

IRAQ CONTAMINATED SITE ASSESSMENT WORKSHOP REPORT

Post-Conflict and Disaster Management Branch, UN Environment

Includes a Review of Central Environmental Laboratory and Recommendations for Capacity Building Baghdad, 29 January – 1 February 2018

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1. Introduction

During the period July – November 2017, UN Environment undertook two rapid scoping missions in areas formerly occupied by the so-called Islamic State in Iraq and the Levant (ISIL) in northern and western Iraq, with a focus on the city of Mosul and its surrounding regions. This rapid review revealed the extensive environmental damage caused by the ISIL conflict, which was both severe and widespread. The review concluded that detailed contaminated site assessments need to be carried out for a selected number of priority sites.

As an initial step towards strengthening the capacity of the Ministry of Health and Environment (MOHE) in addressing the pollution impacts of the ISIL conflict, the UN Environment's Post-Conflict and Disaster Management Branch conducted a 3-day workshop in Baghdad to provide an overview of the international best practices on contaminated site assessments. The workshop was attended by 40 staff members of the Ministry of Health and Environment (MOHE) and other partner ministries from the central and governorate levels. Separate technical sessions were also held on chemical weapons and radiation contamination. In addition to UNEP staff, the workshop facilitation team comprised of senior environmental experts from Canada, and long-standing UNEP partners Spiez Laboratory¹ in Switzerland and ALS Global in the UK.

To obtain a more comprehensive overview of national capacity, the UN Environment team also visited MOHE's Central Environmental Laboratories (CEL) in Baghdad. Discussions focussed on the scope of work and current capacity of the laboratory, and the vision and plans of its senior management to attain international standards. UNEP would like to acknowledge the assistance of the representative of the Department of International Environmental Relations (MOHE) in organizing the workshop and laboratory review.

This report provides a summary of the contaminated site assessment (CSA) workshop activities, and UN Environment's observations on the apparent gaps in MOHE's capacity to conduct CSAs. The report concludes with a set of recommendations that aim to reduce these shortcomings and empower the MOHE staff in collaboration with national institutions to conduct CSAs in a manner that measures up to international best practices.

2. Workshop Context

The CSA workshop was jointly organized by the Ministry of Health and Environment and UNEP from 29-31 January 2018 over a 3-day period at the Royal Tulip Al Rasheed Hotel in Baghdad's 'Green Zone'. In his opening remarks, the Honourable Dr. Jassim Humadi, Deputy Minister of Environment, underscored the importance of having an empowered and skilled workforce that can tackle the toxic environmental legacy caused by decades of conflict, especially in areas devastated by the ISIL conflict.

Mr. Hassan Partow, Programme Manager at UN Environment, recalled the long-standing involvement of UN Environment in Iraq; including its post-conflict recovery programme from 2004-2006, which helped build the capacity of the nascent environment ministry with a special focus on conducting environmental site assessments. He reiterated UN Environment's commitment to support Iraq in addressing the

¹ Swiss laboratory of the Department of Defence and Civil Protection

^{2.} International laboratory based in the UK

environmental impacts of the ISIL conflict in line with the recent UN Environment Assembly resolution (2017) to mitigate pollution from armed conflict and terrorism.

The CSA Workshop was the first occasion in over two decades for UN Environment to hold an event in Baghdad conveying growing international confidence to engage in Iraq's reconstruction and development.

This allowed a large number of government staff to attend the workshop from across the country than is otherwise possible. It is hoped that the success of the workshop demonstrates UN Environment's and the Iraqi Government's ability to host similar events, and that the security situation is currently at an acceptable level to conduct in-country technical assistance and capacity building activities in a cost-effective manner.

3. Target Audience

Workshop participants, numbering a total of 40 persons, hailed primarily from the MOHE's headquarter office in Baghdad, and its regional offices in the five governorates impacted by ISIL occupation. In addition, officials from the Ministry of Oil, and the Ministry of Industry and Minerals also participated. Finally, representatives from the Ministry of Foreign Affairs office dealing with international organizations attended as observers.

Workshop participants notably included headquarter based staff from the Environment Ministry's Contaminated Site Assessment unit, and their counterpart colleagues from the governorates. These included senior managers with responsibilities to plan and implement contaminated site assessment programs, and ensure their departments have adequate staff and resources. They also have responsibility to prepare annual budget requests and work plans. Other participants were project managers coordinating contaminated site assessment fieldwork activities at various sites with the support of their technical and administrative teams. MOHE staff from the governorates typically conducted CSA field sampling campaigns with oversight from the regional office for northern Iraq based in Kirkuk and central headquarters. Senior officials from the Oil Ministry (North Oil Company) who had first-hand experience putting out fires in the oil fields, as well as explosive experts from the Environment Ministry's demining department also took part in the workshop.



Figure 1: Technical presentation by UN Environment expert

Participants had varied technical backgrounds including environmental engineering and science, agricultural engineering, water resources and soil science, occupational health and safety, petrochemicals management, chemical and hazardous waste management, and industrial engineering. In order to facilitate effective communication and interaction between the international and national experts, simultaneous Arabic-English translation was arranged for the workshop.



Figure 2: Technical presentation by UN Environment expert seconded by ALS Global



Figure 3: Group photo of workshop participants and facilitators

4. Workshop Activities

The CSA workshop programme was based on the key elements of a typical contaminated site characterization project. As the audience comprised of professionals from different work streams, many examples and case studies were used to illustrate a range of contexts and issues. The workshop comprised of five modules which are summarized below, and the agenda is provided in Annex I of this report. As the workshop progressed, additional presentation topics were included based on the UN team's evaluation of participant needs, and feedback.

To better understand the national context, MOHE's Contaminated Site Assessment Unit staff provided an overview of their mandate, organisational structure and activities. In addition, they presented their ongoing site assessment campaign in the Mishraq sulfur complex and Qayyarah oil field; two heavily damaged sites in the former ISIL occupied territories near Mosul.



Figure 4: Technical presentations by UN Environment expert seconded by Spiez Laboratory

<u>Module 1</u> of the workshop provided an overview of contaminated site assessments, risk assessments and remediation action plans, and described the link between these three key topics. It covered the main elements in each of these components and discussed some of the practical challenges that practitioners typically face in carrying-out such work. Technical and non-technical considerations of conducting a contaminated site assessment project were addressed. This included information dissemination to the public, transparency, public consultation and media coverage. Useful techniques and tools were highlighted so that they can easily be used by those in the field. Differences in the roles of contractors and site owners were underscored, and the main aspects of compliance monitoring and inspections were covered.

<u>Module 2</u> addressed the preparatory activities for a contaminated site assessment project before the field campaign begins. This module included an introduction to environmental sampling planning and sampling strategies, with extensive case studies and examples of different methods and their respective limitations and challenges.

<u>Module 3</u> addressed key issues encountered during implementation of field activities, including sampling tools and techniques, quality assurance, storage and transport of samples, and personal protective equipment requirements.

<u>Module 4</u> discussed the activities in a contaminated site characterization project once the field campaign is completed. This included the environmental sample reception and analysis by environmental laboratories, the various equipment used for analyses, data interpretation, quality control and quality assurance, and some of the practical challenges experienced during laboratory reporting.



Figure 5: Workshop participants reporting on the outcome of group discussions

<u>Module 5</u> covered the elements of a remedial action plan. In addition, based on participants' request, additional information was provided on the elements of Health and Safety Plans.

Furthermore, a CSA Project Planning session was conducted which included group exercises to enable participants to think through the entire process that needs to be considered when planning a contaminated site assessment project. Finally, information on an impartial web-based platform developed by the UN called MapX (<u>www.mapx.org</u>) was shared as a potential means to help map, monitor and facilitate access to information on contaminated sites. MOHE officials expressed interest in using MapX to support mapping of its ongoing CSA field campaign results, and help develop a regional strategy for pollution mitigation.

A complete set of workshop presentation materials as well as reference and guidance documents on various components of contaminated site characterization were provided to the participants on a USB memory stick. A certificate of workshop attendance was also presented to the participants.

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