that related to the problem which was addressed by the project? What were the most important results that were reached by these studies or surveys?

1.3 Please explain the difficulties and challenges that faced the project during the stages of implementation, explained the difficulties with regard to the following issues:

- a. The securities.
- b. Coordination among stakeholders.
- c. Cooperation of the population.

d. Other difficulties.

2. Results and achievements:

2.1 Explain how the project components contributed to the achievement of the project goals and objectives.

2.2 Did the project contributed to the strengthening of programs / facilities aimed at the level of development of the country and the Governorate?

2.3 Has the project meet the national priorities to set forth in the following references, how did the project activities contributed to the national priorities:

- a. National development strategy (NDS).
- b. The International Compact with Iraq (ICI).
- c. Millennium Development Goals (MDG).

2.4 Please provide data supported by statistics, evident and facts on the project activities results and actual achievements in accordance with Annex Table:

2.5 Please provide statistical data on training sessions or missions that have been organized under this project to build the beneficiaries capacity (in administrative and technical issues). It is a must to describe subjects covered by the training, participants' number, and info on participants' position, gender, and geographical coverage.

<i><u>Expected achievements</u></i>	<i><u>The Actual Results</u></i>

3. Effectiveness and Efficiency:

3.1 Was the project cost effective and has good value for money, taking into account the reality of the situation in Iraq?

3.2 Explain how the project results contributed to improving access to services and increased the benefit?

3.3 Did the project results met the basic requirements and needs of the issues targeted by the project? Please Explain.

3.4 Was the project activities designed to meet the Iraqi contexts and current conditions? Explain.

3.5 Was the project strategy in line with national policies and strategic plans? Please explain how.

3.6 What are the mechanisms that were followed by the project to manage and supervise the project activities and performance?

4. Partnership:

4.1 Who are the key partners in the project?

4.2 Explain in detail the role of each of these partners in the preparation stages and implementation of the project:

Stakeholder	Role during planning and preparation stage	Role during implementation

4.3 Did the project led to the formation of new partnerships or to strengthen existing partnerships? Please explain how.

4.4 What are the factors that led to strengthen or weaken these partnerships?

4.5 To what extent the project results contributed to the capacity building and development of partners?

5. Sustainability:

5.1 What is the present status of the project? Have project results and facilities been maintained?

5.2 Who took responsibility for project results (management, supervision, maintenance) after the project ending?

5.3 What is the current status of the services and project results (developed during project implementation)? Do these results and services improved or deteriorated after the project handover? Explain how and why.

5.4 Did the training activities implemented under this project achieve its goal in transferring knowledge to beneficiaries? and from them to other stakeholders and beneficiaries. Explain how.

5.5 What are the measures implemented by the concerned authorities to ensure sustainability and maintain the operational of the project results as well as maintenance of the project results and facilities.

5.6 What was the project measurement to reduce the negative effects of the unstable security situation during the implementation phases? What are the practical measures that have been taken to reduce the risks? Please explain.

6. Lessons learned:

6.1 What are the good practices that resulted from this project? How and why can some of these practices be described as good? Explain by the examples.

6.2 What are the main lessons learned from this project?

6.3 Are there specific recommendations and practices that would assist in the implementation of similar projects in similar circumstances like the current situation in Iraq?

7. Other issues related to development:

- 7.1 What is the value added of the project compared with other options to solve the problem?
- 7.2 How did this project contributed in strengthening the role of the UN organizations in the areas of development?
- 7.3 How did the project supported issues related to human rights, equality between the gender, environment, create jobs and promote public participation?
- 7.4 To what extent did the project strategies participated in enhancing the credibility of the UN team to Iraq's Development?

ANNEX E: Project Pictures

Basra



Mobile lab.



Mobile lab.

Erbil



Samples water



Water testing



Awareness posters



Awareness posters



Awareness Campaign



Awareness Campaign

Karbala



Mobile lab.



Mobile lab.



Mobile lab.



Mobile lab.

Kirkuk



Mobile lab.



Mobile lab.

Najaf



Water testing lab.



Water testing lab.

ANNEX F: SOC Background

SOC background:

Stars Orbit Consultants is an external Monitoring and Evaluation organization; its strength lies in the long experience of the corporate management team and its employees. SOC's mission is to achieve professional Monitoring and Evaluation aiming to evaluate the past, monitor the present and plan for the future.

Between 2004 and 2009, SOC successfully performed Monitoring and Evaluation activities on more than 200 programmes and grants on behalf of donors and international organizations in various parts of Iraq including (Baghdad, Basrah, Missan, Thi Qar, Mothanna, Qadissiya, Najaf, Babil, Karbala, Anbar, Mosel, Salah El Din, Diyala, Kurkuk, Erbil, Sulaymanyia and Dohuk), the Monitoring and Evaluation activities have been carried out by more than 30 qualified, well trained and professional employees stationed in all the 18 governorates.

Since most of the projects implemented in Iraq are now remotely managed from outside Iraq, the need for professional, effective, objective and honest monitoring and evaluation mechanism starts to grow to ensure that the program meets its original objectives, donor perspective and expected outputs.

For more details on SOC and its activities, please visit www.starsorbit.org