



## *Working Paper*

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*UNITED NATIONS / WORLD BANK  
JOINT IRAQ NEEDS ASSESSMENT*

### *Mine Action*

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AGENCIES PARTICIPATING: UNMAS, UNOPS, UNICEF, UNDP, UNEP,  
WHO, WFP**

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## **Introduction**

The Mine Action Needs Assessment was conducted with the assistance of the Iraqi National Mine Action Authority and UN colleagues in Iraq. The assessment was constrained by the limited knowledge of the impact of landmines and UXO outside of the three northern governorates, the security difficulties and the time frame in which the assessment had to be completed. The process undertaken to complete the assessment included a desk assessment and stakeholder meetings in Erbil, Baghdad and Basra that included a cross section of mine action service providers. In Erbil the stakeholder meeting was held with the assistance of the UNOPS Mine Action Programme and representatives from the national mine action NGOs were in attendance. In Baghdad the assessment gained valuable input from other sectoral working groups, mine action NGOs and commercial companies and the National Mine Action Authority for Iraq. In Basra the Area Mine Action Coordination Team held a workshop that included all Mine Action Service Providers and the Coalition Military. NGOs and UN colleagues who were not able to attend the meetings provided input by email, and an early draft report was shared with them for comment.

An emergency mine action survey currently underway in the North and South of Iraq and an impact survey completed in 2002 have provided valuable data for the report.

Input into producing this assessment was provided by:

### **National Mine Action Authority (Iraq)**

- Northern Iraq:** UNOPS Mine Action Programme  
NGO Directors for all the National NGOs  
Norwegian Peoples' Aid  
Mines Advisory Group
- Centre:** UNICEF, UNDP, UNEP, WHO, ICRC, WFP
- Mine Action Organisations:** Swiss Foundation for Mine Action  
Handicap International France  
Norwegian Peoples' Aid  
European Landmine Solutions
- Southern Iraq:** UK Military
- Mine Action Organisations:** Dan Church Aid  
Danish Deming Group  
Mines Advisory Group  
Swiss Foundation for Mine Action  
Intersos  
MineTech International

## **Mine Action Sector Needs Assessment for Iraq**

### **1. Scope**

1.1 This document will analyse the reconstruction needs caused by the landmine, EO and UXO problem in Iraq, describe the assets currently operating within the country, assess the resources that will be required to maintain operations in 2004, analyse the policy and cross cutting issues that impact on mine action and recommend some quick and long term impact initiatives. The document will also describe how the mine action sector will provide essential support to the return of IDPs /refugees and reconstruction activities in the electricity; water supply and sanitation; agriculture, water resources and food security; and housing and urban management sectors.

#### Assumptions/Planning Factors

- The National Mine Action Authority (NMAA) and Iraq Mine Action Centre (IMAC) established by the Coalition Provisional Authority (CPA) and the Governing Council of Iraq are responsible for planning and coordinating the mine action response.
- The Coalition Military are responsible for the movement, storage and demilitarisation of Explosive Ordnance (EO).<sup>1</sup>
- The CPA will be responsible for funding the Mine Action Programme (MAP) in Northern Iraq from 21 November 2003. UNOPS National NGOs will transfer to the NMAA post the oil for food programme.
- The development of any new mine action capacities will focus primarily in the Centre and South of Iraq.
- The Civil Defence Organisation (CDO), that previously dealt with emergency Explosive Ordnance Disposal (EOD), will be redeveloped as a nationwide EOD response capacity in the mid to long term, under the auspices of the Ministry of Interior.
- Funds will come from multiple sources (Iraqi resources, US funds, other international donors) and will be channelled through a variety of funding modalities.
- The mine action sector will transition to sustainability and capacity building activities throughout 2004 and beyond.

### **2. Problem Statement**

#### General.

2.1 EO out-loaded in preparation for war, and disturbed during post war looting, presents the most serious threat to the mine affected communities and vulnerable groups in Iraq. Additionally, UXO are scattered throughout many of the major cities and military positions affected by recent and earlier conflicts, including sub munitions and depleted uranium munitions. The landmine situation has not changed dramatically since earlier conflicts in Iraq.

#### North.

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<sup>1</sup> Explosive Ordnance (EO) “all munitions containing explosives, nuclear fission or fission material and biological and chemical agents. Including IEDs”. “Unexploded Ordnance (UXO) EO that has been primed, fused or otherwise prepared for use or used. It may have been fired, dropped launched or projected yet remains unexploded either through malfunction or design or for any other reason”. IMAS 2003, 4.10 - Glossary.

2.2 The only comprehensive information available in Iraq on the socio-economic impact of landmines, EO and UXO has come from the survey of the three Northern Governorates that was completed in 2002. Based on the data obtained the following is a summary of the impact of mines and UXO in the region:

- 24 of the 25 districts are mine affected.
- The Survey noted that out of a total population of 3,547,000, some 737,250 people are living in mine-affected communities (Approximately 1 in 5 people).
- It was estimated that the suspected areas covered a total land surface of 339 Km.<sup>2</sup>
- The report identified 3,248 distinct areas suspected of mine and/or UXO contamination.
- At the time of the survey, 94.6% of the 315 recent victims were male.
- Major blockages impact on grazing land and agricultural land. Minefields blocking water sources, community facilities and access for reconstruction of infrastructure all have a high impact on mine affected communities.

2.3 The Emergency Survey (July 2003) that is being conducted in Iraq has found that of the 250 settlements surveyed in the Erbil Governorate south of the green line,<sup>2</sup> 25% of all settlements had landmines, EO and UXO contamination. The pattern of contamination varies: those settlements close to the green line have a greater landmine problem, whereas those further south have a mixed problem dominated by UXOs and small munitions stockpiles.

#### Centre.

2.4 Major EO and UXO contamination exists in Baghdad with some minefields located just south of Hillah. The impact of EO and UXO on the Baghdad population has been quite dramatic. An urban population not used to this type of contamination has suddenly had to deal with a large-scale UXO problem. Adding to the problem is the vast number of EO stockpiles located in and around the city, and which were left unguarded when the coalition entered Baghdad. Complicating the situation is the type and technical nature of some of the EO and UXO. Over 100 SA-2<sup>3</sup> Surface to Air Missiles (SAM) abandoned inside the Baghdad city limits have now been cleared by the Coalition Military, and their work continues to clear over 1,000 SAM across Iraq.

#### South.

2.5 The former regime had achieved a high level of militarisation and subsequently arms stockpiles and related industries (including demolition sites used prior to the war by the regime and UN weapon inspectors) have been decommissioned and will need an environment assessment. Military reports, the Emergency Survey teams and reconnaissance missions have confirmed the extent of the contamination of EO in the south of Iraq. Stockpiled munitions were stacked in defensive positions ready for use by Iraqi troops. Ammunition Storage Points (ASPs) and larger caches are being looted for salvageable metals, explosives and wood for fuel and construction purposes. Looters are pulling munitions out of packaging and throwing them out into the direct sunlight whilst spreading ammunition propellant in and around bunkers making them particularly dangerous and increasing the risk of a potentially devastating major demolition due to the close proximity of local communities. A portion of the population in the Basrah Governorate is currently

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<sup>2</sup> The 'green line' is the border prior to the 2003 conflict, which separated the three northern governorates and the Government of Iraq territory.

<sup>3</sup> The SA-2 SAM is Russian manufactured, weighs approx 2,300 kg, is 11m long and has a 195 kg High Explosive warhead. It also has a booster motor containing approx 2000 kg of solid rocket propellant and a liquid fuel system. Hazards exist from both the warhead and the fuel.

transient, resulting in villages and new communities appearing on former government land that is contaminated by EO.

#### Minefields.

2.6 The landmine problem along the route that the Coalition followed to Baghdad appears to be limited to a small number of protective minefields around defensive positions. Major barrier minefields, however, exist along Iraq's border. The clearance of some of these areas is complicated by the lack of minefield records and the heavy UXO contamination.

#### Cluster Bombs and Sub Munitions.

2.7 During Operation Desert Storm the US Air Force dropped 10,035 CBU-87s and during Operation Allied Force the US dropped about 1,100 cluster bombs, most of which were CBU-87s. The failure rate for a standard cluster bomb was a minimum of five percent, which indicates that before the 2003 conflict there was possibly in excess of 112,000 BLU-97s potentially active and dangerous. Cluster bombs and sub munitions were used by the coalition during the 2003 conflict and reports from the coalition and Iraqi medical authorities in Baghdad indicate that sub munitions have injured both Iraqi civilians and coalition military.

#### Depleted Uranium (DU).

2.8 On the 26 March 2003 the US Central Command confirmed that DU was used by Coalition Forces. The following are the potential risks: inhalation of DU at time of the munitions impact, widespread low level contamination of the ground surface by DU, presence of DU penetrators or fragments which may be handled by unprotected individuals, and the possible migration of DU into ground water. DU was reportedly used extensively in Basrah in 1991. Environment assessments and follow on clean up or public awareness campaigns may be required.

#### IED.

2.9 IED usage in Iraq has been widespread. The use of EO/UXO in IEDs has been most tragically demonstrated in the attack on the UN Headquarters in Baghdad.

### **VICTIM DATA**

<b>REGION/GOVERNO RATE</b>	<b><u>Victims</u></b>	<b><u>Time Period</u></b>	<b><u>Remarks</u></b>
Lower South <sup>4</sup>	324	16 Jun- 1 Aug	AMACT 6 Aug 03
Northern Governorates <sup>5</sup>	70	18 Jun –29 Jul	UNOPS Weekly Sitreps

- It has been reported that adult males and boys are the groups most at risk with 75% of children's injuries being attributed to playing or tampering with EO/UXO.
- Of the 215 victims killed or injured in the six weeks to the end of June 2003 in the southern region, 30% (65) of victims were less than 5 years of age.

Note: The victim data in this table is information reported to both the UNOPS MAP and the AMACT and is representative of only seven of the 18 Governorates. These statistics were collected after the conflict and do not reflect the peak in victim numbers experienced in April/May 2003.

<sup>4</sup> Includes Basrah, Thi-Qar, Missan and Muthanna Governorates

<sup>5</sup> Erbil, Sulymaniyah and Dahuk

### Analysis.

2.10 Based on the limited data available since the conclusion of the 2003 conflict, the following assessment of impact will only be conclusive in communities where the Northern Iraq Survey and Emergency Survey have been undertaken. Victims are occurring at 30-40 per month, the majority (94.6%) are male, in the north, with at least 20 % of the population living in a mine-affected community. It is estimated that at the current funding levels and with the available resources it will take approximately 18 years for Northern Iraq to be impact free. In the rest of the country the most serious impact is caused by the large amounts of EO following the 2003 conflict. The scale of this problem was initially grossly underestimated.

2.11 The victim data made available for the seven-week period ending on 1 August 2003 indicates that an extremely hazardous environment exists for many Iraqis. The 324 victims recorded in the southern four governorates is an extremely high figure compared to other highly impacted countries (for example 150 victims per month are recorded in all of Afghanistan). Based on this data, and the information that is available from current surveys, Iraq is the most EO, UXO and landmine impacted country in the world.

## **3. Operational Response**

3.1 Before the most recent conflict, the CDO had an EOD capability that was responsible for providing an emergency response to EOD incidents. This was a national capability with the exception of the northern governorates. Whilst many units of the CDO are currently not operational, a number of units are being supported by Coalition Forces and mine action organisations.

3.2 The UNOPS Mine Action Programme (MAP) was established in Northern Iraq in 1997 with funding from the Oil for Food Programme. The Programme consists of four National Demining NGOs, two National Mine Risk Education (MRE) NGOs, three National Victim Assistance (VA) NGOs and an international VA NGO, a mechanical and dog capacity. The MAP employs some 5000 personnel of which approximately 50 are international staff. The current strategy for mine action in the north envisages that it will take 18 years to free northern Iraq from the impact of landmines and UXO. This estimate is based on the availability of sufficient funds to meet the annual budget of between \$ US 35-39 Million. Also operating in northern Iraq pre-war were the Mines Advisory Group (MAG) since 1992, Norwegian Peoples' Aid (NPA) since 1995, and Handicap International: Belgium (HIB).

3.3 The NMAA and IMAC established by the CPA and the Governing Council of Iraq, became operational from the 9<sup>th</sup> of July 2003. The NMAA is responsible for mine action policy development and has provided all stakeholders with clear guidance on the standards and other requirements to operate within Iraq. In the future, the NMAA will provide guidance to the internationally recognized, representative Government of Iraq concerning the development of legislation for mine action in the country.

3.4 As part of the CPA's military effort, US EOD Battalions are operational within central Iraq and UK EOD assets are operational in the South. Coalition Force assets are providing an Improvised Explosive Device Disposal, EO removal and EOD capacity. Other countries providing military contingents have indicated they will provide EOD assets. A US \$300 Million contract has been tendered by the US Army Corps of Engineers for the logistical removal of EO. The Mine, Explosives and Ordnance Information Coordination Centre (MEOICC), a Coalition Force asset, has

provided cluster bomb and indirect fires strike data to the NMAA. The CPA has also awarded a major commercial contract for reconstruction activities to Bechtel. Bechtel has subcontracted European Landmine Solutions (ELS) to conduct assessments and then to provide a response to mine action needs identified by the assessments. The US Department of Defence (DoD) has deployed a specialist EOD unit to the Baghdad area to remove the SAM 2 missiles. RONCO has been contracted through the US DOS and has deployed the Quick Reaction Demining Force (QRDF) from Mozambique to conduct mine clearance activities in Baghdad and its environs. RONCO, through the US DOS, is providing training for deminers to build national capacity through the establishment of a 120 person strong mine action unit complete with mine detection dogs (MDD).

3.5 International Organisations and NGOs involved in Iraq include the International Committee For the Red Cross (ICRC), The Swedish Rescue Services Agency (SRSA), the MAG, NPA, HIB, The Vietnam Veterans Of America Foundation (VVAFA), HI France, Dan Church Aid (DCA), Intersos, Danish Demining Group (DDG), and the Swiss Foundation for Mine Action (FSD).

3.6 The US Government provided funds to MAG, VVAFA, NPA and RONCO to conduct a variety of mine action activities. Funds were also provided for the establishment of the NMAA, IMAC and three Regional Mine Action Coordination Centres. The US Government funded management training by Cranfield University and a technical advisor seconded to UNICEF.

3.7 The United Nations Mine Action Service (UNMAS) activated the Rapid Response Plan prior to the conflict. In conjunction with UNICEF, UNDP, UNOPS and SRSA resources were provided to establish Coordination Teams in Baghdad and Basrah and the UN contracted the Zimbabwean commercial company MineTech to provide Explosive Ordnance Disposal (EOD) assets and MAG, VVAFA and Minetech to conduct the Emergency Survey. Prior to the current conflict, UNICEF undertook MRE activities and is now collecting data in the central area.

3.8 Other key partners include World Food Programme, WHO that conducts victim assistance and victim surveillance activities; UNAMI that is integrating mine action into broader humanitarian assistance programmes; OCHA that is integrating mine related information into the wider humanitarian information databases; UNEP that is providing advice on depleted uranium and wider environmental issues; Cranfield Mine Action (CMA) that is providing technical and management training; and the Geneva International Centre for Humanitarian Demining (GICHD) that is providing the Information Management System for Mine Action (IMSMA).

### Gender

- The current emergency survey being undertaken in Iraq is disaggregating victim data by gender, age and activity undertaken at the time of the accident.
- A Knowledge, Attitude and Practice (KAP) Survey will have a gender focus and will recommend effective messages to promote behavioural change.
- Women are employed in the National Mine Action Authority, Mine Action Coordination Team, NGOs and in commercial mine action organisations.

### Environment

- Any rehabilitation of the marshlands will require mine action activities to ensure that areas are cleared of landmines, EO and UXO.

- The heavy metal contamination that will occur as a result of the disposal of landmines, EO and UXO will effect the environment.
- Sites and military equipment targeted by DU materials will need special attention and an assessment of the hazards caused by this material should be initiated.

### Human Rights

- Due to the distribution of the mine action capability funded by the OFFP, there is an unbalanced distribution of resources and benefits to the Kurdish population in the three Northern Governorates. Prior to the most recent conflict the Kurdish communities were the only real beneficiaries of a comprehensive mine action programme. Given the competence and experience of the mine action personnel operating in the Kurdish areas, every opportunity should be taken to maximise their skills in developing mine action capacity throughout Iraq.
- Following the conflict, additional mine action assets have been concentrated in the southern most governorates.
- The NMAA is the institutional body responsible for ensuring that mine action services are provided. Due to the overwhelming contamination in Iraq there are major gaps in capacities and adequate geographical coverage.
- There is currently no legislation governing mine action in Iraq, however the NMAA has enforced strict adherence to the International Mine Action Standards (IMAS), implemented an accreditation process based on IMAS and is drafting national mine action standards and guidelines for the internationally recognized representative Government of Iraq.
- The Emergency Survey tool designed for Iraq is determining vulnerability patterns and will assist the mine action community to re-orient mine action assets to meet the priority needs of affected communities.
- Adult males and boys are the groups most at risk with 75% of children's injuries being attributed to playing or tampering with EO/UXO. Of the 215 victims killed or injured in the six weeks to the end of June 2003 in the southern region, 30% (65) of victims were under 5 years of age.

### Capacity Analysis of Government Institutions and Civil Society Organisations

- The mine action sector will be part of the Planning Ministry and represented by the NMAA. The NMAA is currently establishing the IMAC that will be staffed by Iraqi civil servants.
- The national mine action organisations established by UNOPS are suitably staffed and equipped to operate independently with some technical guidance and oversight. These will be replaced with structures developed by the NMAA.
- Both MAG and NPA operate with little or no international staff involvement.
- The CDO had an organisation dedicated to EOD prior to the 2003 conflict. The HQ was in Baghdad, two major offices were located in Basrah and Mosul and sixteen smaller offices were dispersed throughout Iraq. With the support of international partners, the CDO units will be able to become operational and in the long term should be able to form an Iraqi emergency EOD service.

## **4. Quick Impact Initiatives and Reconstruction Needs**

4.1 It is critical that an Iraqi capacity is developed to provide a nationwide mine action capability. Significant capacity building is required in the centre and south of Iraq, where until recently (apart from the CDO and ICRC) there have been no mine action programmes. The national NGOs in the north must be maintained at their current output level and should be expanded if sufficient funds are made available. The overall objective of the quick impact initiatives should be the coordinated removal of EO and UXO caused by the current conflict, and the reorientation of mine action assets to provide a response in highly impacted communities. The following initiatives, some of which are already underway, need to be implemented:

- Continue development of the NMAA and IMAC's capacity to plan and coordinate mine action activities.
- Continue development of three RMACs throughout Iraq to implement yearly work plans and coordinate the mine action effort with humanitarian and reconstruction activities.
- Develop additional mine action NGOs throughout Iraq.
- Continuation of international mine action response, particularly in support of indigenous operational capacity development.
- Continue to integrate information systems, including victim assistance, into the national and humanitarian databases.
- Implementation of a nationwide Landmine Impact Survey (LIS). Data already collected under the Emergency Survey and the Survey conducted in the three Northern Governorates will be the initial basis for determining information gaps.
- Knowledge, Attitude and Practice Survey implemented to determine suitability of MRE messages and approach. MRE integrated into all mine action activities including the establishment of community liaison where major mine action operations are taking place.
- Enhancement of the mine detection dog capacity as a national asset to be used nationwide – where feasible.
- Enhancement of the mechanical capacity to provide nationwide coverage.
- Continue to develop a national training capacity.
- Development of a victim assistance capacity integrated into the national health system that should include data collection, victim surveillance, a response mechanism and advocacy for the rights of landmine victims.

#### 2004 – Expansion

4.2 Due to the uncertain environment and the unknown end state of reconstruction activities underway in Iraq, the analysis of the requirements for mine action activities is based on existing data from Iraq as well as extensive involvement in other landmine and UXO affected countries.

4.3 The extent and pace of the planned expansion will be based on the availability of resources and changes in the political/humanitarian situation. Iraq is fortunate to have skilled human resources, excellent mechanical tools for mine action and an extensive mine detection dog programme.

4.4 Commercial operators accredited by the NMAA and working to IMAS will support major infrastructure projects such as water supply and sanitation, electricity, irrigation and housing. The costs for these projects are not included in the budget estimates as the situation is still too fluid to determine the funding requirements. All reconstruction activities should seek advice from the NMAA and provide a mine action budget line within their projects. The expansion of national NGOs/companies to undertake these activities is considered a viable option.

4.5 The following expansion initiatives will be implemented with the quick impact initiatives that are planned for 2004:

- Development of a response capacity. Currently, a combination of military forces, NGOs, commercial operators and the EOD capacity in the CDO are carrying this out.
- Continue expansion and creation of mine action capacity based on the analysis and strategic goals developed as a result of the LIS.

## **5. Financing Requirements**

5.1 The Oil for Food Programme funded the UNOPS programme in the North of Iraq since 1997. In 2003, US\$ 34 million was requested by UNOPS to implement programmes in the North. As part of the revised flash appeal, UNMAS requested US\$26 million from May to December 2003. The US-led Emergency Mine Action Team has developed a three year plan with funding of US\$25 million. The 2004 Iraqi budget for mine action was recently approved by the CPA and will total US\$61 million. Funds required for the quick impact initiatives in 2004 are estimated to cost US\$80 million whilst O&M costs for 2004 will total US\$34.65 million. The total investment required for the mine action sector in Iraq for 2004 hence amounts to US\$114.65. As US\$61 million has already been covered under the 2004 Iraqi budget, the remaining net funding requirement for 2004 is US\$53.65 million.

**MINE ACTION SECTOR****Calendar Year 2004 and 2005-2007 Reconstruction Needs  
(in US\$ millions)**

	<b>2004</b>	<b>2005-2007</b>	<b>TOTAL</b>
<b>Technical Assistance</b>			
Restore EOD Civil Defense component	21.00		21.00
Establishment and Capacity Building 4 NGO's (center/south)	4.00		4.00
<b>Total for Technical Assistance</b>	<b>25</b>		<b>25</b>
<b>Capital Investments</b>			
Development victim surveillance system	1.00		1.00
Landmine impact survey	3.00		3.00
Goods and Equipment requirements (incl. maintenance)	51.20	153.70	204.90
<b>Total Capital Investments</b>	<b>55</b>	<b>154</b>	<b>209</b>
<b>Total TA and Capital Investment Mine Action</b>	<b>80</b>	<b>154</b>	<b>234</b>
<b>Incremental O&amp;M Costs</b>			
EOD Civil Defense component	4.00	12.00	16.00
De-miners and service requirements	30.65	91.82	122.47
<b>Total O&amp;M for Mine Action Sector</b>	<b>34.65</b>	<b>103.82</b>	<b>138.47</b>