



THE STATE OF DISASTER RISK REDUCTION IN IRAQ

EARL JAMES GOODYEAR, PH.D.
DISASTER RISK MANAGEMENT CONSULTANT

August 5, 2009

“While we cannot prevent natural phenomena such as earthquakes and cyclones, we can limit their impacts.

The scale of any disaster is linked closely to past decisions taken by citizens and governments – or the absence of such decisions. Pre-emptive risk reduction is the key. Sound response mechanisms after the event, however effective, are never enough.”

BAN KI-MOON
SECRETARY-GENERAL OF THE UNITED NATIONS

Table of Contents

List of Abbreviations and Acronyms

Executive Summary

.....	1
Section I: Situation Analysis	
.....	6
Introduction.....	6
Disaster Management in Iraq.....	12
Hazards, Vulnerabilities and Capacities.....	13
Disaster Preparedness, Response and Recovery.....	33
Section II: Accomplishments and Challenges	
.....	37
A. National Capacities.....	37
United Nations/Donor Support for Disaster Risk Reduction.....	45
Integrating Disaster Risk Reduction Into Development.....	50
Development of a National Platform for Disaster Risk Reduction.....	52
Partnerships, Public Participation and Communities	54
B. Risk Identification.....	55
National Risk Assessments.....	57
Emerging Risks – Climate Change and Conflict.....	57
Early Warning.....	61
C. Knowledge Management and Education.....	63
Information Management and Exchange	63
Enabling Mechanisms.....	65
D. Reducing Underlying Risk Factors.....	67
Creating an Enabling Environment.....	67
E. Preparedness For Effective Response and Recovery	69
Tools for Integrating Risk Reduction Into Development Planning	69
Section III: Conclusion	
.....	74
Accomplishments	75
Gaps and Challenges	75
Annexes	
Composition of the Assessment Team	80
List of Persons Interviewed	81
Documentation List for the UNDP/OCHA DRR Consultancy.....	89

Maps:

1. Drought Map 2008-2009

2. Drought Map 2007-2008
3. Minefield Contamination vs. Crop Cover
4. Minefield Contamination vs. Oil and Gas Fields

Tables:

1. Paradigm Shifts from Relief and Response to Disaster Risk Management
2. What Does Disaster Risk Reduction Look Like?
3. Top Ten Natural Disasters in Iraq for the Period 1900-2009 Sorted by Number of People Affected, Killed and Economic Damage
4. Ten Top Technological Disasters in Iraq for the Period 1900-2009 Sorted by the Number of People Affected and Killed.
5. Hazards Identification by Governorates
6. The Enabling Environment

Charts:

1. Structure of the Central Government of Iraq
2. The Impact of Natural and Man-Made Disasters: Two Possible Roads Ahead

LIST OF ABBREVIATIONS AND ACRONYMS

CAC	Crisis Action Cell	MoCH	Ministry of Construction and Housing
CAP	Consolidated Appeal Process	MoDM	Ministry of Displaced and Migrants
CBO	Community-Based Organization	MoE	Ministry of Education
CCA	Common Country Assessment	MoEnv	Ministry of Environment
CCCS	Coordination and Command Crisis Structure	MoH	Ministry of Health
CERF	Central Emergency Response Fund	MoHESR	Ministry of Higher Education and Scientific Research
CFSVA	Comprehensive Food Security and Vulnerability Analysis	Mol	Ministry of Interior
CHAP	Common Humanitarian Action Plan	MoLSA	Ministry of Labor and Social Affairs
CHF	Cooperative Housing Foundation	MoMPW	Ministry of Municipalities and Public Works
COSIT	Central Organization for Statistics and Information Technology	MOPDC	Ministry of Planning and Development Cooperation
CSO	Civil Society Organization	MoST	Ministry of Science and Technology
DDG	Danish Demining Group	MoT	Ministry of Trade
DOS	Department of Statistics	MoTA	Ministry of Transport
DPT 3	Diphtheria, Pertussis and Tetanus 3 vaccine	MoWR	Ministry of Water Resources
DRC	Danish Refugee Council	MNF-I	Multi National Forces - Iraq
DSRSG	Deputy Special Representative of the Secretary-General	MoU	Memorandum of Understanding
EC	European Commission	NAPA	National Adaptation Plan of Action
EMIS	Education Management Information System	NCA	Norwegian Church Aid
EMRO	Eastern Mediterranean Regional Office	NCCI	NGO Coordination Committee for Iraq
EPI	Expanded Programme on Immunization	NDS	National Development Strategy
ERF	Emergency Response Fund	NFE	Non-formal Education
ERW	Explosive Remnants of War	NFIs	Non-Food Items
EU	European Union	NGO	Non-Governmental Organization
EVI	Extremely Vulnerable Iraqis	NRC	Norwegian Refugee Council
FAO	Food and Agriculture Organization	OCHA	Office for the Coordination of Humanitarian Affairs
FHH	Female-Headed Household	OHCHR	Office of the High Commissioner for Human Rights
FSVA	Food Security and Vulnerability Analysis	PA P	Participatory Assessment
FTS	Financial Tracking Service	PAC	Protection Assistant Centre
GBV	Gender-Based Violence	PDS	Public Distribution System
GEC	Governorate Emergency Cells	PFDM	Post Food Distribution Monitoring
GEF	Global Emergency Fund	PHC	Primary Health Care
GIS	Geographic Information System	PIN	People in Need
Gol	Government of Iraq	PJAK	<i>Partî Bo Jiyani Azadi la Kurdistan</i> (Party for a Free Life in Kurdistan)
HC	Humanitarian Coordinator	PKK	Partî Karkaren Kurdistan (Kurdistan Workers Party)
HIPC	Heavily Indebted Poor Country	POT	Protection Outcome Team
HR	Human Rights	PRM	Bureau of Population, Refugees and Migration
HRD	Humanitarian Reconstruction and Development	RBM	Results Based Management
HRDF	Human Rights Democracy Fund	RC	Resident Coordinator
HRDU	Human Rights Documentation Unit	RI	Relief International
HRO	Human Rights Office	SCR 1170	Security Council Resolution 1770
IASC	Inter-Agency Standing Committee	GBV	Sexual and Gender-Based Violence
IAU	Inter-Agency Information and Analysis Unit	SOT	Sector Outcome Team
ICI	International Compact with Iraq	SRM	Summary Results Matrix
ICRC	International Committee of the Red Cross	ToT	Training of Trainer
IDP	Internally Displaced Person	UNAMI	United Nations Assistance Mission for Iraq
IFRC	The International Federation of Red Cross and Red Crescent Societies	UNCT	United Nations Country Team
ILO	International Labor Organization	UNDAF	United Nations Development Assistance Framework
IMC	International Medical Corps	UNDG	United Nations Development Group
INP	Iraq National Police	UNDP	United Nations Development Programme
INEE	Inter-agency Network for Education in Emergencies	UNEP	United Nations Environment Programme
IOM	International Organization for Migration	UNESCO	United Nations Educational, Scientific and Cultural Organization
IR	Islamic Relief	UNFPA	United Nations Population Fund
IRC	International Rescue Committee	UNHABITAT	United Nations Human Settlements Programme
IRCS	Iraqi Red Crescent Society	UNHCR	United Nations High Commissioner for Refugees
ISF	Iraqi Security Forces	UNICEF	United Nations Children's Fund
ITF	Iraq Trust Fund	UNIDO	United Nations Industrial Development Organization
KRG	Kurdistan Regional Government	US	United States
MCH	Maternal and Child Health	VAM	Vulnerability Analysis Mapping
MICS	Multiple Indicator Cluster Survey	WFP	World Food Programme (UN)
MoMP	Ministry of Municipalities (KRG)	WHO	World Health Organization (UN)
MoA	Ministry of Agriculture	UNIFEM	United Nations Development Fund for Women
MoC	Ministry of Culture	UNOPS	United Nations Office for Project Servis

EXECUTIVE SUMMARY

1. In the 1980's, Iraq was widely regarded as the most developed nation in the Middle East. Iraq was noted for its health care system and university education and it ranked in the top levels on the human development indicators of human well-being—infant mortality, school enrollment, family food consumption, wage levels, and rates of employment. The World Bank classified Iraq at that time as an upper-middle-income country.

2. Since then, Iraq is the only Middle Eastern country whose living standard has considerably worsened. The effects of three wars, an economic and intellectual embargo, a repressive political structure and instability have undermined social well-being and created suffering across the entire social spectrum. Iraq's human development indicators that once ranked at the top have now dropped toward the bottom and in areas such as secondary-school enrollment and child immunization, Iraq now ranks lower than some of the poorest countries in the world.

3. It is in this context that the United Nations, responding to a request from the GoI, is undertaking a review of existing disaster risk management capacities to assess the level of preparedness and response against both natural and human induced hazards. UNAMI, through the Office of the Resident/Humanitarian Coordinator, is supporting consultants recruited by UNDP (Team Leader and Principal Author, Dr. Earl James Goodyear) and by OCHA (Sarah El Khazin Bouvier) to conduct this review. The consultancy team has collected information to prepare a document on the state of disaster risk reduction in Iraq and, in a separate document, propose the process for the GoI to strengthen national disaster risk reduction at the central, regional, governorate and community levels in Iraq. A third deliverable to be developed by the Team Leader is a template for capacity building and institutional development support on disaster risk reduction in Iraq by UNDP, UNOCHA and other members of the UN Country Team.

4. This paper has been prepared with the overall goal of enhancing the understanding of the current state of disaster risk reduction for the GoI, UNAMI and the wider audience of donor agencies, non-governmental organizations and the international disaster risk reduction community interested to support the objectives of the Hyogo Framework for Action in creating sustainable disaster resilient societies.

5. The purpose of this paper is three-fold. First, it seeks to highlight the nature and character of Iraq's hazards and their risk of becoming a complex emergency. Secondly, it reviews the capacities of the current disaster response capacities of key stakeholders in responding to disaster episodes with a comparison to key fundamental requirements when preparing for and responding to Iraq's natural and human induced hazards. Thirdly, attention is given to practical recommendations for stakeholders to consider in the development of programmes that will contribute to strengthening disaster risk reduction at the central, region, governorate and community levels while also addressing the priority development strategy as defined in the GoI next Five-Year Plan (2010 – 2014).

6. The paper will serve as a general reference for humanitarian practitioners: a resource document they can refer when developing programmes to address social, economic and environmental issues and ensure that activities also contribute to lowering the risks of their constituents from specific natural and human induced hazards such as earthquakes, floods, drought, depletion of natural resources, health epidemics, population displacements, transport

and industrial accidents, environmental pollution, unexploded ordnance and land mines, infrastructural collapses and terrorism/civil unrest.

7. The readiness to predict and, where possible, prevent disasters, reduce their impact as well as respond to and cope with their consequences at the federal, provincial and district levels is central to the work of many governments where natural and human-induced hazards affect the lives and livelihood of its citizens. A recurrent approach used by many nations around the world to create disaster resilient urban and rural communities involves reducing the vulnerability of households and communities in disaster-prone areas and improving their ability to cope with the effects of disasters; strengthening the capacities of the public sector, civil society and armed forces in disaster preparedness and post-disaster response; creation of a National Disaster Management Policy, adopting an all-risk approach, that adopts both a proactive and reactive disaster management approach; and establishes clearly articulated roles, functions and responsibilities of federal, provincial and district stakeholders that will strengthen the nation's collective impact in disaster preparedness and response.

8. The Consultants have met with key stakeholders at the central and governorate levels (refer to Appendices III for list of persons interviewed) in discussion of institutional capacities to predict, prepare for and respond, as a donor and provider of humanitarian relief to both natural and human induced disasters. Dialogue was focused to respond to the Terms of Reference for the Disaster Risk Management Advisor Consultancy. OCHA Field Officers conducted interviews with Governorate stakeholders to acquire a field level understanding of disaster preparedness and response capabilities and shortcomings in addition to an expression of interest in strengthening their aptitudes.

9. Clearly, the scale weighs heavily on a reactive response to natural catastrophes such as floods, earthquakes, landslides and drought in addition to a plethora of human induced episodes of fire and industrial accidents to toxic pollutants and remnants of war and spontaneous arrival of refugees from bordering nations. With the exception of some preparedness training conducted by the Iraq Red Crescent Society, non-governmental agencies and the civil defense, risks from other hazardous episodes receive scant or no attention until they come into contact with urban or rural residents. The National Development Strategy is not complimented by a National Disaster Management Plan that would provide a proactive methodology for safeguarding the impact of national investments in development through preparedness, mitigation and early warning systems for rapid and slow onset disasters as well as creating new synergistic alliances among all disaster management stakeholders that will strengthen emergency response mechanisms.

10. Responses to catastrophic events rely on the assets and manpower of the central and provincial government and with assistance from non-governmental agencies and international donors. Civil services institutions have professed that inadequate fiscal resources and manpower are the primary constraints that impede their disaster response capacity in addition to a reservation to align themselves with government systems. However, limited individual organizational capacity, access to professional equipment and training and the absence of a central authority entrusted to create a strategic plan among all stakeholders, including non-governmental organizations and civil society also greatly contribute to weaken disaster management systems.

11. At the Central Government level, several institutions have been created to respond to disaster episodes: the National Operations Center, (NOC) has established capacities to respond to acts of violence in addition to presenting the Office of the Prime Minister with information pertaining to risk levels to acts of terrorism. The leadership in the NOC is seeking to include natural disasters into its mandate given the lessening threat to terrorist action in Iraq.¹ The Crisis Action Cell, established in November 2006, was composed of the National Security Advisor, Ministers of Defence and Interior and the Prime Minister's Chief of Staff. The CAC provided national-level crisis management tasked by the National Security Council and the Prime Minister. It had the authority to coordinate with all the line Ministries². The Coordination and Command Crisis Structure, reporting directly to the Prime Minister, comprises senior figures from the Ministry of Interior, Defence, Intelligence and the Counter Terrorism Bureau and line ministries are invited as required to provide specialist skills to an emergency.

The Inter-ministerial Committee on Disaster Management, comprising ten ministries including Defense, Interior, Environment, Planning and Development Cooperation, Communications, Health, Water Resources, Foreign Affairs, Science and Technology, State Ministry of National Security and the Secretariat General of the Council of Ministers, was formed in 2007 and has prepared a Concept Note for the creation of a National Center for Disaster Management. The Center would act as a permanent secretariat for disaster risk reduction initiatives i.e. research and studies, emergency planning, coordination of regional/provincial interventions, capacity building, media on advocacy and informational exchange, and a database for recording information on hazards, risks, vulnerability and responses to crisis episodes.

12. The Consultant, after discussion with disaster management stakeholders interviewed in Iraq, recommends the following interventions be considered by the Gol and the United Nations Country Team in Iraq:

(I) Disaster risks in Iraq are the primary responsibility of the Government of Iraq to protect its people, infrastructure and other natural assets from the impact of natural and all other hazards. Humanitarian crises may be due to planners' inability to anticipate potential hazards and to appreciate their significance, and to decision-makers' inability to reconcile competing demands for resources. The Gol needs to forestall potential disaster episodes by demonstrating a political will to adopt/adapt proactive mechanisms to develop a strategic and sustainable all-risk disaster management structure at the central, provincial/regional and community levels interlinked to the national development plan.

The Gol may consider the creation of a National Framework for Disaster Risk Reduction which is a multi-stakeholder process to strengthen partnerships across sectors and disciplines, as well as among civil society organizations, volunteer groups and the private sector. Multidisciplinary and multi-sectoral perspectives refer to conventional economic sectors and/or ministerial or departmental divisions within the public sector, such as agriculture, finance, health, education, and disaster management institutions and systems.

¹ As of mid-August 2009 terrorist attacks in Baghdad have been on the increase following the withdrawal of the Multi-National Forces-Iraq troops.

² The Crisis Action Cell is non-statutory body does not seem to be in effect

(II) The creation of an apex disaster preparedness and response authority, reporting to the Office of the Prime Minister, responsible for the development of an all-risk disaster management policy and appropriate legislation to empower central, regional and governorate level stakeholders to prepare a proactive and reactive strategy encompassing all aspects of planning for and responding to emergencies and disasters, including both pre-and post-event activities.

This authority shall be responsible for the provision of technical/fiscal support to regional and governorate authorities to create their disaster preparedness and response plans that shall form the National Disaster Plan for the nation. This agency should be an autonomous entity with staff reporting to the Prime Minister through prescribed channels. Options that could be explored are (a) the establishment of the National Center for Disaster Management as a new governmental entity as proposed by the Inter-ministerial Committee on Disaster Management or (b) consideration for the restructuring of the National Operations Center or the National Joint Operations Command, both well equipped institutions, to assume greater responsibilities in national level disaster preparedness, mitigation, early warning and response management³.

(III) Strengthening regional and governorate level coordination for disaster preparedness, mitigation and response by vesting responsibility to a dedicated, professional disaster management entity that would report to the regional government/Governor at the regional/governorate levels. The expansion of the Governorate Emergency Cell model is recommended with a linkage to the apex institution at the central government level for the provision of technical/fiscal support and the coordination of national assistance to redress both rapid and slow onset disasters.

(IV) Professional disaster management training should be offered to senior Government officials to recognize disaster preparedness as an effective link between emergency response, rehabilitation and development programs and strive to build disaster preparedness within all sectors of the National Development Plan (2010 – 2014).

The development of a professional cadre of trainers, through a certified training of trainers' course of instruction, is necessary to impart technical improvements in crisis first-responder skills. The provision of essential equipment and materials to compliment such training is an imperative.

(V) Provide fiscal, technical and human resources in support of vulnerability and capacity analyses and hazard assessments at the regional/governorate levels and in major cities where populations are currently residing in high-risk environments. In addition, establish international and regional linkages with disaster early warning and risk reduction institutions.

(VI) Raising awareness of the general public to the specific hazards arising in their environment is an essential component of community-based disaster preparedness programs, which have proven to be cost-efficient and effective methodologies to create more disaster resilient communities. Support community-based initiatives undertaken by civil society organizations to empower urban and rural communities to lower risks to natural and human induced hazards.

³ This refers to the institutional capabilities only whereas the legal status of these entities and reporting lines would have to be adjusted to assume the role of a proper National Center for Disaster Management.

The development of institutional and organizational capacity, within the public, private and civil society sectors, to impart a variety of training and advocacy messages to the general public and to staff with functional responsibilities for disaster preparedness, mitigation and response.

(VII) Creation of interactive forums on disaster management will enable decision-makers in public and private sectors access to new disaster reduction strategies and policies; allow researchers to discuss disaster risk management issues that shall interface with broader development agendas; develop systematic, comprehensive data on disaster management approaches to analyze disaster trends; and promote resolutions to potential crises through the creation of new political agendas, program, policies, resource allocations or the development of new institutional relationships.

(VIII) Move the issue of conflict and climate change higher up the political agenda of the GoI and international assistance agencies. New initiatives are needed to gain agreement on the importance of climate change adaptation, as per the United Nations Framework Convention on Climate Change (UNFCCC), the Global Environment Facility (GEF) and Intergovernmental Panel on Climate Change. The linkage of climate change and violent conflict addresses risk s like political instability, economic weakness, food insecurity and demographic changes of migration and urbanization.

(IX) The development of a National Disaster Emergency Fund⁴ and operational system that would accept voluntary contributions to be directed to public, private and civil society sector activities to reduce community disaster risks while creating sustainable, low-technological solutions to immediate concerns.

(X) The Common Country Assessment and the United Nations Development Assistance Framework offers an entry point for the United Nations Country Team in Iraq to make "...a contribution to developing measures and building capacity for crisis prevention and disaster preparedness; and where applicable to mitigation plans, post-conflict/natural disaster recovery and rehabilitation, and planning the transition from relief to development" and for establishing the necessary partnerships for this purpose.

(XI) The United Nations Country Team in Iraq should consider the development of a Disaster Management Team, chaired by the Resident Representative, to create a unified disaster preparedness and response strategy to support the GoI in the event of a catastrophic disaster.

⁴ The Federal Budget allocates each fiscal year an Emergency Fund under the disposal of the PM. For 2009, the Emergency Fund is ID 350 billion (about US\$ 297 million)

I. SITUATION ANALYSIS

Introduction

14. Recent decades have seen an alarming increase in the frequency of disaster occurrences each year and the magnitude of their social, economic and environmental impacts. The number and frequency of disasters is growing. According to Munich Re, economic losses from disasters in the 1990s totaled over US\$608 billion, greater than losses over the four previous decades combined. The Belgium-based Centre for Research on the Epidemiology of Disasters (CRED), found that there were 414 natural disasters in 2007, compared with an average of 394 for the period 2000-06. Experts agree that the number of disasters will increase as climate change and global warming generate more severe weather-related events.

15. Natural disasters around the world have killed two million people and affected five billion persons from 7,000 episodes during the period 1980 to 2004.⁵ The direct economic losses attributed to natural disasters during this period are estimated a US \$ 1 trillion. In the past decade alone, the occurrence of disasters caused by natural hazards and related environmental and technological disaster risks globally have increased threefold, with economic losses soaring to more than six times the losses incurred in the preceding decade.⁶

16. While natural and environmental hazards may confront any nation in the world, they disproportionately become disasters with devastating effects on nations that have not been well prepared. Recurrent natural hazards such as floods, drought, earthquake or seasonal storms can negate decades invested in pursuit of sustainable economic development and often lead to acute food insecurity and malnutrition, and aggravate shocks to financial, health, environmental and livelihoods.

17. The central link between hazards, disaster, conflict and economic development is vulnerability. Disaster risk management (DRM) is based on the premise that natural hazards do not necessarily lead to disaster, but may do so when they affect vulnerable populations. The concept of disaster risk reduction (DRR) highlights the connection between DRM, poverty reduction, and inclusive growth, as well as the linkage between vulnerability and natural hazards. An analysis of what transforms a natural event into a human and economic disaster shows that the development issues are the same as those that contribute to a nation's vulnerability.

18. Disaster risk reduction (DRR) strategies aim to minimize the effects of natural hazards such as earthquakes and cyclones on communities by reducing their vulnerability to loss of life and livelihoods, within a broad context of sustainable development. This may include protecting and diversifying livelihoods, for example through crop diversification as well as tackling chronic food insecurity. Tackling the causes of hazardous events is also crucial, for example reducing the likelihood of landslides through reforestation or ensuring appropriate cropping and water-use practices in drought-prone areas.

⁵ Center for Research on the Epidemiology of Disasters (CRED). University of Louvain, Belgium.

⁶ Munich Reassurance

19. Governments have recognized the significance of these trends. While working to ensure the most effective means of disaster management and specialist emergency services, they are increasingly adopting measures that address the economic necessities and growing social expectations of revising national disaster protection strategies. This has also been encouraged by more international resources drawn from both developmental and humanitarian interests, to support countries in their own efforts most suited to the particular conditions, needs and circumstances of disaster management and protection. The following table illustrates the paradigm shifts from relief and response to disaster risk management.

PARADIGM SHIFTS FROM RELIEF AND RESPONSE TO DISASTER RISK MANAGEMENT TABLE 1

Evolution of the Poverty Paradigm

Reducing poverty was seen more as supplementing growth with social spending. Poverty reduction was based on monetary measures alone. It was perceived as a function of the social welfare ministry to increase income

It was a relation between the external donors and beneficiaries. Funds were provided to individual projects not channeling them through the government.

It was then urged that if income is not the sum total of well being then lack of income cannot be the sum total of poverty. Development practitioners agreed that poverty was not about income but was multi dimensional.

Poverty reduction was then linked to national development programs focusing on making growth favorable for poor by targeting inequalities and emphasized empowering the poor.

Poverty is now measured in terms of human poverty indicators such as lack of access to resources necessary to sustain basic human capabilities.

Evolution of the Disaster Paradigm

Disasters were treated as one-off events responded to by governments and relief agencies

Improved preparedness (stockpiling of relief goods, better relief management etc.) among governments and relief agencies to “deliver relief”. This “contingency planning” approach certainly improved the efficiency of relief agencies but left a lot to be desired in terms of appropriateness and effectiveness of relief.

A more technocratic paradigm came into existence which believed that the only way to deal with disasters was by public policy application of geophysical and engineering knowledge

From the realization that people’s vulnerability is a key factor determining the impact of disasters on them, “vulnerability” emerged as the key theme and more and more emphasis was laid on using “vulnerability analysis” as a tool in disaster management

In recent years, a more comprehensive approach called risk management has emerged. This approach has three distinct but inter-related components: hazard assessment; vulnerability analysis; and enhancement of management capacity.

20. Those affected by natural disasters, including those displaced by such events, remain, as residents and most often citizens of the country they are living in, entitled to the protection of all guarantees of international human rights and, if applicable, humanitarian law subscribed to by the State concerned or applicable as customary international law. They do not lose, as a consequence of their being displaced or otherwise affected by the disaster, the rights of the population at large. At the same time, they have specific needs distinct from those of the non-affected population which call for specific assistance and protection measures.

21. Currently there are processes trying to address additional State responsibilities in the context of natural disaster relief, which run parallel to the immediate need of the humanitarian agencies for guidance. Such as disasters that have set on slowly, such as drought, or so-called “man-made” or human induced disasters.

22. The primary duty and responsibility to provide such protection and assistance lies with the national authorities of the affected countries. Those affected by natural disasters have the right to request and receive such protection and assistance from their governments. The main duty bearers, thus, are the governments and administrations of the countries concerned.

23. Taken together the foregoing lessons underline the combined relevance of environmental protection, poverty reduction, sustainable development and contemporary disaster risk reduction are all intimately connected in addressing the risks of the 21st century. This equally illustrates the need, as well as the opportunities for any disaster management strategy necessarily to seek and engage multiple partners for the various abilities that each possesses. The needs of growing societies and the rising expectations of their populations have grown beyond the former acceptance of valuing skilled disaster services only after a disaster has happened, especially as there are now numerous examples and approaches by which personal livelihoods can be made more resilient and physical assets can be better protected in advance.

24. The need to systematically reduce the increased impact of disasters is gaining recognition and commitment among Governments worldwide, especially after the December 2004 Indian Ocean tsunami disaster. However, disaster risk reduction (DRR) is a crosscutting and complex development issue. It requires political and legal commitment, public understanding, scientific knowledge, careful development planning, responsible enforcement of policies and legislation, people-centered early warning systems, and effective disaster preparedness and response mechanisms. A multi stakeholder National Platform for DRR can help provide and mobilize knowledge, skills and resources required for mainstreaming DRR into development policies, planning and programmes. What is a National Platform for DRR? In short, it can be defined as a multi-stakeholder national mechanism that serves as an advocate of DRR at different levels. It provides coordination, analysis and advice on areas of priority requiring concerted action. But for a National Platform for DRR to succeed, it should be based on a number of major principles, the cardinal one being national ownership and leadership of the DRR process. The present Guidelines for National Platforms for Disaster Risk Reduction seek to provide some experience-based general orientation on how to form, run and sustain National Platforms for DRR.

25. The world is witnessing a rapidly increasing impact of disasters caused by the combination of natural hazards and vulnerability, which constantly threatens people’s lives and livelihoods. These disasters also derail socioeconomic progress, and put millions of people into

dire poverty or make the poor even poorer. The need to systematically reduce the increased impact is steadily gaining recognition and commitment among public and private decision makers. To address the complexity of DRR, Member States of the UN Economic and Social Council, through its Resolution 1999/63, called on all Governments to maintain and strengthen established national multi-sectoral platforms for disaster reduction in order to achieve sustainable development goals and objectives, with the full utilization of scientific and technical means.

26. To pursue the strengthening of established national multi-sectoral platforms, based on gains made in DRR during the 1990-1999 International Decade on Natural Disaster Reduction (IDNDR), the Member States of the United Nations adopted the International Strategy for Disaster Reduction (ISDR) and established the UN/ISDR secretariat in 2000. This strategy called for interdisciplinary involvement to coordinate, guide and implement DRR with development partners working in close coordination with disaster management institutions.

27. Disaster risk reduction (DRR) is the conceptual framework of elements considered with the purpose of minimizing vulnerabilities and disaster risks throughout a society in order to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, and facilitate sustainable development. DRR is a cross-cutting and development issue. The process of DRR is a complex one consisting of political, technical, participatory and resource mobilization components. Therefore, DRR requires collective wisdom and efforts from national policy and decision makers from various government sectors, and representatives from civil society, including academic institutions, the private sector and the media.

28. As a major recommendation of the IDNDR, the newly established ISDR dropped the adjective “natural” in front of disasters, based on the increased understanding that disasters, which are the consequence of the combination of natural hazards with social and human vulnerability, are thus not “natural”.

29. In response, building on existing multi-stakeholder national committees previously established during the IDNDR, the UN/ISDR secretariat has promoted, together with other UN agencies³, the identification of needs for the establishment or further development of National Platforms for DRR. The focus of this effort is to advocate the importance and necessity of DRR and mainstream DRR into development policies, planning and programmes in order to achieve sustainable development. Subsequently, at the 2005 World Conference of Disaster Reduction, 168 Governments adopted the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA). One of the HFA’s strategic goals is “the development and strengthening of institutions, mechanisms and capacities to build resilience to hazards”. It calls on all nations to “support the creation and strengthening of national integrated mechanisms such as multi-sectoral⁴ National Platforms” to ensure that DRR is a national and a local priority. The HFA also encourages all States to designate a national mechanism for the coordination of and follow-up to the HFA, to communicate DRR information and progress to the UN/ISDR secretariat.

30. The following table illustrates the attributes of disaster risk reduction in concert with the elements of sound practices by a nation ready to engage in the Hyogo Framework for Action to build resilience to disasters.

WHAT DOES DISASTER RISK REDUCTION LOOK LIKE⁷
TABLE 2

ATTRIBUTES OF DISASTER RISK REDUCTION	
DISASTER RISK REDUCTION CATEGORIES	ELEMENTS OF SOUND PRACTICE
Sustainable institutional structures and good governance.	<ul style="list-style-type: none"> • Reform of national disaster management agencies and establishment of stronger coordination mechanisms. • Linking community-led experience with national-level policy making. • Improved environmental management and control mechanisms. • Efforts to reduce corruption to strengthen building codes and land use. • Developing macroeconomic policies and regulatory reforms to produce an enabling environment conducive to strong public-private participation.
Risk identification, monitoring, early warning and public awareness.	<ul style="list-style-type: none"> • Comprehensive multi-hazard risk, vulnerability, and capacity assessments at all levels. • Management and dissemination of knowledge on risk. • Effective early warning systems for threats including famine, drought, riverine floods and severe storms. • Communication and awareness raising about hazard threats.
Technical and physical risk mitigation.	<ul style="list-style-type: none"> • Improved design and construction of physical infrastructure, particularly critical infrastructure (transport networks, communication systems, energy networks etc.) and key public facilities (schools, hospitals etc.). • Improved maintenance and repair of physical infrastructure. • Well structured land use, planning, and zoning systems. • Appropriate structural interventions to reduce risk (e.g. maintenance of wetlands in flood plains). • Improved use of climate data to encourage more effective water management, agricultural planning, and health care.
Building resilience, promoting innovation, knowledge and education.	<ul style="list-style-type: none"> • “Disaster proofing” livelihoods to make them more resilient in disaster-prone areas. • Use of science and technology to develop appropriate livelihoods for populations at risk. • Promotion of risk awareness through education at all levels. • Improving information on the likely impacts of climate change.
Risk sharing and risk transfer.	<ul style="list-style-type: none"> • Use of insurance and reinsurance instruments (e.g. crop insurance for farmers). • Establishment of calamity funds for use in times of crisis. • Use of safety nets for the most vulnerable (e.g. microcredit and cash transfers).
Preparedness, effective response and sustainable recovery	<ul style="list-style-type: none"> • Community-level disaster preparedness incorporating a focus on safe behavior and practices. • Well-resources and prepared response systems with a focus on national and local capacity. • Ensuring recovery includes efforts to reduce underlying risk factors-including through engagement with decision makers and the public on future efforts to reduce disaster risks.

⁷ Source: Department for International Development. 2006. Reducing the Risk of Disasters – Helping to Achieve Sustainable Poverty Reduction in a Vulnerable World.

Disaster Management in Iraq

31. Iraq has begun a gradual movement from state of crisis to "... a mosaic of development gains and humanitarian gaps."⁸ The security and political context is now more encouraging than in the last three years. Prior to the recent decline in security IDPs and refugees have been returning to their homes, although still at a low rate, and social indicators slowly rising in the health, education and food security sectors. What has not changed is the absence of the paradigm shift in disaster management thinking in Iraq regarding the adoption of an all-risk disaster reduction system to replace their reactive disaster response operational mechanisms.

32. Given the security gains in 2008 and part of 2009 and the reduction of the external disaster response capacity provided by the withdrawal of the Multi-National Forces-Iraq from urban centers, there is need to set up a disaster management system within the GoI for preparedness planning and timely response to natural disasters and man-made disasters.

33. Iraq's institutional disaster management capacity is limited, both on the national and sub-national levels. At the Central Government level, several institutions have been created to respond to disaster episodes: the National Operations Center, (NOC) has established capacities to respond to acts of violence in addition to presenting the Office of the Prime Minister with information pertaining to risk levels to acts of terrorism. The leadership in the NOC is seeking to include natural disasters into its mandate given a lessening threat to terrorist action in Iraq. The Crisis Action Cell, established in November 2006, was composed of the National Security Advisor, Ministers of Defence and Interior and the Prime Minister's Chief of Staff. The CAC provided national-level crisis management tasked by the National Security Council and the Prime Minister. It had authority to coordinate with all the line Ministries. It seems that the CAC however is no longer in effect. The Coordination and Command Crisis Structure, reporting directly to the Prime Minister, comprises senior figures from the Ministry of Interior, Ministry of Defence, National Intelligence Service and the Counter Terrorism Bureau and line ministries are invited as required to provide specialist skills to an emergency.

34. The Inter-ministerial Committee on Disaster Management, comprising ten ministries including Defense, Interior, Environment, Planning and Development Cooperation, Communications, Health, Water Resources, Foreign Affairs, Science and Technology, State Ministry of National Security and the Secretariat General of the Council of Ministers, was formed in 2007 and has prepared a Concept Note⁹ for the creation of a National Center for Disaster Management. The Center would act as a permanent Secretariat for disaster risk reduction initiatives i.e. research and studies, emergency planning, coordination of regional/provincial interventions, capacity building, media on advocacy and informational exchange, and a database for recording information on hazards, risks, vulnerability and responses to crisis episodes.

35. It seems that almost all of the limited disaster response capacity of the GoI lies in the Directorate General of Civil Defense of the Ministry of Interior and the Directorate General of Public Health and Primary Health Care. In nine of the 18 governorates in Iraq, a Governorate Emergency Cell, chaired by the Governor, operates a response function with members of the local branches of line ministries addressing local crises in accordance to their respective

⁸ Iraq and The Region:2009 Consolidated Appeal. The UN Common Action Programme.

⁹ The Concept Note is being championed by the Minister of Science and Technology.

aptitudes and resources. Also linked to the Governorate Emergency Cells is Protection and Assistance Cell, supported by the Danish Refugee Council/UNHCR that provides legal assistance to returning refugees and internally displaced families.

36. Iraq lacks a comprehensive and coordinated disaster management system of risk management that includes a risk analysis based on an examination of hazards and the vulnerabilities and capacities of resident populations and the first responders charged to assist in times of emergencies. The United Nations, the International Committee of the Red Cross and national/international non-governmental agencies have provided ad-hoc support to the Gol in order to respond to emergencies. The need for stronger technical and infrastructural capabilities within the Gol and other disaster risk reduction stakeholders is an imperative to plan for, mitigate and respond to future crises in Iraq.

37. It is against this backdrop that the Gol requested the assistance from the United Nations Mission in Iraq to provide an expert mission to assess current disaster management capacities and recommend a course for the Gol to pursue in the development of a greater disaster resilient capacity to safeguard lives, livelihoods and development assets.

Hazards, Vulnerabilities and Capacities

38. Iraq is exposed to a range of natural and human induced disasters i.e. floods, epidemics (cholera and measles), sand storms, drought in the north and the southern part of the Mesopotamian Plain, desertification and soil salination of the fertile soils. Some parts in eastern Iraq lying parallel to Zagros Seismic Belt and in central/western Iraq are earthquake prone. Also Iraq has and continues to experience internal conflict whose effect on the well-being of the population are considerable including the internal displacement of over 2 million Iraqis. Man – made disasters include among others depleted uranium, sulphur dioxide release due to native sulphur stockpiles, fire and surface water contamination by oil spills due to sabotage of oil pipelines and unexploded ordnance and land mines that threaten both the safety of Iraqi citizens and impedes the productive usage of arable lands. These episodes have left many essential services dysfunctional and citizens vulnerable to otherwise manageable disasters and large numbers of citizens exposed to radiation and other pollutants.

39. The tables describe natural disasters sorted by people affected, killed and economic damage:

TOP TEN NATURAL DISASTERS IN IRAQ FOR THE PERIOD 1900 TO 2009 SORTED BY THE NUMBER OF PEOPLE AFFECTED, KILLED AND ECONOMIC DAMAGE¹⁰

Tables 3

DISASTER	DATE	TOTAL POPULATION AFFECTED
DROUGHT	1969	500,000
FLOOD	11 MAY 1967	260,000
FLOOD	MAY 1968	150,000
FLOOD	4 FEBRUARY 2006	41,890
FLOOD	5 NOVEMBER 2006	18,000
FLOOD	10 JANUARY 2004	8,000

¹⁰ SOURCE: CRED: Center for Research on the Epidemiology of Disasters, Universite' Catholique de Louvain, Belgium

EPIDEMIC	14 AUGUST 2007	4,696
EPIDEMIC	7 AUGUST 2008	892
FLOOD	27 JULY 1991	600
DISASTER	DATE	PERSONS KILLED
EPIDEMIC	14 AUGUST 2007	24
EARTHQUAKE	27 JULY 1991	20
FLOOD	5 NOVEMBER 2006	20
EPIDEMIC	7 AUGUST 2008	11
FLOOD	10 SEPTEMBER 2008	4
EPIDEMIC	1 JANUARY 2006	2
EPIDEMIC	AUGUST 1978	1

DISASTER	DATE	DAMAGE IN (000'S US \$)
FLOOD	MARCH 1954	50,000
FLOOD	11 MAY 1967	5,000
FLOOD	MAY 1968	3,000
DROUGHT	1969	2,000
FLOOD	4 February 2006	1,300

40. The following tables represent the technological disasters in Iraq sorted by the number of people killed and affected:

TOP TEN TECHNOLOGICAL DISASTERS IN IRAQ FOR THE PERIOD 1900 TO 2009
SORTED BY THE NUMBER OF PEOPLE AFFECTED AND KILLED¹¹

Tables 4

DISASTER	DATE	TOTAL POPULATION AFFECTED
INDUSTRIAL ACCIDENT (1)	1972	6,071
MISCELLANEOUS ACCIDENT (2)	31 AUGUST 2005	826
INDUSTRIAL ACCIDENT (3)	29 AUGUST 2006	94
MISCELLANEOUS ACCIDENT (4)	23 JANUARY 2005	75
TRANSPORT ACCIDENT (5)	11 MARCH 2008	29
TRANSPORT ACCIDENT (6)	SEPTEMBER 2000	7
TRANSPORT ACCIDENT (7)	9 JANUARY 2007	1

¹¹ SOURCE: CRED: Center for Research on the Epidemiology of Disasters, Universite' Catholique de Louvain, Belgium

DISASTER	DATE	TOTAL NUMBER KILLED
MISCELLANEOUS ACCIDENT	31 AUGUST 2005	1,199
INDUSTRIAL ACCIDENT	17 AUGUST 1989	700
INDUSTRIAL ACCIDENT	1972	459
INDUSTRIAL ACCIDENT	29 AUGUST 2006	74
TRANSPORT ACCIDENT	1 NOVEMBER 1995	73
MISCELLANEOUS ACCIDENT	14 AUGUST 1980	59
TRANSPORT ACCIDENT	10 NOVEMBER 1989	50
TRANSPORT ACCIDENT	30 NOVEMBER 2004	40
TRANSPORT ACCIDENT	9 JANUARY 2007	34
TRANSPORT ACCIDENT	9 DECEMBER 1985	26

41. In order for a disaster to be entered into the CRED database at least one of the following criteria has to be fulfilled: (a) 10 or more people reported killed, (b) 100 people reported affected, (c) a call for international assistance or a (d) a declaration of a state of emergency. Thus, many localized natural disaster episodes have not been included i.e. the number of people affected by famine during the period between 1990 and 2003 was estimated to be between 1 to 3 million persons.

Earthquake Risk

42. Tectonically Iraq is located in a relatively active seismic zone at the northeastern boundaries of the Arabian Plate. The corresponding Zagros-Tauro Belts are linked to the Arabian plate into the Iranian and Anatolian Plates. The seismic history reveals annual seismic activity of different strengths. The north and northeastern zones depicts the highest seismic activity with strong diminution in the south and southwestern part of the country.¹²

43. Iraq has a well-documented history of seismic activity which follows a well-defined pattern of the major tectonic elements of the country. An earthquake catalogue was prepared for Iraq for the period 1900-1988 which contains 1031 historical events ranging in mb magnitude between 3.7 to 7.4 on Richter Scale. An analysis was carried out to determine the various magnitudes, focal depths and spatial and time distributions of earthquakes. Seismic hazard investigations were also carried out and seismic zoning map constructed in addition to the seismicity index map, the seismic source map, the iso-acceleration map and the seismic regionalization map.

44. The forces, through which the geological structure along the Arabian Plate boundary in Eastern and Northeastern Iraq are evolving, are still active and causing stress-strain

¹² Earthquake Hazards Considerations for Iraq. Sahil A. Alsinawi, Zia O. Al-Qasrani. Fourth International Conference of Earthquake Engineering and Seismology, May 12-14, 2003, Tehran, Islamic Republic of Iran.

accumulation, deformation and, in turn, producing higher probabilities of earthquake activity.¹³ Thus, relatively large destructive earthquakes cannot be ruled out in this region. Additional studies will be useful in more advanced approaches and to pave the path for the probabilistic assessment of seismic hazard in the region.

45. The previous regime and the embargo placed upon Iraq have affected the flow of scientific exchange of information at the regional and global levels. The State Company of Geological Survey and Mining has prepared extensive hazard maps with explanatory texts in the late 1980's and the Iraq Meteorological and Seismological Organization had been collecting extensive climatic data up to 2003 when some of its 20-25 sentinel sites for data collection were destroyed. From the beginning of the previous regime, no scientific data on natural disasters were recorded in one central location. Rather individual scientists have been documenting personal records that may be found in government archives by disaster episode, extent of damage and death/injuries.

46. Like the threat posed by earthquakes, the Gol equates the small number of fatalities to other hazards such as floods, landslides and drought with their economic impact on the nations. Further, Iraq is well behind in climate change monitoring and addressing other environmental concerns such as toxic pollutants. The Gol policy makers may acknowledge the presence of a specific threat but are may be unaware of the severity of the specific environmental threat to lives, livelihoods and governmental development assets.

Drought Risk

47. The relationship between disaster risk and poverty is clearly visible in the case of drought, one of the most widespread and frequently occurring hazards. Globally, the further one moves down the economic ladder, increasing proportions of the moderately poor, poor, and extremely poor live in the most drought prone areas. UNDP's 2007/2008 Human Development Report, *Fighting Climate Change: Human Solidarity in a Divided World*, reported that the overwhelming majority of people affected by climate-related disasters live in developing countries. Between 2000 and 2004, on average 1 in 19 people living in a developing country was affected by a disaster involving a hydro-meteorological hazard. The corresponding figure for those living in countries belonging to the Organization for Economic Cooperation and Development was 1 in 1,500. UNDP's 2004 report, *Reducing Disaster Risk: A Challenge for Development*, documented that disaster-related deaths occur disproportionately in low and medium human development countries.

48. Historically, only 50 to 60 percent of Iraq's arable land, 11.1 million hectares, has been under cultivation. Of that total, 4.4 million hectares are classified highly suitable, 4.7 million hectare moderately suitable and the remaining 2 million hectares as less than suitable. About 50 percent of the land suitable for cultivation is irrigable and the remaining 50 percent is rain fed.¹⁴

49. The Governorates of Dahuk, Erbil and Sulaymaniah represent 40 percent of the rain fed subsector with Ninawa, Kirkuk and Salah Al Din completing the rain fed area dependent on a

¹³ Probabilistic Seismic Hazard Assessment for Iraq Using Complete Earthquake Catalogue Files. A.S. Ameer, M.L. Sharma, H.R. Wason, S.A. Alsinawi. Journal of Pure and Applied Geophysics. April 6, 2005

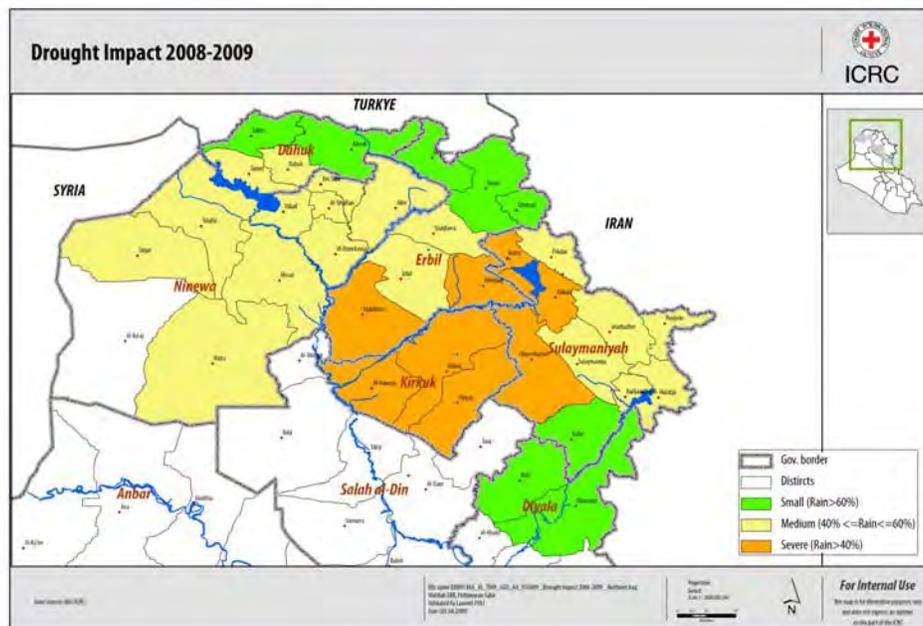
¹⁴ Source: FAO drought report 2008.

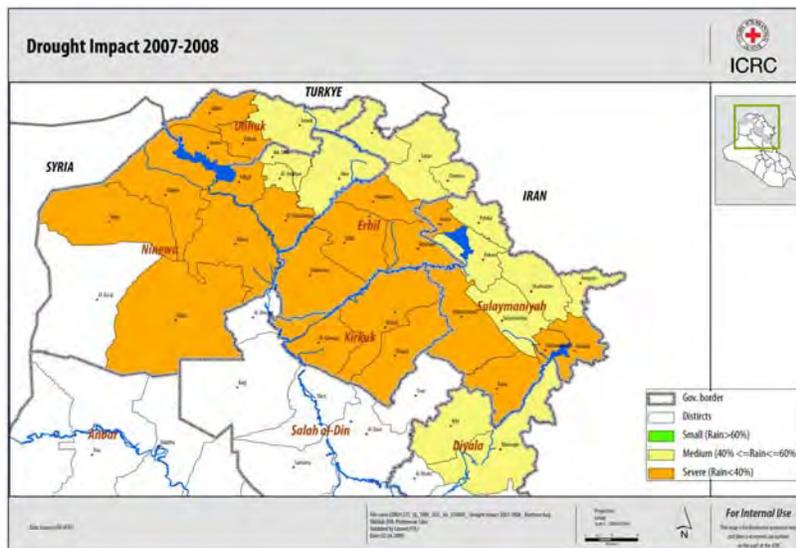
winter growing season extending from September/October to April/May with an average precipitation of from 350 mm to 1100 mm. The rain fed farming systems are essentially similar: continuous wheat with fertilizer applications juxtaposed with a barley/fallow rotation which does not employ fertilizer use but may include chickpea once in three to four years.

50. Located in the center and south of the country is the irrigated subsector which accounts for 70 percent of domestic agricultural production. Irrigated crops are produced along Tigris and Euphrates Rivers and their tributaries and branches from Baghdad to Basra, which represents 40 percent of the arable land in Iraq. Only 4-5 percent of irrigated landholdings are using groundwater reserves or aquifers.

51. In Iraq, rain fed and irrigated agriculture is conducted within a land-tenure system consisting of small-scale owner/occupiers, limited large-scale lease-holding farming companies, and individual growers and share-croppers.

52. As shown in the following two maps prepared by the International Committee for the Red Cross, the drought of 2007-2009 has been severe in several governorates where rainfall has been less than 40% of usual expectations.





53. Over the last two decades (1988-2007), 76% of all disaster events were hydrological, meteorological or climatological in nature; accounting for approximately 45% of the deaths and 80% of the economic losses caused by natural hazards. The likelihood of increased weather extremes in future therefore gives great concern that the number or scale of weather-related disasters will also increase.¹⁵ While there is more rain now than in 2008, the situation is still critical with rainfall 50 percent below normal. There has been no statement from the GoI regarding the current conditions and the United Nations is currently seeking to engage in a humanitarian response in the worst affected areas including Kirkuk Governorate, Makhmour, Koya, Chamchamal, and Rania that have suffered from continual crop failures.

54. FAO is the primary UN partner to the Ministry of Agriculture and the Ministry of Water Resources on long-term development issues and capacity development. FAO is seeking \$ 5 million from the Iraq Trust Fund for a drought mitigation project with the two ministries to: (a) Develop a system of drought indicators to be periodically measured by staff of two ministries, (b) Train ministry staff on the preparedness and mitigation measures to alleviate the effects of drought in Iraq, (c) Train farmers on the efficient use of water, and (d) Provide subsidized inputs to farmers severely affected by the drought. In concert with UNICEF, a drought consortium has been formulated to address the root causes of the drought. FAO is proposing to invest \$ 10 million into drought mitigation and response projects, including support for the MoA drought early warning activities in addition to their annual crop assessments

55. In terms of responding to drought, historically, the GoI would offer seed, fertilizer, water (tanked into farms), agricultural equipment, crop loss settlements. However, little effort was undertaken to create mitigating measures to counter the effects of cyclical drought episodes. No plan was set in place, with only ad hoc measures being initiated. “We need a strong policy to ensure that the amount of agricultural land, affected by drought, does not turn into a desert”. (like in the Kordofan region of Sudan).¹⁶ During the 2007/2008 season, FAO estimated that

¹⁵ *Disaster Risk Reduction Strategies and Risk Management Practices: Critical Elements for Adaptation to Climate Change*. The Informal Taskforce on climate change of the Inter-Agency Standing Committee and The International Strategy for Disaster Reduction. 11 November 2008.

¹⁶ Interview by the Consultant with a former Deputy Minister of the Ministry of Agriculture and the Ministry

wheat and barley production, the two main strategic crops in Iraq, dropped by a minimum of 35 and 55 percent.

56. At the regional/governorate levels, natural disasters in the past were addressed by the Governor's forming disaster response committees to define appropriate action to deliver humanitarian relief and later support any reconstruction or rehabilitation initiatives. Currently the KRG has no plans for responding to disasters while some governorates have established Emergency Response Cells. The National Coordination Center in Iraq mentioned developing a system for collecting early warning indicator data weekly from all governorates and positing it to their Emergency Net website for circulation to all civil society organization members.

57. In 2006 the World Food Programme security and vulnerability analysis stated that nearly 70 percent of the Iraqi food-insecure population resided in rural communities, many were engaged in part-time agricultural activities either as marginal farmers, non-skilled laborers or agricultural wage earners.¹⁷

58. In mid-June 2009 the Tal A'bta Nahiya Council led by their chairman, painted a very bleak picture of the worsening drought. Here is an extract from a drought situation report,¹⁸ considered indicative of the rest of western Ninewa.

The town of Talabtha is now referred to as a "disaster city" in dire need of assistance. Of the 150 villagers in the area, nearly half are virtually uninhabitable due to drifting sands. The area is home to 43,500 people. Other than the 200 employed as civil servants, almost everyone is dependent on agriculture and livestock for their livelihood. The drought has left most "jobless" as a result. Many people have left to Mosul, Kirkuk and Tikrit in search of employment.

All villages are without water and tankers currently only provide 1 cubic meter per family every 15 days. Coping mechanisms are now exhausted and people are fighting for limited water resources when the water tankers arrive in their villages. The drought is ripping communities apart according to the Chairman. There are cases of gastrointestinal illnesses from drinking unpurified water and unconfirmed reports of deaths due to respiratory problems attributed to the drought and inadequate basic services.

It was stressed that the communities do not need more wells. Those that have been constructed recently are simply not operating, and have not always been the result of community consultation. Instead, in the minds of the people in Talabtha, water tankering is their only immediate need until the next planting season.

of Water Resources.

¹⁷ World Food Programme/Government of Iraq. 2006, Food Security and Vulnerability Analysis
11UNAMI-HRDU FO Jake Morland, Note for the File. Ninewa Drought 22 June 2009

59. According to the Dean of Agriculture at Mosul University, farmers have exhausted their coping mechanisms and most are now unable to afford the seed for the 2009/10 crop. This is compounded by a continuous struggle to operate in a free-market system. If they're unable to plant their barley in October, this will lead to an even worse situation in 2010, even with drought subsidies. Aside from the emergency needs, there is a long-term requirement for vocational training in more drought resistant methods of farming i.e. for example: zero-tilling as opposed to disc sowing techniques. The people affected by this drought in the low rainfall areas are not unaccustomed to drought (they are desert people). However, the severity and duration of this drought is unprecedented and has exhausted even the most experienced farmers. It raises many questions about the longer-term future of agriculture in western Ninewa as Iraq invariably deals with the affects of global warming.

Mosul Dam Risk

60 Mosul dam, located on the Tigris River in northern Iraq was completed in June 1984, is the largest dam in Iraq and the fourth largest in the Middle East. The dam function as flood control from water flow from Turkey and serves the irrigation and hydro-electrical power generation needs of 9.3 million people living along the Tigris River valley from Mosul to Baghdad. The main dam comprises a 113 meter high, 3.4 kilometer long zoned earthen fill embankment with concrete reinforcement. The embankment contains graded filters on the upstream and downstream side of the central core with an inclined chimney and blanket drain.

61. The foundation geology of the dam comprises of a layered sequence of rocks including a calcium carbonate mudstone, chalky limestone, gypsum and anhydrite rocks below the dam which is cause for concern for the development of cavities within the gypsum and anhydrite layers. Foundation concerns were not addressed at the time of construction and a grouting curtain closure was not achieved prior to the commencement of filling the reservoir.¹⁹

62. From 1988 to date significant voids continue to be located within the foundation requiring large volumes of cement-based grout. The dissolution and erosion of gypsum by water seeping under the dam is believed to be the main cause of the development of voids requiring continuous grouting. A report presented at the 1991 International Council of Large Dams stated that dissolution intensity at the Mosul Dam ranged from 42 to 80 tons per day. This process coupled with the karstification of limestone and the dissolution of evaporitic rocks represents the serious foundation condition under Mosul Dam.

63. The GoI commenced a remedial program in 1988 comprising the following elements: (a) Continuous maintenance grouting, interrupted during the February-June 2003, The annual cost of grouting was justified due to the risk of lives and assets lost in a total failure of the dam. (b) The construction of the Badush Dam stopped in 2003 when only 40 percent completed and the viability examination for the construction of a 200 meter cutoff diaphragm wall in 2008.

64. Reports from the US Army Corps of Engineers have since May 2007 presented their concern of a catastrophic failure of the Mosul Dam to the GoI. The Swiss Consultants responsible for the Mosul Dam construction prepared a series of 13 disaster scenarios to

¹⁹ Concept Note: An Emergency Management Plan for the Potential Risk of Failure of Mosul Dam. UNDP to the Iraq trust Fund.

assess the effects of a partial to complete dam failure. The Board of Experts of the U.S. Army Corps of Engineers reviewed these scenarios and determined that a total failure would send a wave measuring between 23.2 -24.2 meters in depth would strike Mosul city within three hours and sweep across hundreds of small towns and villages en route to Baghdad. The loss of basic services along the Tigris River valley will be affected in addition to uncountable damage to roads and bridges, railways, power stations and transmission networks, industrial plants, farms and archaeological and historic sites.

65. Spokespersons from the Gol and the Ministry of Water Resources have refuted the reports of the US Government agencies as being inaccurate and totally untrue. The Consultant has queried the danger posed by the Mosul Dam to senior Gol officials and none have sought to diminish the seriousness of the threat – but rather emphasized the necessity to avert a general panic among the resident population. A generic emergency management plan has been prepared by the Gol to respond to this type of crisis. However, in the absence of a well developed and understood emergency strategy by the potential victims of such an event, the risk to approximately 9.3 million people shall remain high.

Environmental and population vulnerability risk

66. It is estimated that Iraq has several thousand contaminated sites resulting from a combination of general industrial activities, military activities, post-conflict damage and looting. Many of the sites are derelict and open to public access. They contain substantial quantities of hazardous waste and present a threat to human health and to the environment.²⁰

67. The importance of hazardous waste and land contamination issues on a particular site is strongly linked to its surroundings and in particular to the vulnerability of the local natural environment and population. Assessing these factors on a national scale can help to identify important areas and topics for assessment. For the natural environment, the indicators of importance are biodiversity and sensitivity to degradation. In general, the industrial areas in Iraq are sited in heavily developed regions of low biodiversity and sensitivity. Biodiversity is particularly low in the central plain and the Baghdad region due to the history of sustained agricultural activity and the population density in the riverine areas.

68. The most significant environmental receptors – people or environments – are the Tigris and Euphrates river systems and underground water aquifers. In the south of Iraq the most important areas are the Mesopotamian marshes, riparian zones, the estuarine Shatt Al Arab and the coastal mudflats. For the population, the pattern of land use in Iraq indicates that the human health issues for contaminated land and hazardous waste are similar to those observed worldwide. Potential pathways to exposure from toxic chemicals on such sites include direct contact (site workers and trespassers), blown dust and drinking water. The most important sources of drinking water are the Tigris and Euphrates river systems, with all of the large – scale municipal supply river water intakes on both rivers and their tributaries. Much of the developed central plain has saline or polluted groundwater which prevents its use. Shallow village wells are however still widely used in rural areas, even if saline.

²⁰ Source: UNEP 2005 Assessment of "Hot Spot" in Iraq.

69. An issue particular to Iraq is the continued looting and lack of security on many derelict and abandoned industrial sites. This implies that the risk to the public from direct contact with hazardous chemicals and wastes left on such sites is particularly high. Based on this broad assessment of vulnerability to contaminated land in Iraq, human health risks appear to be the predominant issue. The vulnerability of the rivers and groundwater to pollution is a critical and joint human health/environmental concern. Other environmental risks, though far from negligible, are of less concern.

70. The issues of hazardous waste management and contaminated land are commonly linked in two ways: (a) Poor management of hazardous materials and wastes, e.g. by the dumping of wastes on site, is a common cause of land contamination; and (b) Remediation of contaminated land commonly results in the generation of hazardous wastes, which then require proper management including an appropriate treatment or disposal route. In the case of Iraq, a third link is apparent. Previously sound sites have been extensively damaged by looting and, in the process, the chemicals previously stored on site have been dumped on site, thereby creating hazardous waste and initiating land contamination. From the evidence available, it appears that hazardous waste management in Iraqi industry was particularly poor, with many industries disposing of waste on site in an uncontrolled manner. The predominance of large, state-owned industries and military priorities meant that external accountability for waste management was limited. In the Al Qaa Qaa explosives manufacturing site, for example, flammable wastes were burned in the open, non-flammable wastes were dumped on site and liquid wastes were dumped into large unlined evaporation ponds.

With respect to hazardous waste treatment and disposal, at present there is no national or regional facility. The most common solution for major facilities such as refineries, mines or factory complexes is unlined pits located on site.

71. Military targeting of industrial sites typically produces severe, localized chemical contamination, while the associated secondary explosions, chemical releases and fires can result in high levels of air pollution in the short term. Given the recent history of Iraq, conflict-related chemical contamination is potentially a significant issue.

72. The decline of many industries has undoubtedly resulted in improvements in local environmental conditions. The widespread closure of industrial plants has resulted in a large-scale reduction in the ongoing pollution load to air, water and soil. The generation of process-based wastes has largely ceased, although in many cases, residual material may remain in the plant or its surroundings.

73. The physical state of industrial plants in general throughout Iraq depends on whether the management and workforce have managed to maintain security on site to prevent looting from March 2003 onwards. In the great majority of cases, this has not been possible and the sites have been looted in varying degrees by individuals and organized criminal elements. In the most extreme cases, buildings were completely gutted of all equipment, goods and fittings, and much of what was left was smashed or burned. Sustained looting on some sites included the excavation and removal of underground cables and the demolition of buildings with heavy equipment to extract scrap metal. The majority of such sites remain unsecured, with open public access. The damage sustained to the industrial sites from looting cannot be underestimated.

74. Several examples known to UNEP illustrate the scale and severity of the issue and the resulting damage to the environment and human health. In the case of the Al Mishraq sulphur

complex, it caused a catastrophic sulphur fire (June 2003) resulting in the destruction of a 300,000 m³ stockpile, regional air pollution, crop destruction and several deaths.

The Al Qadissiya small arms manufacturing site was looted and burned, resulting in the open air dumping of several tons of pure cyanide salts. The looting of the Al Suwaira pesticides warehouse resulted in the theft (and assumed uncontrolled use) of over 70 tons of obsolete pesticides. Looting of the Tuwaitha nuclear research facility resulted in the theft of hundreds of drums containing radioactive uranium oxide³³. Recovery programmes initiated by US military, Greenpeace and others found that some containers were being used for domestic water storage. Theft of radioactive steel parts (parts from the former nuclear reactors) from the site resulted in uncontrolled distribution of radioactive material.²¹

75. Anecdotal evidence suggests that the environmental damage caused by post-conflict looting throughout Iraq has apparently exceeded the damage caused by excavations made to remove power cables for scrap. The looting of industrial sites presents a major risk to human health in itself, and this risk remains uncontrolled.

76. Sites contaminated with chemicals and wastes present a risk to the environment and human health until they are contained and cleaned up. However, the extent of the risk depends largely upon the state of the site, its surroundings and its future use. In the cases of facilities that recommence operations, site security will normally restrict access and so reduce the risk to the general public. The focus on operating sites is normally on site worker risks and management of process effluents. For derelict or abandoned sites, the key issues are the site setting and the likely future land use, if any. For example, a derelict site in a sparsely inhabited desert region presents a lower risk to human health compared with an equivalent site in an urban area next to a school and under consideration for housing redevelopment.

77. Given the current level of instability and rates of change in Iraq, it is premature to draw conclusions about the likely development strategy for Iraq and the implications for industrial sites. However, the recent histories of other countries that have experienced rapid economic decline and reconstruction may provide an indication of the likely overall direction for Iraq and the implications for development. For a range of reasons, it is considered highly unlikely that Iraq will return to its previous industrial policy. The previous, large-scale domestic arms industry has been formally shut down and is not expected to restart. Many other uneconomic industries will also probably not re-start. Mineral extraction industries may recover partially, if at all. The oil industry will probably be rebuilt and then exceed its historical limits with a focus (at least in the short term) on crude oil export and refining for the domestic market. The trend towards urbanization is expected to continue. Former agricultural areas may be rehabilitated and agricultural practices may be modernized, but water constraints will limit major expansions in cultivated areas.

78. The UNEP²² strategy proposed for the management of Iraq's contaminated sites was to prioritize efforts in relation to the likely real risks to human health and the environment. This strategy was implemented from the outset for site identification and screening. Anecdotal evidence indicates that contamination of industrial land and associated hazardous waste issues

²¹ Source: UNEP 2005 Assessment of "Hot Spot" in Iraq.

²² Source: UNEP 2005 Assessment of "Hot Spot" in Iraq.

are widespread in Iraq. The background of conflict in Iraq since 1980 has also contributed to the environmental problems. As Iraq is a relatively industrialized country, with tens of thousands of industrial sites, the issue is considered too large and costly to address in a uniform manner, i.e. by assessing and cleaning up each and every site.

79. International experience indicates that while a large percentage of industrial sites may have ground contamination or problems with hazardous waste management, only a very small fraction represent such an immediate and grave threat to human health or the environment that urgent action is warranted. To be most effective, efforts in Iraq should be focused on first identifying and addressing these most urgent cases. The risks associated with contaminated sites can vary dramatically according to a range of factors including:

- The chemical form and toxicological nature of the contamination and hazardous waste;
- The volumes and areas involved;
- The current use of the site and the extent of control over access to the chemicals of concern;
- The location and vulnerability of the people and environmentally important features surrounding the site.

Landmines and explosive remnants of war risks

80. Landmines, abandoned munitions and military equipment, unexploded ordnance and other explosive remnants of war (ERW) pose a hazard to people in more than 82 countries around the world have some form of widespread landmine contamination from past and ongoing conflicts. The Minister for Environment, Narmin Othman, recently described the explosive remnants of war, unexploded ordnance, landmines and pieces of tanks and military vehicles as "Iraq's biggest environmental problem."²³

81. In 2008, Iraq became State Party to the Ottawa Anti-Personnel Mine Ban Convention. Under the terms of the Convention, Iraq must clear all areas suspected to contain anti-personnel mines before February 2018. By joining the community of nations in this critical humanitarian covenant, the GoI has proven its firm commitment to mine action. However, the challenge of achieving the Convention's goals shall require a multi-dimensional approach to prevent further loss of life and to expand the natural resource development now blocked from expansion.

82. Available data from the 2004-2006 landmine survey of 13 of 18 governorates has shown that 4,000 suspected hazard sites comprising 1,730 square kilometers of land is contaminated and affecting the lives of 1.6 million people. Thus, the data suggests that Iraq is one of the most contaminated countries in the world. The humanitarian toll on the lives lost to landmines and ERWs, particularly children, and impact on health and education opportunities is matched with the economic losses caused by mined oil fields and agricultural land, disrupted communications and electric services. After years of conflict, Iraq faced a considerable challenge to restore itself to its former economic capacity.

83. The landmine study further revealed that self-demining was being conducted, particularly by communities in the Kurdistan Region for three reasons (a) predominantly to reduce casualty losses at the community level; (b) for economic necessity and lastly (c) by a small percentage

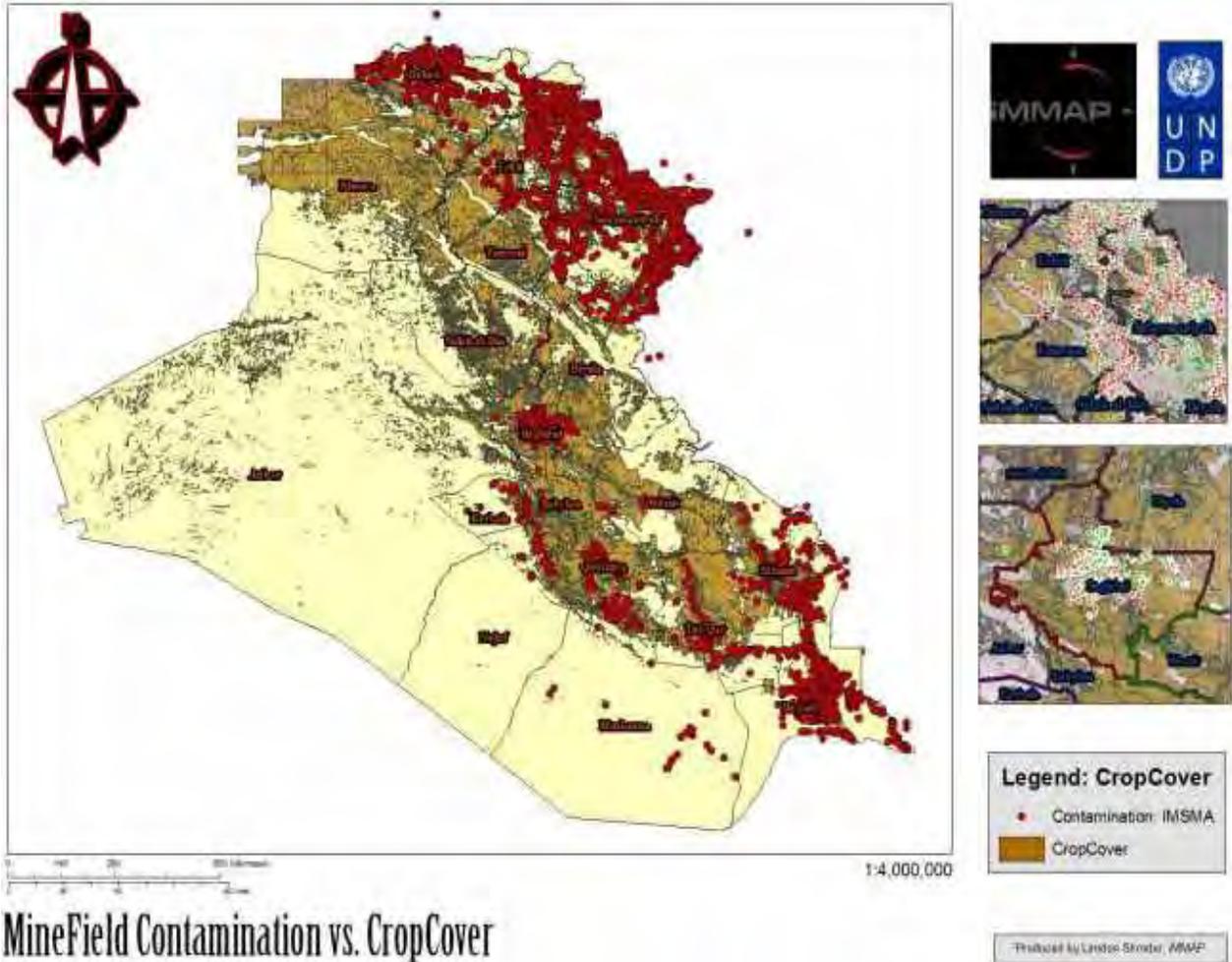
²³ IRAQ: Appeal for help to clear landmines. June 8, 2009. IRIN.

for the explosives found in the landmines. The security implications of having an estimated 25 million landmines and an addition 25 million in unexploded ordnance in Iraq accessible for use by terrorist organizations merely escalates the importance of clearing contaminated sites.

84. Iraq has recently resolved an inter-ministerial clash between the Ministry of Defense and the Ministry of Environment regarding the civilian demining operations that shall hopefully restart the critical role to be played by non-governmental agencies. The importance of a legal framework for mine action, undertaken by both government and civilian agencies, is an imperative along with a national education programme to inform the people of Iraq of the threat and risks to landmines and ERWs. Implementing measures to demarcate mine hazard areas and provide support for victims of landmines and ERWs is in accordance with Article five of the Convention.

85. The following map shows the minefield contamination as a deterrent to agriculture in the rain fed and irrigated sectors.²⁴

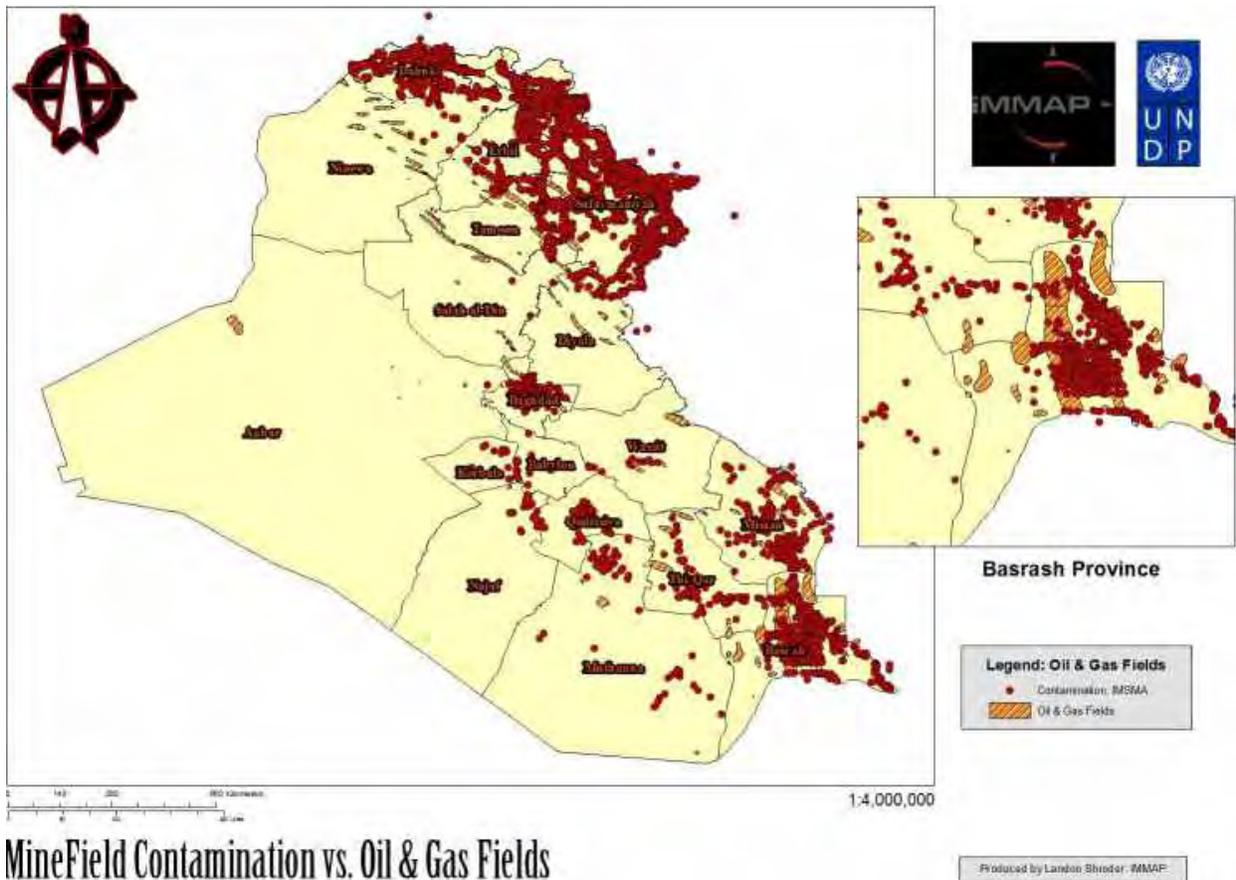
²⁴ UNICEF/UNDP *Overview of landmines and explosive remnants of war in Iraq*. June 2009



MineField Contamination vs. CropCover

86. In the southern governorates of Basrah, Missan, Thi-Qar and Muthana, 88 percent of the reported blocked access to irrigated land while 81 percent of the blocked area could be used for pasture. In the southern governorates of Babylon, Kerbala, Najaf, Qadissiaya and Wassit 86 percent of the blocked areas could have been used for both agriculture and pasturage. And, in Basrah a water treatment plant project on 21 hectares of land has been halted due to both unexploded ordnance and landmines. The fishing port of Fao in Basrah has also been unserviceable by the fisheries sector due to unexploded ordnance. The clearance of both the water treatment facility site and the fishing port would improve incomes and reduce poverty.

87. The contamination around oil and gas fields is most important as it affects the revenue of the largest single income earning sector in Iraq. The following map represents sites within a 20 kilometer radius where landmines and explosive remnants of war are found and that act as a major impediment to the development of new oil and gas fields.



88. UNICEF and UNDP are urging the Go I to adopt the following actions to strengthen efforts in mine clearance in Iraq:

- Establish a regulatory framework with strong monitoring capacity, or approve the proposed legal and regulatory framework for Mine Action, including the establishment of a cross-ministerial committee for Mine Action activities and coordination to ensure also that the obligations under the Anti-Personnel Mine Action Convention will be met;
- Legalize the regulatory framework;
- Commence a national survey of landmines and explosive remnants of war as to develop a clear portrait of the economic and social implications of the situation;
- Clarify in a new mine action strategy the roles and responsibilities of all stakeholders and the budget allocations for annual programmes.
- Develop a mine action policy that mainstreams mine action into the national development plan and the International Compact for Iraq (ICI).
- Develop and approve mine action standards and a regulatory body for accreditation of mine action operations.
- Encourage and support the development of national mine action organizations.
- Continue to educate the people of Iraq on the hazards and risk of landmines and explosive remnants of war and to ensure unsecured areas are marked in accordance with Article five of the Convention.

- Develop a comprehensive approach to victim assistance programs in addition to providing overall coordination and monitoring of all mine action operations

The risks of Depleted Uranium

During the 1991 Gulf War, the International Alliance, and specifically the USA and UK heavily used armor – piercing depleted uranium ammunition in the land battle field in southern part of Al Basra Governorate. According to Nermin Othman, the Minister of Environment, over 3,600 tons of DU ammunition have been used causing serious, long – term impact on the environment and public health. Thousands of destroyed tanks, armored personnel carriers, self propelled artillery and various kinds of vehicles hit with DU ammunition still exist in the battlefield. Some of these wrecks have even been collected, dumped in residential neighbourhoods and sold as scrap to neighbouring countries. Field investigations indicated that the wreck has a radiation level up to 5 - 6 times the natural level. Othman said recently that over 140,000 Iraqis suffer from various types of cancer, most of it are related to the impact of DU. In spite of the dispute over the impact of using DU ammunition, there is enough evidence to consider the contamination with DU a man – made disaster.

Internal Displaced Persons and Refugee Vulnerability

89. According to the Gol's estimate over the past six years, two million Iraqi's have fled to neighboring countries while an additional 2.8 million people have been internally displaced within Iraq. Collectively the outflow of refugees from Iraq constitutes the largest refugee outflow in the Middle East since the 1948 Palestine exodus. The economic, social and political pressures on host communities and neighboring countries (Syrian Arab Republic, the Hashemite Kingdom of Jordan, Lebanon, Egypt, Turkey, the Islamic Republic of Iran and the Gulf States). For the internally displaced, the lack of livelihood capacity, poor health care and nutrition are the result of displacement due to acts of violence and conflict.

90. With the recent gains in security, the number of newly displaced families has decreased to almost zero as returnees have begun to return to cities and rural villages. The majority of returnees have cited improved security conditions as their reason for returning. More than a quarter of the returnees have found their homes partially damaged and an equal number found them occupied by other parties. Property issues and disputes are centered in Baghdad where local councils attempt to offer mediation and resolution. Regretfully the governorate councils lack influence and organization to make much progress.

91. The 66%percent unemployment rate in Iraq among IDPs is significantly higher than the national average and is a concern for returnees.²⁵ In addition, strenuous living conditions for returnees such as access to health care, local medicines, and low rate of disbursement of government grants for returnees among others render it difficult for future returns to tak place in a large scale.²⁶ Years of unemployment coupled with the increasing costs of food, basic

²⁵ UNHCR Iraq Protection Monitoring Assessments Summary, March 2008 to March 2009

²⁶ See IAU analysis of IOM returnee raw data, to be published in October 2009

commodities, fuel and accommodation have pushed many displaced families below the poverty threshold.

92. Civil society groups have expressed concerns about the effectiveness and completeness of government assistance to returnees and are calling for speedy and fair compensation measures for those whose homes had been destroyed. The Minister of Displaced and Migrants has indicated that their plans to help IDPs could be affected by budget cuts caused by low oil prices. The MoDM's 2009 aid programmes budget has been reduced to US\$ 44.8 million from a request estimated at US\$ 4.5 billion, and the MoDM's planned operational budget of an estimated \$ 18 million is likely to have been cut by 40 percent.

93. Supporting the GoI, particularly the MoDM, in the development of a strategic plan at the national, governorate and community levels to coordinate the response of government entities tasked to manage a voluntary repatriation. Assistance in the development of a legal and administrative framework will ensure proper synchronization and the capacity to address issues including property restitution, access to basic services, documentation and government benefits. A capable and responsive government will be a key driver for long-term stability in Iraq.

94. The improved security situation in Iraq in 2008 allowed UNHCR, the UN's refugee agency, to revise its eligibility criteria for Iraqi asylum seekers for the first time since 2007. The new eligibility criteria, effective from April 24 2009, now recommend that asylum seekers from Anbar and Southern governorates should be individually assessed. Previously, UNHCR recommended that all asylum seekers from these areas should be granted *prima facie* refugee status under the 1951 Refugee Convention and its 1967 Protocol.

95. However, UNHCR cautions that individuals or groups in these governorates may nevertheless remain under threat of persecution, and could thus be eligible for international protection. UNHCR underlines that the conditions in Iraq have still not improved sufficiently to promote or encourage mass returns or general cessation of refugee status for Iraqis. Due to continuing violence and human rights violations, UNHCR's position remains unchanged for the central governorates of Ninewa, Kirkuk, Salah Al-Din, Baghdad, Diyala. All asylum seekers from these areas should be granted international protection under the Refugee Convention on a *prima facie* basis in places where the numbers of asylum seekers are so large that determination of individual refugee status is not feasible. For the Northern governorates, the refugee agency's positions remains that refugee status should be granted based on individual assessment.

96. A total of 16,960 displaced Iraqis (internally displaced persons and refugees) returned in March 2009 according to UNHCR estimates. Of these, 11,810 individuals were IDPs (1970 families) from within the country and 5,150 (1,240 families) were refugees who returned from abroad. In total 3,210 families returned in March. The returns in March mark an increase on the 4,600 and 10,170 returnees registered in January and February 2009. In total, 31,730 individuals (6,080 families) have returned in 2009, including 22,940 IDPs and 8,790 refugees.

97. Baghdad accounts for 70% of the total returnees in 2009 with 22,220 individuals registered, 12,670 of whom returned in March alone. Ninewa accounts for 1,150 returnees in March with 540 returning to Diyala, 460 to Babylon and 450 to Basrah. The March returns are nearly double the 10,170 returnees (IDPs and refugees) registered in February. The total

number of IDP returns in the first quarter of 2009 was 22,940 individuals compared to 8,790 refugees during the same period. The total number of returnees for the first three months of the year stands at 31,730. A total of 221,260 IDP and refugees (39,280 families) returned to their places of origin in Iraq in 2008 – 25,370 (6,360 families) refugees and 195,890 (32,920 families) IDPs. Overall, Baghdad and Diyala accounted for most of the returns at 53% and 30% respectively. So far in 2009, Baghdad continues to account for most of the returns (70% in the first quarter) with Ninewa accounting for 8% of all returns. Five per cent of all returnees have gone back to their places of origin in Diyala while Basra and Babylon account for 3% of all returns thus far in 2009.²⁷

98. The following table describes the hazards identified by governorate representatives and disaster risk reduction stakeholders in 17 of the 18 Governorates (excluding Ninewa) in Iraq:

HAZARDS IDENTIFICATION BY GOVERNORATES

Table 5

(INFORMATION EXTRACTED FROM INTERVIEWS CONDUCTED BY OCHA FIELD OFFICERS WITH KEY DISASTER MANAGEMENT STAKEHOLDERS INCLUDING LOCAL GOVERNMENT OFFICIALS, CIVIL SOCIETY ORGANIZATIONS AND REPRESENTATIVES OF INTERNATIONAL NGOS)

GOVERNORATE	POPULATION (2007)	NATURAL/HUMAN INDUCED HAZARDS	RESPONSE STRATEGY AND CAPACITY BUILDING REQUIREMENTS	DISASTER PREPAREDNESS PLAN
ANBAR	1,485,985	TRANSPORT ACCIDENT, FLOODS, SAND STORMS, EXPLOSIONS, CHORINE GAS LEAKS, FIRE	LOCAL GOVERNMENT AND CIVIL DEFENSE. NEW GOVERNMENT IN PLACE AND SHOULD BE INTERESTED IN CREATING GOOD RESULTS FOR THE PEOPLE WHO ELECTED THEM.	NOT CERTAIN, BUT CIVIL DEFENSE MAY HAVE A PLAN.
BABYLON	1,651,565	POPULATION DISPLACEMENT, TERRORISM, INDUSTRIAL ACCIDENTS, FIRE, FLOODS, HEALTH EPIDEMICS.	LOCAL GOVERNMENT FORMS A RESPONSE CELL WITH HEALTH AND CIVIL DEFENSE. NEED TO INCREASE MANAGEMENT AND TECHNICAL APPLICATION OF DISASTER MANAGEMENT.	NONE DEVELOPED
BAGHDAD	7,145,470	WATER/AIR POLLUTION, SAND STORMS, DROUGHT, WATER SHORTAGE, TERRORISM, CHEMICAL AND INDUSTRIAL ACCIDENTS, HEALTH EPIDEMICS, RADIATION FROM BOMBED AND LOOTED NUCLEAR REACTOR SITE.	MINISTRIES OF ENVIRONMENT, HEALTH, CIVIL DEFENSE AND IRRIGATION.	INDIVIDUAL PLANS DEVELOPED BY COMMITTEES TO RESPOND TO SPECIFIC EVENTS
BASRAH	1,912,533	RIVER POLLUTION, RADIATION FROM MILITARY WASTE, THREAT OF ATTACK ON IRAN NUCLEAR PLANT, SAND	LOCAL GOVERNORATE OPERATIONS CELL TO DEVELOP RESPONSE STRATEGY.	NONE DEVELOPED

²⁷ OCHA Humanitarian Update. No.6 April 2009

		STORMS, CHEMICAL AND INDUSTRIAL ACCIDENTS, TERRORISM, HEALTH EPIDEMICS, URW.	RECOMMENDED TRAINING COURSES THAT OFFER BEST PRACTICES FROM OTHER NATIONS.	
DAHUK	505,491	DROUGHT, EARTHQUAKE, POLLUTION, CONFLICT, POPULATION DISPLACEMENT, FIRE, TRANSPORT ACCIDENTS, LANDSLIDES.	LOCAL GOVERNMENT, NGOS, CIVIL SOCIETY. STRONG DESIRE FOR TRAINING AND DEVELOPMENT.	NONE DEVELOPED
DIYALA	1,560,621	DROUGHT, FLOODS, TRANSPORT ACCIDENTS, ENVIRONMENTAL POLLUTION, HEALTH EPIDEMICS, H1N1, FIRE, UNEMPLOYMENT, INADEQUATE SHELTER, HEALTH EPIDEMICS, URW.	LOCAL GOVERNMENT AND NGOS. STRONG NEED FOR MORE TRAINING.	NONE DEVELOPED
ERBIL	1,542,421	DROUGHT, DUST STORMS, TRANSPORT ACCIDENTS, FLOODS, DISPLACEMENT, EPIDEMICS.	KRG RESPONDS. STRONG NEED FOR MORE TRAINING.	NONE DEVELOPED
KARBALA	887,858	HUMAN INDUCED DISASTERS, EPIDEMICS, DUST STORMS, DROUGHT.	EMERGENCY CELLS HANDLES CRISES INVOLVING DISPLACEMENT AND FIRE. OTHER CRISES WILL NEED TRAINING.	NO WRITTEN PLAN
MISSAN	824,127	EARTHQUAKE, DROUGHT, HEALTH EPIDEMICS, ACCIDENTS, TERRORISM, DISTURBANCES, URW, DUST STORMS.	GEC LOCAL AUTHORITIES, THE ENVIRONMENTAL COUNCIL (Managers of Governorate Departments, like health, water, electric, sewage, Agriculture, Irrigation, Municipality, Traffic and Education),	YES
MUTHANNA	614,997	DROUGHT, ENVIRONMENT POLLUTION, FIRES, DUST STORMS, RADIATION FROM DEPLETED URANIUM.	MINISTRY OF WATER, MINISTRY OF IRRIGATION, FIRE SERVICE. NEED FOR TECHNICAL KNOWLEDGE ON DISASTER RISK REDUCTION	NONE DEVELOPED
NAJAF	1,081,203	DROUGHT, TRANSPORT ACCIDENTS, ENVIRONMENTAL POLLUTION, CIVIL CONFLICT, INDUSTRIAL ACCIDENTS, FIRE, DUST STORMS.	LOCAL AUTHORITIES, CIVIL DEFENSE, IRAQI RED CRESCENT SOCIETY, ICRC. YES, BUT COMMUNITY BASED ORGANIZATIONS MORE RECEPTIVE THAN LOCAL GOVERNMENT.	NO PLAN AVAILABLE
NINEWA	2,811,091	INTERVIEWS NOT UNDERTAKEN.		
QADISSYA	990,483	DROUGHT, EPIDEMICS, DUST	UNICEF AND OTHER	NOT CERTAIN

		STORMS, INTERNAL CONFLICT.	INTERNATIONAL NGOS	
TAMEEM	902,019	EXPLOSIONS, TERRORISM, CONFLICT, POPULATION DISPLACEMENT, HEALTH ISSUES, UNSUITABLE SITES FOR IDPS, DROUGHT, DUST STORMS.	LOCAL AUTHORITIES, NGOS, CIVIL SOCIETY, CIVIL DEFENSE, HEALTH. DESIRE FOR MORE TRAINING AND DEVELOPMENT	NONE DEVELOPED
THI-QAR	1,616,950	DROUGHT, WATER POLLUTION, POPULATION DISPLACEMENT, WATER POLLUTION, ANIMAL DISEASES, ARSON, RAPID ONSET DISASTERS, DROUGHT, DUST STORMS.	GOVERNORATE, CIVIL DEFENSE, IRAQ RED CRESCENT SOCIETY, MINISTRY OF ENVIRONMENT, NGOS. WILLINGNESS TO TRAIN FOR BETTER PREPAREDNESS AND RESPONSE AS PART OF DISASTER RISK REDUCTION.	NONE DEVELOPED
SALAD AL-DIN	1,191,403	FLOODS, DROUGHT, SAND STORMS, ENVIRONMENTAL POLLUTION, CHEMICAL AND INDUSTRIAL ACCIDENTS.	GOVERNORATE CRISIS CELL. WOULD FAVOUR CAPACITY BUILDING	NONE DEVELOPED
SULAYMANIYAH	1,893,617	POPULATION DISPLACEMENT, DROUGHT, HEALTH EPIDEMICS, EARTHQUAKES, SHELLING FROM TURKEY/IRAN AND TERRORISM, URW.	CENTRAL AND LOCAL GOVERNMENT, NGOS, UN, ICRC. NEED FOR MORE TRAINED PERSONNEL	NONE DEVELOPED
WASSIT	1,064,950	DROUGHT, EARTHQUAKES, URW.	REQUIRE GREATER KNOWLEDGE AND PLANNING SKILLS	NONE DEVELOPED

99. The absence of any reference to landmines as a serious hazard was explained by a Ministry of Environment staff member as, “We have been living with landmines even before our war with Iran and the two Gulf Wars. We do see their potential impact on our people but have now become complaisant with this risk as the effort to clear them could overwhelm our national resources.” The Mosul dam threat has not been mentioned as the nation is regularly reassured by messages from the Ministry of Water Resources that the dam is safe and represents no threat to the nine million people living in the pathway should the structure be breached.

100. A health concern coming from U.S. servicemen in Balad is their exposure to chemicals released at burn pits at bases in both Iraq and Afghanistan. More than 100 service members have written letter to the Military Times indicating health issues from chronic sinus problems to Hodgkin’s lymphoma and leukemia from exposure to incinerator smoke from batteries, waste oil, plastic water bottles, plastic foam, unexploded ordnance and medical waste products. Lt. Colonel Darrin Curtis, former bioenvironmental flight commander at Joint Base Balad stated, “In my professional opinion, there is an acute health hazard for individuals. There is also the

possibility for chronic health hazards associated with the smoke."²⁸ Curtis said the chemicals troop may have been exposed to include benzene, an aircraft fuel known to cause leukemia; arsenic; Freon; carbon monoxide; ethylbenzene; hydrogen cyanide; nitrogen dioxide; sulfuric acid and xylene. Toxicity tests showed high levels of particulate matter and low levels of manganese, possibly due to materials destroyed in a burn pit.

101. Iraq's coastline consists of a 36-mile stretch along the north end of the Persian Gulf. The country has only two deep-water ports, Umm Qasr and Khor Az Zubayr. Three wars--the Iran-Iraq War from 1980 to 1988, the 1991 Gulf War, and the U.S. invasion of Iraq in 2003--have cluttered northern gulf waters with a welter of sunken ships, many of which still hold petroleum products, unexploded ordnance, and possibly rocket fuel, propellants, and toxic chemicals. Many of the ships are leaking. Little is known about the environmental health consequences of these marine obstacles and their contents. Marine experts and two French water pollution agencies inspected 40 wrecks, identified 12 more by sonar, and collected 198 sediment samples for analysis. The team estimates that more than 260 sunken ships--including tankers, tugs, barges, and patrol boats--dog the local waters. "Virtually all of these vessels are slowly leaking substances that are damaging to marine life and people alike," states the report. "Even if the vessel was not carrying a hazardous cargo, the engine room will typically contain substances such as fuel oil, lubricating oil, battery acid, hydraulic fluid, and asbestos." ²⁹

102. The UNDP found that oil is the worst problem related to the sunken ships, stating that "significant oil pollution was painfully evident even without any sample analysis." Much of the oil is crude, bunker, and diesel grades. Such oils contain many hydrocarbon compounds, including benzene, propane, acetylene or ethyne, $\text{HC}\equiv\text{CH}$, a colorless gas. It melts at -80.8°C ; and boils at -84.0°C ; naphtha term usually restricted to a class of colorless, volatile, flammable liquid hydrocarbon mixtures, and kerosene, all of which can cause health effects. Benzene, for example, can cause dizziness, tremors, anemia, and leukemia, according to <http://encyclopedia.thefreedictionary.com/Agency+for+Toxic+Substances+and+Disease+Registry>The United States Agency for Toxic Substances and Disease Registry.³⁰

103. Lastly, the Ministry of Environment is also challenged to find a satisfactory site to contain toxic and radioactive materials in Iraq. In the interim, the remnants of war, the destruction of water canals that once supplied Basra with potable water and now polluted with sewage, and over 100 contaminated "hot spots" remain unattended as other economic issues have taken precedent.

Disaster preparedness, response and recovery

104. "Major disasters move societies and governments to create risk management systems and institutions, but in many cases their resources, influence and political strength tend to weaken when the memory of the disaster begins to vanish (and this happens very rapidly) ... But despite that, the existence of those systems is an advance in terms of society's provision for disaster preparedness and response, but the tendency is that in practice these systems

²⁸ Military Times. *Burn Pit at Balad Raises Health Concerns*. Kelly Kennedy, October 28, 2008

²⁹ **Iraqi Waterway Project Wreck Removal: Environmental Damage Limitation Survey**, published in October 2004. UNDP assisted by the International Atomic Energy Commission.

³⁰ Ibid.

concentrate efforts in emergency response not in changing the conditions that create risks that become disasters".³¹ This quotation is quite apropos to the Iraq context where disaster response, rather than disaster risk reduction, has been the historical norm for decades.

105. The following statement is a compilation of statements to the question, "What is the most prevalent disaster that occurs in your Governorate?" from six respondents in Diyala governorate:

"There are so many disasters in my governorate, as natural disasters, in some areas people are suffering from the effects of severe drought which leads them to leave their homes and go to another places which they can get water easily, in addition to that in Diyala there is the danger of floods and as it happened in many areas which are near the border of Iran during the winter season.

As human disasters there are many transportation accidents and traffic accidents most of them are because of the bad roads which are not graveling well, there is no traffic signals on the roads and the lack of traffic trainings in the area which leads most of the drivers to drive cars without knowing the traffic rules and instructions.

For environmental pollution the epidemic of cholera is spread in the area from time to time which is as a result of the bad water which is not save for drinking and in some areas they drink water from the rivers or wells which water is impure and not suitable for drinking. In addition to the bird flu which spreads in some areas because Khanaqin which is part of Diyala is near the border of Iran and it brings diseases to this city which has lack of many services especially health services, For fires it happened many times in the tents which is lived by the IDPs and Returnees which leads to some looses in their things.

There is another thing, these days many families come back from Iran to Khanaqin as Returnees they are homeless and lived in the streets and in addition to that they are jobless and they are in need of help and supports.³²"

106. At the Governorate level in Iraq, most respondents to the questionnaire, *In urban and rural communities, are their groups trained to respond to emergencies with first aid services and other relief services? If so, how were they trained to respond to emergencies?* indicated that response capabilities might be available in the urban city centers but that resources to support communities in response to natural disasters or human induced shocks were not available from government agencies. The Consultant has been informed that the ongoing drought may be an exception to this statement where some Governorates have been able to access resources to provide for potable water to affected communities in addition to agricultural seeds and fodder for livestock. Other respondents referenced the role of civil society institutions, international humanitarian agencies and the Iraq Red Crescent Society/International Committee of the Red Cross/ Red Crescent in responding to crises.

³¹ Learning From Disaster Recovery. International Strategy for Disaster Recovery. May 2007 (Preliminary Version)

³² DISASTER RISK REDUCTION STUDY IN IRAQ GOVERNORATE FIELD QUESTIONNAIRE. 25 June 2009. Nasreen H. Ali.

107. A survey conducted by the Arab League in 2007 following a meeting in Cairo proposed a self-evaluation framework³³ for members to assess national capacities in the pre-disaster, disaster occurrence and post-disaster periods. The categories for assessment of capacities fell into five scenarios ranging from a best case scenario to a worst case scenario as follows:

- Full implementation capacity with sustainable commitment.
- Commitment and policies for response but insufficient financial resources.
- Institutional commitment but slow progress.
- Some progress but no clear commitment.
- No progress at all.

108. In the pre-disaster or disaster preparedness stage, Iraq must fall into the second to bottom category described as “Some progress but no clear commitment. There are a number of disaster response agencies within the GoI while none are engaged in the components of creating disaster resilience. For effective disaster preparedness, institutions should have the following components prior to a national crisis:

- Institutional framework for developing a national disaster management plan.
- Coordination structure for all risk reduction stakeholders.
- List of key focal points for all preparedness, mitigation, early warning, response, reconstruction and rehabilitation and recovery agencies and experts.
- Emergency plans for activation of response mechanisms.
- Early warning systems that are fully understood by populations in risk prone areas
- Legal framework for institutions to manage crises
- Local services able to recover rapidly from crisis episodes.
- Hazard maps of all risk prone areas.
- Systems in place to receive emergency assistance from internal sources and from regional and international organizations and donors in case of a catastrophic episode that overwhelms national capacities to meet emergency relief requirements.
- Public awareness programs prepare citizens to prepare for and respond to crises in a proactive manner.
- Disaster risk reduction messages incorporated into national academic curriculum and in special training programs for decision makers, development planners and first responders to national disasters.
- Integration of disaster preparedness and response plans into the National Development Plan.
- Development of land use planning in consideration of natural and human induced hazards.
- Programs for civil society to contribute to disaster risk reduction.
- Systems in place for monitoring and evaluation of disaster response events and the mechanisms in place to prepare and respond to crises.

109. The Consultant must assess the GoI as showing some progress but no clear commitment towards the establishment of a strong disaster preparedness capacity to respond to the plethora of both natural and human induced disasters. A clear example is the current drought, impending water shortage and desertification and the absence of local risk reduction

³³ Survey document provided to the Consultant by the Ministry of Higher Education and Scientific Research.

activities and some strategies that should have been in-place during the start of the 2007 drought:

Local risk reduction activities

Communities can construct check dams, reservoirs, wells, and water tanks, as well as develop planting and re-forestation efforts to reduce the risk of drought and desertification. They can also change cropping patterns and livestock management practices, introduce water conservation policies, and develop alternative non-agricultural industries.

General risk reduction strategies

Although rain shortfall is uncontrollable, drought and desertification can be reduced by improved land and water management practices, such as water conservation practices, infiltration dams, irrigation, forest management, and range management (control of land use and animal grazing patterns) The main risk reduction strategies for drought and desertification include water rationing; conserving or replacing failing water supplies through watershed management and construction of dams, pipelines or aqueducts; conserving soil and reducing erosion rates by using check dams, leveling, planting, and managing herds; reducing firewood cutting by improving fuel stoves; introducing flexible farming and cropping patterns; raising awareness about the benefits of population control; and developing education and training programs.

110. At the time of a crisis, the Gol must also rate the same as in the pre-disaster phase of showing some progress but no commitment to incorporate an effective strategy to redress the impact of a hazard coming in contact with a general population. This rating is based on the need for the following capacities which are presently lacking:

- Activation of an early warning system that would set in place an effective crisis response.
- Availability of a pre-determined relief and recovery strategy that has been pre-tested for operational effectiveness and consistent with life saving in a manner respecting the dignity of all affected populations.
- Availability of relief materials on hand and within reach from neighboring countries if so needed.
- Activation of trained staff to undertake a rapid damage and needs assessment surveys and staff to monitor and account for inventory and relief interventions.

111. In a post-crisis stage, the Gol should possess the capabilities to (a) Assess the impact of the crisis in terms of economic and human resources lost; (b) set in place a rehabilitation and reconstruction plan with central government funding and donor support; and (c) Undertake a post-mortem of the crisis response to capture lessons learned and adapt new knowledge into the preparedness and response strategy for future disaster episodes. In this phase, the Consultant did not see any of the above mentioned capabilities referenced in discussions with government and other disaster risk reduction stakeholders.

II. ACCOMPLISHMENTS AND CHALLENGES

A. National Capacities

112. Disaster risk management, in nearly all the nations of the world, is the primary responsibility of the government to protect its people, infrastructure and other natural assets from the impact of natural and all other hazards. Humanitarian crises may be due to planners' inability to anticipate potential hazards and to appreciate their significance, and to decision-makers' inability to reconcile competing demands for resources. The Government of Iraq needs to forestall potential disaster episodes by demonstrating a political will to adopt/adapt proactive mechanisms to develop a strategic and sustainable all-risk disaster management structure at the central, provincial/regional and community levels interlinked to the national development plan.

113. Clearly, the scale weighs heavily on a reactive response by the GoI to natural catastrophes such as floods, earthquakes, landslides and drought in addition to a plethora of human induced episodes of fire and industrial accidents to toxic pollutants and remnants of war and spontaneous arrival of refugees from bordering nations. With the exception of some preparedness training conducted by the Iraq Red Crescent Society, non-governmental agencies and the civil defense, risks from other hazardous episodes receive scant or no attention until they come into contact with urban or rural residents. The National Development Strategy is not complimented by a National Disaster Management Plan that would provide a proactive methodology for safeguarding the impact of national investments in development through preparedness, mitigation and early warning systems for rapid and slow onset disasters as well as creating new synergistic alliances among all disaster management stakeholders that will strengthen emergency response mechanisms.

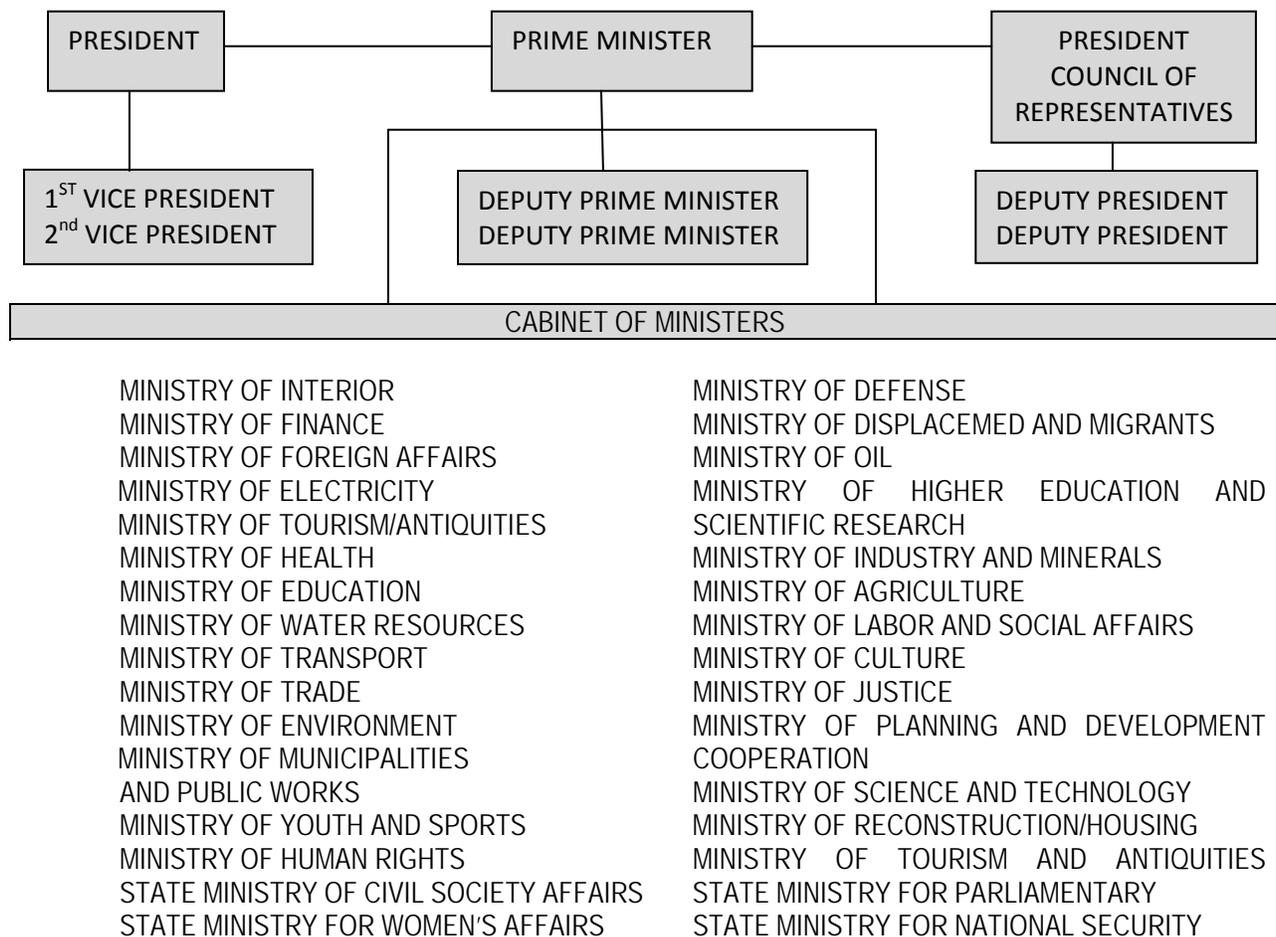
114. Such a historical, reactive response to crisis episodes is not only found in the GoI but also in the United Nations Country Team which has also adopted a reactive response mechanism to prevailing crisis episodes. In host countries with even a fraction of the number of natural and human induced threats, a UN Disaster Management Team is organized under the leadership of the Resident Representative to prepare a strategic and well organized disaster preparedness and response plan.

115. A review of existing capacities has identified several institutions at the central government level that support elements of disaster risk management. The institutions created to respond to disaster episodes include: the National Operations Center, (NOC) with capacities to respond to acts of violence in addition to presenting the Office of the Prime Minister with information pertaining to risk levels to acts of terrorism. The leadership in the NOC is seeking to include natural disasters into its mandate given lessening threat to terrorist action in Iraq. The Crisis Action Cell, established in November 2006, was composed of the National Security Advisor, Ministers of Defence and Interior and the Prime Minister's Chief of Staff. The CAC provided national-level crisis management tasked by the National Security Council and the Prime Minister and had authority to coordinate with all the line Ministries. However the CAC does not seem to be still in effect. The Coordination and Command Crisis Structure, reporting directly to the Prime Minister, comprises senior figures from the Ministries of Interior, Defence, National Intelligence Service and the Counter Terrorism Bureau and line ministries are invited as required to provide specialist skills to an emergency. The National Joint Operations Centre

(NJOC), within the Ministry of State for National Security, is the predecessor of the NOC and has a NATO trained staff performing similar functions in information and analysis. According to the NJOC it was able to determine and report that the earthquake on July 18 2009 had not caused much damage to the rural communities within a 20-kilometer radius of the epicentre of this 5.2 scale event near Mosul.

116. The Inter-ministerial Committee on Disaster Management, comprising ten ministries including Defense, Interior, Environment, Health, Water Resources, Foreign Affairs and the State Ministry for National Security was formed in 2007 and has prepared a Concept Note for the creation of a National Center for Disaster Management. The Center would act as a permanent Secretariat for disaster risk reduction initiatives i.e. research and studies, emergency planning, coordination of regional/provincial interventions, capacity building, media on advocacy and informational exchange, and a database for recording information on hazards, risks, vulnerability and responses to crisis episodes.

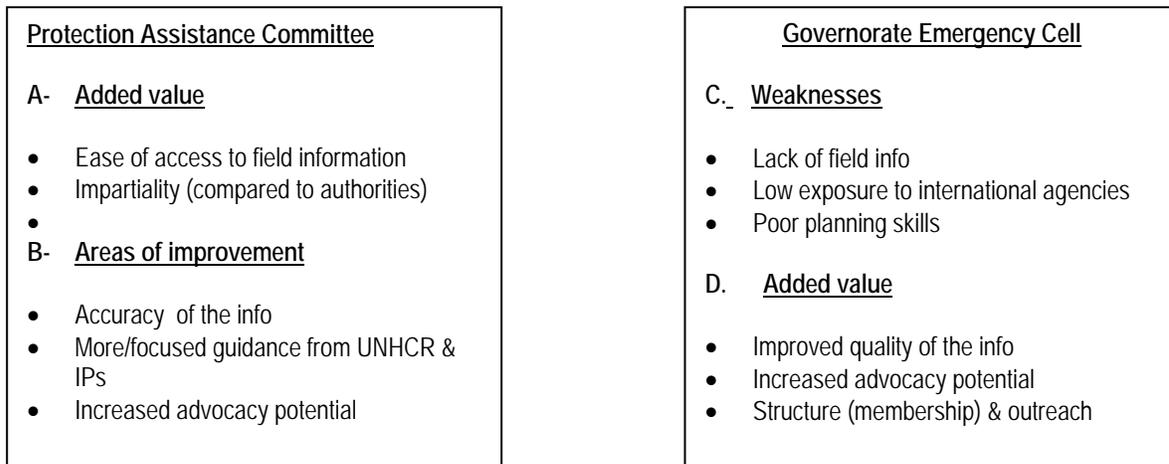
117. The following chart describes the structure of the central government in Iraq. The Office of the Prime Minister has the authority to initiate special committees that will examine issues, including hazard risk responses, and report back to the Prime Minister. Currently, select committees are examining issues related to diminishing water resources and desertification,



118. At the local government level, a Governor is the highest executive authority in each of the 18 Governorates in Iraq including those in the Kurdistan Region. The Governorate has representation of most of the abovementioned Ministries' to support national priorities at the local level where ministerial staff report to their respective headquarters. Under the Kurdistan Regional Government (KRG), three governorates have ministerial representation that reports to the KRG rather than the central government in Baghdad.

119. In 2006 the Prime Minister and the Governors established a coordination structure at the governorate level to address the crisis of human displacement which had overwhelmed the efforts of the MoDM. The new structures, called Governorate Emergency Cells (GECs) or Internally Displaced Persons commission were invaluable in coordinating inter-ministerial efforts in the field of health, education, water and sanitation and social services. The Danish Refugee Council, with support from UNHCR, has contributed to this field initiative through actions intended to support the GECs become more effective in emergency preparedness and response to the needs of the internal displaced groups. A Liaison Officer works with the GECs established in Missan, Kerbala, Wassit and Thi Qar in 2007 and in Erbil, Sulaymaniah, Dahuk and Babylon in 2008 to offer basic training, contingency planning and protection activities.

120. UNHCR has been implementing a support mechanism for the protection of vulnerable groups call the Protection Assistance Committees (PACs) since 2003. The PACs operate as a civil society actor in offering legal aid to displaced persons. In 2008 the PAC was strategically linked to the GEC framework to create complementarity in advocating for the rights and resettlement needs of the displaced. The following diagram shows how the two services create a positive synergistic relationship.



Benefits of GEC/PACs interaction

For the PACs:

- More info on authorities decisions/intentions
- Improved info on the POC
- Improved guidance received from UNHCR & IPs

- improved exposure/relations to/with local authorities meaning
- increased advocacy potential

For the GEC

- Consolidated links between GEC & international agencies through UNHCR
- Better design for the annual assistance plan through access to field info and interaction with humanitarian actors
- Better insight on displacement issues
- Mainstreaming of protection issues in GEC work.

121. Some of the Governorate Emergency Cells have begun to develop their own emergency preparedness strategies to respond to localized crises. The following has been extracted from the Missan Governorate plan to respond to an earthquake episode:

Displacement Emergency Cell in Missan

Probabilities Plan

Anticipation of an earthquake in Missan Governorate (noting that an earthquake occurred at 1.00 AM Thursday, 28/8/2008 with 5.3 intensity on Richter Scale for a duration of 7 seconds with an aftershock at 5.00 AM. at 3.2 intensity on Richter Scale.

1. Evaluation of Risks and Identification of Scenarios

#	Status	Scenario	Expected No. of Displaced Families	Expected No. of Displaced Families Expected to Stay in the Host Community	Expected No. of Displaced Families Needing Camps
1	Best	Occurrence of a limited earthquake in Missan Governorate in terms of intensity and duration occurrence	500	300	200
2	Worse	Occurrence of a strong earthquake in the Governorate	20,000	8,000	12,000
3	Most Probable	Occurrence of a strong earthquake from 5 to 6 degrees and for a period of time of 0.5 to 3 minutes	5,000	2,000	3,000

2. Fundamental Objectives and Principles

- a. Identify locations of sheltering the displaced families in the outskirts of the city, free of buildings and installations (Headquarters of the previous army's 4th Corps), (near the

radio and TV station), (Al-Mashtal Public Park near Al Kahla'a Check Point) and (the old Military Hospital).

- b. Provide (4) medical teams, mobilize all ambulance vehicles in the Governorate and distribute them on evacuation sites.
- c. Provide (40) water tankers to transport water and provide movable and immovable water tanks at the evacuation sites.
- d. Provide basic food items from the Ministry of Trade, Red Crescent, WFP and international organizations operating in the Governorate.
- e. Provide protection to the gathering points and people's properties in the evacuated places.
- f. Support the host community in order to mitigate the burden off the host community upon receiving the displaced, particularly at the outskirts of the city with due observation to the infrastructure of the host community.

Note: The most probable scenario was selected, namely occurrence of a strong earthquake, which will result in the displacement of more than 5,000 families' part of them, will be accommodated by the host community (about 2,000 families) and the remaining 3,000 families will be accommodated in the gathering centers.

3. Sectoral Objectives and Activities

First: Food Sector

- a. Provide food to 3,000 families for one month and adopt the standards of the WFP and Sphere standards for the determination of needs and quantities.
- b. Preparation of the foodstuff shall be the responsibility of the representative of the Ministry of Trade in the Emergency Cell. This will include preparing storage places and transportation.
- c. Establish distribution teams from displaced people and volunteers under the supervision of the representative of the Ministry of Trade and another member from the Emergency Cell.
- d. Foodstuff, bags, vehicles, storage spaces etc.

Second: Water and Sanitation Sector

A. Water Sector

- a. Provide water for 3,000 families in accordance with Sphere standards.
- b. Preparation of water shall be the responsibility of Missan Water Directorate and the local authorities.
- c. Establishing teams to distribute water by tankers and preparing plastic containers.
- d. Potable water, water tanks, disinfection tablets and plastic containers.

B. Sanitation

- a. Allocate sites to dispose of the solid and liquid waste for 3,000 families according to Sphere standards.
- b. Dispose of solid and liquid waste.
- c. The Directorate of Municipalities and the Directorate of Sewage of Missan Governorate will be responsible for this function.
- d. Required Items: Provide vehicles (tractors, garbage trucks), plastic bags, fixed containers (drums), and bathrooms.

Third: Health Sector

- a. Prepare medical requirements sufficient to relief 5,000 families.
- b. The requirements will be determined in accordance with Sphere World Health Organization standards.
- c. Prepare sufficient medical items to treat injuries and provide life saving drugs.
- d. The Directorate General of Health of Missan Governorate and the Red Crescent will be the responsible parties for this function.
- e. Required Items: Emergency vehicles, medical supplies.

Fourth: Shelter

- a. Provide shelter for 3,000 families in accordance with Sphere standards.
- b. The provision of land shall be the responsibility of the Directorate of Municipalities of Missan Governorate and the local authorities. However, the provision of tents shall be the responsibility of international organizations (UNCHR, IOM) and the Iraqi Red Crescent.
- c. This function shall be the responsibility of the Directorate of Municipalities, Iraqi Red Crescent and Emergency Cell.
- d. Provision of tents and ground grading machinery.

4. Surrounding External Factors

Occurrence of aftershocks, changing weather, rain, storms associated with the earthquakes, looting and robbery.

5. Setting – Up Mechanism and Updating the Probabilities Plan

The cell shall be on alert for the purpose of adjusting and developing the plan in case of change in the situation.

6. Work Plan in Activities and Preparatory Steps

Sector	Activity	Responsible Party	When
Food	1. Agree on type of ration to be distributed (rice, edible oil, infant milk, flour ...).	1. Ministry of Trade and WFP.	Immediately Upon beginning of displacement
	2. Distribute foodstuffs to the displaced	2. Ministry of Displaced and Migrants, Red Crescent and NGOs	
	3. Evaluate food situation	3. Ministry of Health and local authorities	One week after displacement

Health	<ol style="list-style-type: none"> 1. Prepare emergency vehicles, medical teams, prepare hospitals and medical supplies 2. Evaluation of health situation 	<ol style="list-style-type: none"> 1. Ministry of Health , local authorities, Red Crescent and NGOs 2. Ministry of Health and local authorities 	<p>Immediately</p> <p>Upon beginning of displacement</p> <p>One week after displacement</p>
Water	<ol style="list-style-type: none"> 1. Provision of eater 2. Distribution of water 3. Evaluation of water situation 	<ol style="list-style-type: none"> 1. Directorate of Water and Humanitarian Organizations 2. Local authorities together with NGOs 3. Directorate of Water, Ministry of Health and local authorities 	<p>Immediately</p> <p>Upon beginning of displacement</p> <p>One week after displacement</p>
Sewage	<ol style="list-style-type: none"> 1. Provide containers, waste bags, wastewater trailers 2. Distribution of containers and bags. 3. Evaluation of sewerage function 	<ol style="list-style-type: none"> 1. Directorate of Municipalities, Directorate of Sewage and NGOs 2. Directorate of Municipalities, Directorate of Sewage and Ministry of Health 3. Ministry of Health, local authorities and municipalities 	<p>Immediately</p> <p>Upon beginning of displacement</p> <p>One week after displacement</p>
Shelter	<ol style="list-style-type: none"> 1. Provide places for residence 2. Distribute displaced on places of residence 3. Evaluate situation of shelter 	<ol style="list-style-type: none"> 1. Local authorities 2. MoDM 3. Ministry of Health and Local authorities 	<p>Immediately</p> <p>Upon beginning of displacement</p> <p>One week after displacement</p>

122. The planning efforts of the Governor and the GEC in Missan Governorate are to be commended for this initiative to reconstruct the type of preparedness plans that had been in place in the 1970's when the Civil Defense was responsible for both preparations of civilian populations for the possibility of war and to respond to natural disaster occurrences. Additional information, i.e. names of key personnel and contact information, demographics of possible affected populations, material resources availability, should be incorporated into the local response strategy.

123. Responses to catastrophic events rely on the assets and manpower of the central and provincial government and with assistance from non-governmental agencies and international donors. Civil services institutions have professed that inadequate fiscal resources and manpower are the primary constraints that impede their disaster response capacity in addition to a reservation to align themselves with government systems. However, limited individual organizational capacity, access to professional equipment and training and the absence of a central authority entrusted to create a strategic plan among all stakeholders, including non-governmental organizations and civil society also greatly contribute to weaken disaster management systems.

124. In discussions with representatives of the Government of Iraq, UN staff and NGO/Donor agencies, a common thread that was expressed was the need for strengthening institutional and individual capacities in the public sector to provide timely and efficient services in a transparent and accountable manner. One challenge for senior leadership is how best to harness the distribution of responsibilities while also engaging in the mentoring and coaching of junior staff. One interviewee with the Consultant mentioned, "...the GOI Ministries are desperate for the key skills they require in order to facilitate and enable them to be efficient, productive and deliver their core services to the general public. They are keen to operate efficiently, effectively and take responsibility for the efficient operation of their own country. They just don't have the requisite skills at the moment to do so".

125. Interviews conducted with eight national non-governmental organizations identified that a large civil society exists within Iraq and is targeting populations that have fallen through the cracks in public sector safety nets and now living in dire circumstances. Many of the national NGOs are operating on very modest budgets from supports while a few are partnering with international NGOs in order to expand their organizational skills while supporting their target recipient groups. A majority consensus opinion was to refrain from working in concert with the government for a variety of reasons related to the need for building confidence with their constituents, independence to serve the needs of all Iraqi citizens, transparency of intentions and the protection of their financial assets. Thus, a major challenge is to create the conditions whereby civil society organizations can integrate their strengths with the Government to jointly address the needs of all its citizens.

126. Nothing inherent in disaster management makes the private sector involvement exempt from demonstrating corporate social responsibility. The literature on corporate social responsibility often refers to the "triple bottom line" (profit, environmental quality, and social justice), implying that companies' interests are best served by embracing all three factors. The private sector has many skills, experiences and models that are applicable to disaster risk reduction. Even in Iraq, with the rebuilding of a vibrant private sector, experiences in raising capital for mitigation projects, developing resource inventories, managing logistics, and development of public awareness programs and even provide funding for emergency response capacity building.

127. The Iraq Red Crescent Society (IRCS) has experienced several internal struggles with different leadership groups. Since 2008 the President was fired for alleged financial wrongdoing. Now with an interim administration, the IRCS is continuing to operate in all 18 governorates in areas of water and sanitation, health, emergency aid and information dissemination, receiving US \$ 35 million from the GoI to support its initiatives. Disaster risk reduction is one of the key pillars of operation of the Red Cross/Red Crescent movement but the IRCS lacks the capacity and personnel to make a significant contribution. With donor support in technical areas, the IRCS is willing to assist to create better partnerships at all levels with the community, provincial and national levels in establishing disaster risk reduction mechanisms to lower risk to vulnerable populations.

The International Committee of the Red Cross is currently assisting the IRCS to develop a strong institutional capacity to both make a stronger impact on the lives of at-risk citizens and better administer its fiscal resources. The International Federation of Red Cross and Red Crescent Societies (IFRC) has raised funding for school first aid programs, disaster management capacity building training in addition to specialized courses on youth and

volunteers, and relief and monitoring. IFRC has indicated a strong commitment to support the IRCS in its development of a disaster risk reduction programme.

128. Since 2006, Management Systems International has implemented the National Capacity Development project or Tatweer (in Arabic), part of the US Government's program to "build the capacity of key Iraqi ministries to deliver core services." The Tatweer project provides comprehensive assistance to help the GoI rebuild its civil service providing its people with food, medicine, power and a better future. Tatweer advisors with the Ministries of Planning and Development Cooperation, Electricity, Oil, Agriculture, Municipalities and Public Works, Health, Water Resources, Justice, Displaced and Migrants, and Human Rights. Tatweer works in close cooperation with the National Center for Management Consultancy and Development (NCCMD) as the premier public administration training center in Iraq.

United Nations/Donor Support for Disaster Risk Reduction

129. When countries fail to factor hazard and vulnerability considerations into their development policies, strategies and plans, economic growth and social welfare become eroded by large-scale disaster loss, while increasing demands are made on national and international humanitarian assistance. The achievement of poverty alleviation, good governance and other sustainable development related goals becomes a mirage if rapidly accumulating disaster risk is not managed and reduced. In particular, when disaster risk considerations are not factored into recovery efforts following major catastrophes, countries invest in "reconstructing risk", rebuilding the conditions for future and worse disasters.

130. The mainstreaming of disaster reduction into development and post-disaster recovery is therefore an essential component of sustainable human development: a challenge, which must focus the efforts of all the key stakeholders, at the local, national, regional and international levels. In risk prone countries, the UN Country Team should be supporting national authorities to achieve a sustainable reduction in disaster occurrence and loss by factoring risk management and reduction considerations into both development as well as post disaster recovery on a permanent basis.

131. To do so the UN Country Teams should address three related objectives:

Mainstream disaster risk considerations into all new development. This means ensuring that appropriate policies, strategies, legislative systems and administrative structures are in place to ensure that disaster risk considerations are factored into all new development in a country. The outcome of such prospective disaster reduction would be that new development, in the public and private, formal and informal sectors explicitly considers disaster risk and includes measures to ensure risk management and reduction. Given projected increases in population and expansion of associated productive and social infrastructure over the coming decades, prospective disaster reduction is essential to avoid further accumulation of risk, and worsening levels of disaster occurrence.

Mitigate against loss of life and livelihoods in disasters and protect development gains. Due to extreme risk in Iraq, disasters will continue to occur on a continuing basis for the foreseeable future. Increasing disaster occurrence and loss, therefore, is a predictable variable, which must be factored into planning and programming decisions. Reducing existing risk, through compensatory risk reduction is usually difficult and costly. It is necessary therefore to assist countries to strengthen their capacities to minimize loss and suffering when disasters do occur, through mechanisms such as the translation of early warning information into effective disaster preparedness planning and increased capacity of institutions for emergency management at all levels.

Ensure that disaster recovery reduces risks and consolidates sustainable human development. When major catastrophes destroy human settlements, infrastructure, productive and social capital, unique opportunities arise to substantially reduce future disaster risk. Political ill and resource availability following major catastrophes makes the recovery phase a potentially unique, though transient, window of opportunity to strengthen disaster reduction capacities and to ensure that risk considerations are factored into all recovery and reconstruction activities. Political and economic expediency often undermine attempts to factor risk considerations into reconstruction. The UN Country Team should assist the GoI to seize major hazards as points of risk inflection, when a new direction can be charted leading to reduced risks and increased sustainability. This in turn requires the development of innovative planning and financial mechanisms.

132. The following represents brief summaries of the role of the United Nations Agencies in ICRC in Iraq that are contributing to issues surrounding disaster risk reduction.

▪ **Food and Agriculture Organization:**

Many of FAO's Field Programme activities contribute to reducing the vulnerability of agricultural communities to disaster. For example, the FAO provides support for better water control; higher-yielding crop production technologies; crop and livestock diversification; greater use of drought-resistant crop varieties; improved control of pests and diseases affecting crops and livestock; improved management of soils, range lands and forested areas, including watersheds; home gardens and nutrition education. As a follow-up to the World Food Summit, FAO is helping member countries develop national food insecurity and vulnerability information and mapping systems. These will build on existing national food security information systems, many of which have been established with FAO assistance. FAO's Global Information and Early Warning System for Food and Agriculture (GIEWS) monitors food supply and demand. It provides policy-makers and analysts with up-to-date information on crop prospects and gives early warning on imminent food crises. Also important in this regard is the Emergency Prevention System for Trans-boundary Animal and Plant Pests and Diseases (EMPRES), which keeps a global watch for signs of emerging threats from pests and epidemics.

▪ **International Committee of the Red Cross:**

The activities of the International Committee of the Red Cross (ICRC) are aimed at protecting and assisting the victims of armed conflict and internal violence so as to preserve their physical integrity and their dignity and to enable them to regain their autonomy as quickly as possible.

ICRC activities include protection of the civilian population, food and non-food relief operations, health activities such as war surgery, water and sanitation programs, the restoration of family links, visits to prisoners and dissemination of knowledge of international humanitarian law. The ICRC is currently also support the capacity development and institutional strengthening of the Iraq Red Crescent Society following its change in leadership in 2008.

- **International Organization on Migration**

IOM is an intergovernmental organization dedicated to promoting safe and orderly migration and is committed to the principle that humane and orderly migration benefits migrants and society. Its acts with the Ministry of Displacement and Migration to assist in meeting the operational challenges of migration, to advance understanding of migration issues, to encourage social and economic development through migration, and to work towards effective respect of the human dignity and well-being of migrants. In the context of its Constitution, individuals of concern to IOM include economic migrants, displaced persons, refugees, nationals returning to their home country, and other individuals in need of international migration assistance.

Given the broad definition of migrants, IOM assists not only the displaced population due to humanitarian complex emergencies but also those affected by natural disasters. While involved in helping the evacuation / resettlement or return of victims of most major population displacements over the past five decades, IOM increasingly focuses on the migration aspects of emergencies. IOM engagement in such situations comprises: registration and documentation, emergency transportation), provision of health care (emergency health intervention, pre-embarkation screening, medical escorting), temporary shelter, survey and census taking, camp management, immediate temporary settlement support (provision of cash or basic tools and implements), counseling, and information and referral service.

In post-emergency situations, IOM can provide assistance in the following areas: return and reintegration, civilian registration, return of qualified nationals, repatriation of refugees in cooperation with UNHCR, tracing and family reunification in co-operation with ICRC, health assistance (reconstruction of health services, pre-integration health screening, psychosocial and post traumatic response, training of community health personnel), capacity building in migration management, skills training, information and referral service, job referrals and out-placement, micro-projects to facilitate reintegration, and local communal governance to alleviate migratory pressures. IOM also provides rapid analysis of migratory flows and early warning, develops national population information systems, organizes census taking, and provides technical co-operation and support to government counterparts. And, it is playing an important role by bringing together field level humanitarian stakeholders through its Joint Operations Centers initiative.

- **Office for the Coordination of Humanitarian Affairs:**

OCHA's main mission is to mobilize and co-ordinate the collective efforts of the international community, in particular those of the UN system, to meet in a coherent and timely manner the needs of those exposed to human suffering and material destruction in disasters and emergencies. This involves reducing vulnerability, promoting solutions to root causes and facilitating the smooth transmission from relief to rehabilitation and development. OCHA's functions focus on three core areas: • Co-ordination of humanitarian emergency response to complex emergencies and natural disasters, by ensuring that appropriate response

mechanisms are established on the ground. • Advocacy of humanitarian issues with political organs. • And, policy development in support of the Secretary-General to ensure that humanitarian issues are addressed.

Prior to the onset of a complex emergency, OCHA is responsible for working with the UN Resident Coordinator and agencies in-country to carry out contingency planning and preparedness actions – such as developing common inter-agency planning scenarios and assumptions, agreeing on the division of labor at the start of a relief operation, and identifying and positioning standby relief items immediate needs. OCHA carries the responsibility for organizing the consolidated humanitarian appeal which, in 2009, sought a total of US \$ 547,342,760 for activities in Iraq and the region.

▪ **United Nations Children’s Fund:**

UNICEF advocates and works for the protection of children’s rights, meeting the young’s basic needs, and helping them reach their full potential. UNICEF also acts to ensure special protection for the most disadvantaged children: victims of war including child soldiers, victims of disasters, extreme poverty, all forms of violence and exploitation, and those with disabilities. In all of this it is guided by the Convention on the Rights of the Child (CRC) and other international legal standards. UNICEF is guided in its emergency actions by a set of *Core Corporate Commitments* that define the organization’s initial response to the protection and care of children and women in unstable situations. These commitments are:

- To undertake a rapid assessment of the situation of woman and children in crisis;
- To be ready to assume a coordinating role for interventions in public health, nutrition, child protection and psychosocial support, unaccompanied children and education;
- To provide the assurance of good nutrition and family food security; access to potable water; environmental hygiene and safe excreta disposal; the provision of essential child health services and reproductive health care for women; and the rapid establishment of education facilities.

UNICEF is playing an important role by bringing together field level humanitarian stakeholders through its IMPACT program. And, in concert with the United Nations Educational, Scientific and Cultural Organization (UNESCO) has developed the Education Management Information System (EMIS) for monitoring educational data.

▪ **United Nations Development Programme:**

UNDP’s mission is to contribute to the Government of Iraq’s efforts to achieve sustainable human development by assisting them to build their capacity to design and carry out development programmes in poverty eradication, employment creation and sustainable livelihoods, the empowerment of women. With respect to Countries in Special Development Situations (CSDS) and disasters, UNDP strives to be an effective development partner for the United Nations relief agencies, working to sustain livelihoods while they seek to sustain lives. It acts to assist Iraq to prepare for, avoid and manage crisis situations and disasters. It assists with a broad range of responses to emergencies that include: planning and programming work for peace and recovery, area rehabilitation to resettle internally displace persons an returning refugees, reintegration of demobilized soldiers, de-mining, rebuilding institutions and improving governance, organizing national elections and managing delivery of program aid.

UNDP administers the UN Volunteer Program that provides volunteers for assignments in humanitarian and relief operations and support to United Nations system-wide responses in complex emergencies and natural disasters, and in efforts to accelerate the process of sustainable recovery. At present the UN Volunteer Program is not operational in Iraq – a national UN Volunteer Program has been discussed with several disaster risk reduction stakeholders as a possible means to address both a high unemployment rate among university graduates and the need for skilled community animators to create both urban and rural disaster preparedness first responders. The Bureau for Crisis Prevention and Recovery (BCPR) within UNDP is providing technical assistance to the UN Humanitarian Coordinator and the UN Country team on disaster risk reduction and the steps toward the establishment of a national disaster management system in Iraq.

▪ **United Nations Human Settlements Program**

UN-HABITAT is the UN agency for human settlements mandated by the UN General Assembly to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all. In Iraq, UN-HABITAT is supporting project in three main areas:

- Advocacy, technical assistance, and capacity building in the housing, local government and rehabilitation sectors.
- Development of knowledge products (research, studies, and analytical tools).
- Physical rehabilitation of housing and community infrastructure.

As the lead agency for the Intern-agency Housing and Shelter Sector Outcome Team, UN-HABITAT has continued to support humanitarian interventions for internally displaced families who live in rental accommodation, which are generally dilapidated and lacking in basic services and amenities. “Daily life in the worst slums ought to be considered a humanitarian emergency and be responded to urgently, as urban populations face both familiar and new city-specific threats from natural and a manmade causes. In this sense, the urban poor are living through tomorrow’s crises today.”³⁴

▪ **United Nations Industrial Development Organization:**

UNIDO recognizes the fate of recovery efforts in post-crisis situations, like in Iraq, is largely determined by the degree of success in making the transition from the initial emergency and relief stages, through the reconstruction and rehabilitation and return to a period of development. By assisting national partners in mobilizing the skills and expertise necessary, UNIDO is helping to meet this challenge. Through years of experience UNIDO has identified the factors that are critical to the success of their livelihood and economic recovery projects:

- A multi-dimensional approach to human security.
- A people-centered focus.
- A rapid and flexible delivery model.
- Identification of assets and appraisal of needs at the community level.
- Appropriate technology transfer and skill development.
- Strengthening income flows and adding values to local resources;
- Promoting market access and linkages.

³⁴ Tomorrow's Crises Today (200&) UN-HABITAT, OCHA IRIN, AusAid.

UNIDO and FAO have collaborated in providing communities in Iraq with training and marketing acumen to develop small scale enterprises in food processing, metal and wood working, textiles and agro-mechanics in addition to the development of business associations to ensure sustainability of local industries. UNIDO has also provided the necessary technical assistance to rehabilitate the dairy sector in Iraq in order to provide a safe source of milk and dairy products for vulnerable groups and to reduce their reliance on imports.

▪ **World Food Programme:**

The World Food Programme is the frontline United Nations agency mandated to combat hunger, and in emergency situations, it provides food to save lives. WFP responds to crises arising from both natural disasters and complex emergencies and has the central role in assessing, coordinating, delivering, and most importantly, resourcing of food assistance and the associated transport costs. WFP emphasizes early warning and contingency planning. Early warning mechanisms include collaboration with the Framework Team in New York and WFP's Vulnerability and Analysis and Mapping Project (VAM). The WFP-Iraq strategy for the 2010-2015 period, when their food aid will drop to zero and shall be replaced with a combination of cash/vouchers, shall be to respond to the GOI request to support the critical safety nets needed by vulnerable groups, strengthen the impact of the public subsidy distribution programme and lastly to diversify the economy.

WFP is supporting a Food Security Unit within the Ministry of Planning and Development Cooperation to monitor areas of food vulnerability through their Vulnerability Assessment Mechanism (VAM). WFP is proposing to use some of their tools to create a stronger linkage to risk reduction by supporting capacity building within a new apex institution for disaster risk management. Their particular area of interest is to address key transfer of technology that would contribute to early warning, disaster preparedness and response mechanism through the following six phased initiatives:

- Identify specific hazards in high risk areas
- Mapping of hazard areas and identify gaps in response mechanisms
- Support capacity development
- Develop early warning mechanisms by introducing WFP tools
- Develop coordination mechanism for responding effectively to crisis events
- Lastly, to regularly test the mechanisms set in place.

▪ **World Health Organization:**

WHO is the specialized agency of the United Nations with responsibility for health and an important role in emergencies. WHO acts at the global, regional and country levels concerning disaster reduction (i.e. disaster prevention and preparedness) and emergency response as well as humanitarian advocacy in the health sector. WHO applies the epidemiological method and the public health model to disaster reduction. The organization works at strengthening Iraq's health priorities and best public health practices are reflected in emergency humanitarian relief. WHO is well placed to respond to the health aspects of emergencies and strengthen country capacities for disaster response (mitigation, preparedness and response).

In the area of disaster reduction, WHO advocates for the inclusion of disaster vulnerability in general economic and industrial development decisions; • increases public awareness of the

risk that hazards pose to modern societies; Supports health capacity building at national level, provincial and community levels. When an emergency occurs, WHO takes the lead in health information management, rapid health assessments, epidemiological and nutritional surveillance, sector response co-ordination; addresses all health life saving issues in order to reduce the mortality and morbidity excess from preventable causes such as epidemic-prone communicable diseases, tuberculosis, HIV/AIDS and sexually transmitted diseases, non safe pregnancy, as well as mental health disorders.. .. WHO has conducted workshops in Amman and Geneva for disaster risk management stakeholders.

Integrating Disaster Risk Reduction into Development

133. Development efforts are frequently disrupted by natural disasters which can sharply increase poverty and set back the pace of social and economic progress. Often, country poverty reduction strategies tend to view disasters as interruptions to development rather than as a risk integral to development, even in countries that experience multiple impacts. An analysis of what transforms a natural hazard into a disaster reveals similar fundamental issues that development programs deal with such as (i) persistence of widespread urban and rural poverty;)ii) degradation of the environment; (iii) persistent poverty among certain groups; (iv) lagging investments in infrastructure; and (v) weak governance.

134. The international community recognized the implications that disasters have on development, and disaster risk reduction is emerging as a field in development work. This approach is assisted by evidence, mostly from developed nations, that show substantial economic and social gains can be made by adopting disaster risk reduction which is more affordable than repairing damage after impact, the latter which often approaches 20-40 percent of the original cost. The World Bank estimates countries could save US\$ 7 on recovery costs for every US\$1 spent on disaster risk reduction. Achieving this requires a comprehensive approach that emphasizes action taken prior to disaster rather than on post-impact recovery. The aim of disaster risk reduction is not to restore things the way they were before a disaster but to increase vulnerable communities' capacities and strengthen their coping strategies to deal more effectively with adverse events.

135. Poverty reduction has been one of the main objectives of development programs in many developing countries of the world for the last several decades. Over the years, the very definition of poverty has evolved from just looking at people's income to taking a more holistic view of their well being. Improved access to public health facilities, improved life expectancy and gender equity has become some of the essential indicators of the success of poverty reduction programs. This has led to increased emphasis on better integration of poverty reduction programs with other sectoral issues such as environmental management, gender development, public health and disaster risk reduction.

136. However, examples of systematic long-term integration of poverty reduction programs with disaster management sector have been very few as "development efforts are focused on helping the poor in dealing with many of the risks they face in daily life – such as in employment, health care, transport, education, water and sanitation. But disaster risk traditionally has not been a priority on the development agenda. When carefully laid development plans were tragically interrupted by disasters the international community relied on organizations such as the United Nations and the IFRC to step in with relief services. When the emergency work was

over, reconstruction efforts began to get the country 'back on the development track'.³⁵ Clearly, most poverty reduction programs have left a lot to be desired in terms of integration with disaster management.

137. Over the past two decades, the number of recorded disasters has doubled from approximately 200 to over 400 per year. Nine out of every ten of these disasters have been climate related. Current projections regarding climate change suggest this trend is set to continue and that weather related hazard events will become more frequent and more volatile. Patterns of drought and desertification are also intensifying. In addition, vulnerability is also growing in many countries. Increasing urbanization, including growing concentrations of people in unplanned and unsafe urban settlements and exposed coastal areas, poverty, HIV prevalence, and inadequate attention to changing risk patterns, are placing more and more people in disaster-prone locations. Never before has the challenge "to substantially reduce the impact of disasters and to make risk reduction an essential component of development policies and programmes" spelled out in the Hyogo Framework for Action 2005-2015 (HFA) is more urgent or more compelling.

138. In 2005, shortly after the Asian Tsunami, over 168 governments pledged to implement the Hyogo Framework's three strategic goals: to integrate disaster risk reduction into sustainable development policies and planning, to develop and strengthen institutions, mechanisms and capacities to build resilience to hazards and to systematically incorporate risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes. To achieve these goals, the HFA outlined five specific Priorities for Action:

1. Making disaster risk reduction a priority
2. Improving risk information and early warning
3. Building a culture of safety and resilience
4. Reducing the risks in key sectors
5. Strengthening preparedness for response

139. The Framework also stressed that disaster risk reduction is not just an issue to be addressed by humanitarians, scientists or environmentalists, but is also critical to sustainable social and economic development processes. Disasters undermine development achievements, impoverishing people and nations. In the absence of concerned efforts to address root causes, disasters represent an increasingly serious obstacle to the achievement of the Millennium Development Goals.

140. In Priority Five; strengthening preparedness for response at all levels, the HFA highlighted the essential role that disaster preparedness can play in saving lives and livelihoods particularly when integrated into an overall disaster risk reduction approach. Strengthened preparedness for hazard events is mainly concerned with two objectives: increasing capacity to predict, monitor and be prepared to reduce damage or address potential threats and strengthening preparedness to respond in an emergency and to assist those who have been adversely affected. Thus, the need to integrate disaster risk reduction into national development strategies should be a high priority.

³⁵ Kreimer Alcira, Margaret Arnold, 2001. The poor suffer the most', Our Planet, vol. 11, No.3, UNEP, Nairobi, Kenya.

Development of a National Platform for Disaster Risk Reduction

140. A national platform for disaster risk reduction can be defined as a nationally-owned and led mechanism—adopting the form of a forum or committee—that serves as advocate for disaster risk reduction at different levels and contributes with both analysis and advice on action through a coordinated and participatory process. It should be integrated in the existing disaster risk management as well as planning system and be developed as a forum to facilitate the interaction of key development players from line ministries, disaster management authorities, academia, civil society and other sectors around the disaster reduction agenda. The national platform should be the custodian of the nationally adapted and agreed Hyogo Framework and should aim at contributing to a comprehensive national disaster reduction system, as appropriate to each context.

Who are the members?

- Representatives from major line ministries;
- Representatives from civil societies, including NGOs, private sectors, media and academic institutions.

141. National platforms for disaster risk reduction work toward more resourced, effective and integrated efforts of risk reduction amongst national stakeholders³⁶ and amongst national, regional and international parties in support of development goals.

142. National platforms for disaster risk reduction lead to informed decision making by providing a framework for systematic thought and commitment to priority actions across sectors and territory. They support national consultation and consensus building, as well as identification of priorities for disaster risk reduction. They also support the formulation of policies and monitor the implementation and regular review of disaster risk reduction activities. The emphasis should be on managing progress toward disaster risk reduction objectives rather than producing a “plan” as an end product.

Key objectives of national platforms:

- Increase national leadership and commitment to the sustainability of disaster risk reduction and implementation of the Hyogo Framework;
- Enhance collaboration and coordination among national stakeholders in order to increase levels of knowledge and skills on disaster risk reduction;
- Increase national commitment to help the most vulnerable and at-risk population;
- Serve as national focal points in the ISDR system and strengthen links with the ISDR secretariat and Task Force.

143. National platforms for disaster risk reduction are mechanisms by which countries can address inter-related social, economic and environmental problems and support the identification of needs in the area of disaster reduction, as well as allocate limited resources rationally and present timetables for action.

144. National platforms will facilitate the allocation of resources of UN agencies that are not represented in-country and advocate for the work of the UN in support of national goals.

³⁶This refers to the five main stakeholder groups of a national community (government and statutory bodies), private sector (profit-oriented enterprise society (including individual community leaders), academic and research (Conventional definition of "multistakeholder" taken from IUCN's National Community model).

145. Disaster risk reduction is a country-specific long-term process. Its success relies heavily on sustainability, national ownership and leadership of the process. Therefore, each country needs to determine for itself how best to approach national platform establishment and activity plans depending on the prevailing economic, social, political and ecological circumstances. In most situations, national platforms will be developed in the context of existing mechanisms and processes. In some cases, an existing committee or fora with a disaster reduction mandate can take over the platform role. National platforms through their coordination, exchange, lobbying and awareness raising roles, contribute to strengthening present structures or national systems, institutions and processes. Existing disaster risk reduction national groups or committees will also have the opportunity to increase their access and linkages with other relevant bodies nationally, regionally and globally.

146. A “blueprint” approach for national platforms for disaster risk reduction is neither possible nor desirable. However organized, what is important is the consistent application of the major guiding principles and ensuring that economic, social and environment context are being addressed. Additionally, national platforms must be flexible. Dynamic national situations, mainly in terms of political and economic factors, also require that they be responsive and adaptable to change.

147. The Hyogo Framework provides a reference for assessing and monitoring achievements on disaster risk reduction, thus facilitating the work of national platforms when undertaking roles such as:

- establishing existing baselines;
- identifying existing trends;
- benchmarking progress;
- ascertaining challenge areas and concerns;
- redirecting and refining efforts;
- exchange lessons learned and best practices;
- setting forth accepted targets;
- establishing credibility across different institutions and interest groups; and
- recording and reporting.

148. National platforms for disaster risk reduction should demonstrate added value to all parties and should as much as possible:

- a) Reflect shared strategic and pragmatic vision;
- b) Build on existing processes and strategies and be nationally owned and driven;
- c) Be spearheaded by a strong representative of an institution;
- d) Ensure the widest possible participation;
- e) Anchor the development and tasks of the platform in sound technical analysis;
- f) Be integrated and balanced across sectors and territories;
- g) Link national and local priorities and actions;
- h) Build mechanisms for monitoring, follow up, evaluation and feedback;
- i) Give priority to education and public awareness; and
- j) Ensure continuity of the platform development process ultimately strive towards a national system for disaster risk reduction.

Partnerships, Public Participation and Communities

149. The provision of assistance in disasters should be informed by the underlying humanitarian principles of neutrality, humanity and impartiality. The holistic and strategic approach of the Hyogo Framework is based on a number of further guiding principles that are outlined in detail in the ISDR document *Words Into Action: Implementing the Hyogo Framework*. These include that:

- **Effective disaster risk reduction requires community participation.** The involvement of communities in the design and implementation of activities helps to ensure that they are well tailored to the actual vulnerabilities and to the needs of the affected people. This informed engagement helps to avoid problems and secondary effects when hazard events occur. Participatory approaches can more effectively capitalize on existing indigenous capacities. They are usually also more sensitive to gender, cultural and other context-specific issues that can undermine or empower particular groups and individuals to take locally based action. The incorporation of local perspectives into decision and activities also helps to ensure that changes in vulnerability and perception of risk are recognized and factored into institutional processes, risk assessments, and other programmes and policies.
- **States have the primary responsibility for implementing measures to reduce disaster risk.** Disaster risk reduction needs to be an essential part of a state's investment in sustainable development. States have the power as well as the responsibility to protect their citizens and their national assets by reducing the losses from disasters. States, however cannot do the job alone. Effective disaster risk reduction relies on the efforts of many different stakeholders, including regional and international organizations, civil society, including volunteers, the private sector, the media and scientific community.
- **Disaster risk reduction must be integrated into development activities.** Disasters undermine hard-won development gains, destroying lives and livelihoods and trapping many people in poverty.
- **A multi-hazard approach can improve effectiveness.** A particular community is usually exposed to risk from a variety of hazards. The resulting cumulative risk cannot be tackled effectively if actors plan merely for selected hazardous events. A multi-hazard approach involves translating and linking knowledge of a full-range of hazards into disaster and risk management. It will look not only at natural hazards, but also factors including political strategies, technical analysis, and operational capabilities and public understanding. This approach will ultimately lead to greater effectiveness and cost efficiency.
- **Capacity development is a central strategy for reducing risk.** Capacity development is needed to build and maintain the ability of people, organizations and societies to manage their risks successfully themselves. This requires not only training and specialized technical assistance, but also the strengthening of capacities of communities and individuals to recognize and reduce risks in their localities.
- **Decentralize responsibility for disaster risk reduction.** Many disaster risk reduction activities need to be implemented at the provincial, municipal and local levels, as the hazards faced and the populations exposed are specific to particular geographic areas. It is necessary to

decentralize responsibilities and resources for disaster risk reduction to relevant sub national or local authorities as appropriate. Decentralization can also motivate increased local participation along with improved efficiency and equitable benefits from local services.

- **Gender is a core factor in disaster risk and in the reduction of risk.** Gender is a central organizing principle in all societies. Differences in gender roles will lead to differing risk profiles for women and men in a disaster. In all settings- at home, at work or in the neighborhoods- gender shapes the capacities and resources of individuals to minimize harm, to adapt to hazards and respond to disasters. It is evident from past disasters that low-income women and those who are marginalized due to marital status, physical ability or age, social stigma or caste are especially disadvantaged. At the grass roots level, on the other hand, women are often well positioned to manage risk due to their roles as both users and managers of environmental resources, as economic providers, and as caregivers and community workers. For these reasons it is necessary to identify and use gender differentiation information, to ensure that risk reduction strategies are correctly targeted at the most vulnerable and are effectively implemented through the roles of both women and men.

- **Public-private partnerships are an important tool for disaster risk reduction.** Public-private partnerships are voluntary joint associations formed to address shared objectives through collaborative actions. They may involve public organizations such as government agencies, professional and/or academic institutions and NGOs, together with business organizations such as companies, industry associations and private foundations. Because the threats from natural hazards affect both public and private interests alike, private-public partnerships can offer opportunities to combine resources and expertise and to act jointly to reduce risks and potential losses. They can therefore improve the resilience of communities.

- **Disaster risk reduction needs to be customized to a particular setting.** States vary greatly in their political, socio-economic, cultural, environment, and hazard circumstances. Measures that succeed in reducing risk in one setting may not work in others. Customizing involves making use of others' experience, for instance by reviewing the contexts of particular measures and the nature of good practices and lessons learned, and then tailoring these to implement policies and activities that are appropriate for the local contexts.

B. Risk Identification

The Millennium Development Goals and Disaster Risk Reduction

150. Disasters can affect a nation's core mission and retard progress across focus areas such as: social investment and urban development; modernization of the state; competitiveness; regional cooperation; and environment and natural resource management. In order to provide effective development assistance a nation needs to approach disaster risk management as an investment in sustainable development.

1. Eradicating extreme poverty and hunger

Recent statistical analyses prove a long-held theoretical position that human vulnerability to natural hazards and income poverty are largely co-dependent. At the national level, reducing disaster risk is often contingent upon alleviating poverty and vice versa. Many lower income people live in substandard housing that is less able to withstand natural forces. Some live in high-density settlements near cities, built on steep slopes that are vulnerable to landslides.

Others live in low-lying areas that are at risk of flooding. In rural areas poverty drives deforestation and unsustainable agricultural practices. In addition, poor people have less access to resources to help them recover from physical losses. They are less likely to have savings, insurance, or access to credit, which could help them finance reconstruction costs. This situation can cause permanent setbacks in the lowest income quintiles and thwarts their efforts at climbing out of poverty.

2. Achieving universal primary education

Educational attainment is a fundamental determinant of human vulnerability and marginalization. Broadening participation in development decision-making is a central tenet of disaster risk management. The destruction of schools is one very direct way in which disasters can inhibit educational attainment, but perhaps more important is the drain on household resources. Households frequently have to make difficult decisions on expending resources on survival and coping with poverty, or on investments (such as education and health care) to alleviate human vulnerability and enhance longer-term development prospects. If affected by a disaster, the poorest have little choice and devote their resources to survival; sending children to school falls lower in their list of priorities.

3. Promoting gender equality and empowering women

Facilitating the participation of women and girls in the development process, including efforts to reduce disaster risk, is a key priority. Women across the world play critical roles in the shaping of risks in development. In some contexts, women may be more exposed and vulnerable to hazards. For example, those with responsibilities in the household may be more exposed to risk due to unsafe buildings. At the same time, women are often more likely than men to participate in communal actions to reduce risk and enhance development. Orienting disaster risk policy so that it builds on the social capital represented by women can enable a more informed development policy. Such a model will not be easy, but best practice does exist to point the way. Barriers to women's participation at the higher levels of decision-making often severely limit their skills and knowledge available for reducing disaster risk. Overcoming disparities in access to education is a fundamental component of the disaster risk management agenda.

4. Reducing child mortality

Children under five years of age are particularly vulnerable to the impacts of hazards such as floods and drought through drowning and starvation as well as to environmental risks of inadequate sanitation and lack of drinkable water, which cause communicable diseases. In addition, health infrastructure is often damaged and made inoperable in a catastrophic event. The loss of caregivers and household income earners and the stress of displacement can have especially heavy tolls on the psychological and physical health of children less than five years of age. Policies to support sustainable development by reducing child mortality need to build in strategies to limit or reduce disaster risk.

5. Improving maternal health

As environmental hazard stress or shock erodes the savings and capacities of households and families, marginal people within these social groups are most at risk. In many cases it is women and girls or the aged who have the least entitlement to household or family assets. Maternal health is a strategic indicator of intra- and inter-household equality. Reducing drains on household assets through risk reduction will contribute to enhancing maternal health. More direct measures through investment in education and health will similarly contribute to household resilience as maternal health indicators improve. Children have already been

identified as a high-risk group and maternal health plays a part in shaping the care received by young children.

6. Combating HIV/AIDS, malaria and other diseases

The interactions between epidemiological status and human vulnerability to subsequent stresses and shocks are well documented. For example, rural populations affected by HIV/AIDS are less able to cope with the stress of drought because of a shortage of labor. Individuals living with chronic terminal diseases are more susceptible to the physiological stress of hunger. For diseases transmitted through vectors, there is a risk of epidemic following floods or drought, similarly the destruction of drinking water, sanitation and health care infrastructure in catastrophic events can increase the risk of disease.

7. Ensuring environmental sustainability

Environmental degradation increases the vulnerability to natural hazards and often transforms a hazard event into a disaster. Environmental degradation compounds the actual impacts of hazard events, limits an area's ability to absorb those impacts, and lowers the overall natural resilience to hazard impacts and disaster recovery. For example, deforestation may aggravate the effects heavy rainfall causing landslides and floods. Unplanned urbanization poses a challenge because it creates conditions that increase human vulnerability to disasters and at a high damage propensity. Informal settlement often takes place in highly dangerous locations, such as steep hillsides vulnerable to landslides, riverbeds prone to urban floods and near industrial installations subject to technological disasters. The target of achieving a significant improvement in the lives of at least 100 million slum dwellers by the year 2020 will be impossible without developing policies to confront their currently high risk from earthquake, hurricanes, flooding and drought. Natural hazards may also increase the risk of environmental degradation. For example, wildfires may result in deforestation and erosion, floods cause sedimentation and earthquakes may rupture gas pipelines or cause other types of industrial accidents with severe environmental impacts.

8. Developing a global partnership for development

Efforts to enhance sustainable development by reducing human vulnerability to natural hazards are challenged by competing priorities in national development agendas and by political incentive structures that favor disaster response over risk management. International and bilateral organizations must help generate a framework of incentives that encourage the private sector, academia and civil society to create partnerships with national and local governments to address disaster prevention as an integral part of development policies. Strong efforts are needed to build global partnerships for development that integrate the reduction of disaster risk.³⁷

National Risk Assessment

151. The Hyogo Framework for Action (HFA) specifically challenges states to foster a “holistic approach” to disaster risk reduction that will “promote and support dialogue, exchange of information and coordination among early warning, disaster risk reduction, disaster response, development and other relevant agencies and institutions at all levels”. By underlining the importance of a holistic approach, the HFA recognizes the interconnectedness of its five

³⁷ Adapted from “Reducing Disaster Risk: A Challenge for Development”, United Nations Development Program, 2004, p. 16.

priorities areas. It also challenges governments to consider disaster risk reduction in national development and disaster planning, and highlights the role of communities and other actors in reducing risk.

152. Recognizing that failing to build disaster risk reduction into national development processes could result in activities that either reinforce, or even exacerbate risk, both the United Nations Development Programme (UNDP) and the World Bank have committed to integrating disaster risk reduction into their national strategic planning processes with Governments. Humanitarian actors are also increasingly recognizing that their activities can contribute either positively or negatively to risk.

153. The HFA also stresses the need for a holistic approach to disaster risk reduction that can link international, regional, national and community level initiatives. Communities themselves are not only usually the first responders to disasters but are also central actors in reducing risk. Therefore one of the key tasks of a national preparedness capability is to strengthen and enhance this capacity at the community level (including resource capacity), and to make sure that this capacity is reflected in national level planning processes.

154. Capacity development is a key component of strengthening community-level preparedness. All levels of the preparedness and response system require skilled people in disaster management with a clear understanding of their role within that system. This capacity development should not only include community members, but should create dialogue and learning between all actors that form part of the disaster management system. This would generally include relevant government agencies; community-based and grassroots organizations; schools; universities; informal education sector; media, technical agencies with specialized knowledge of hazards; international, national, and local disaster management agencies; regional disaster management agencies; international and UN agencies.

Emergency Risks – Climate Change and Conflict

155. Climate change and disaster risk reduction are closely linked with more extreme weather events likely in the future to increase the number and scale of disasters. Because our climate system is in a constant state of change and has always exhibited natural fluctuations and extreme conditions, it is not possible to argue that any single extreme event is attributable to climate change. Only after a sufficient period and with hundreds of extreme events recorded can scientists determine if a specific event is within normal historical variation or is due to some other cause such as climate change. The difference now is that global temperatures have risen unusually rapidly over the last few decades. There is strong evidence of increases in average global air and ocean temperatures, widespread melting of snow and ice, and rising average global sea levels. The Inter-governmental Panel on Climate Change (IPCC) Fourth Assessment Report concludes that the global warming is unequivocal. Atmosphere and ocean temperatures are higher than they have been at any other time at least during the past five centuries and probably for more than a millennium.³⁸

156. Scientists have long known that greenhouse gasses in the atmosphere trap incoming solar energy like a “blanket” to keep the Earth’s surface warmer than it would otherwise be, and that an increase in atmospheric greenhouse gasses would lead to additional warming. The

³⁸ IPCC Fourth Assessment Report, Working Group II Report:

current concentration of greenhouse gases in the atmosphere is now the highest it has been for the past 500,000 years, having grown by 70 percent between 1970 and 2004 alone. It is now widely accepted that human activities, in particular fossil fuel use and changing land-uses, are the dominant factor in this growth and are responsible for most of the warming observed over the past 50 years.

157. The IPCC Fourth Assessment Report of the Working group II “Impacts, Adaptation and Vulnerability”, describes the likely effects of climate change, in the absence of any countermeasures as follows:

- **Water:** Drought-affected areas will likely become more widely distributed. Heavier precipitation events are very likely to increase in frequency leading to higher flood risks. By mid-century, water availability will likely decrease in mid-latitudes, in the dry tropics and in other regions supplied by melt water from mountain ranges. More than one sixth of the world’s population is currently dependent on melt water from mountain ranges
- **Food:** While some mid-latitude and high-latitude areas will initially benefit from higher agricultural production, for many others at lower latitudes, especially in seasonally dry and tropical regions, the increase in temperatures and the frequency of droughts and floods are likely to affect crop production negatively, which could increase the number of people at risk from hunger and increased levels of displacement and migration.
- **Health:** The projected changes in climate are likely to alter the health status of millions of people, including through increased deaths, disease and injury due to heat waves, floods, storms, fires and drought. Increased malnutrition, diarrhea disease and malaria in some areas will increase vulnerability to extreme public health and development goals will be threatened by longer-term damage to health systems from disasters.
- **Industry, settlement and society:** The most vulnerable industries, settlements and societies are generally those located in coastal areas and river flood plains, and those whose economies are closely linked with climate-sensitive resources. This applies particularly to locations already prone to extreme weather events, and especially areas undergoing rapid urbanization. Where extreme weather events become more intense or more frequent, the economic and social costs of these events will increase.

158. While it is impossible to be absolutely certain about all the disaster-related effects of climate change on Iraq, the likely consequences can be estimated in general terms as follows:

- More heat waves will increase the number of deaths, particularly among infants and the elderly, the very young, or among people who are chronically ill, socially isolated or otherwise especially vulnerable (particularly in connection to temperatures exceeding 50° C with up to 22 hours a day power cuts).
- Increase drought in some areas will likely lead to land degradation and salination, damage to crops or reduced yields, more livestock deaths, and an increased risk of wildfire. Such conditions will increase the risk for populations dependent on subsistence agriculture, through food and water shortages and higher incidence of malnutrition, water-borne and food-borne diseases, and may lead to displacements of population.

- Increase frequency of high precipitation in some areas will trigger floods and landslides, with potentially large losses of life and assets. These events will disrupt agriculture, settlements, commerce, transport and infrastructure in general and may further increase pressure on urban and rural infrastructure.

159. Based on a review of past successes and failures in reducing disaster risks, nations that have adopted the Hyogo Framework for Action have describe some practical examples of risk reduction adaptation that might be applicable to the Iraq context.

- **Agriculture and food security:** Well-known measure include altering crop strains to enhance their drought and pest resistance, changing planting times and cropping patters, and altering land topography to improve water uptake and reduce wind erosion. Diversification is an option, for example, by combining food crops, livestock and agro-forestry and the introduction of an insurance scheme for small landholders can help cope with crop losses.
- **Water section:** Adaptation measure include actions on both water supply and water risks, such as protecting water supply infrastructure and traditional water supply sources, developing flood ponds, water harvesting, improved irrigation, desalination, non-water based sanitation and improved watershed and trans-boundary water resource management.
- **Health sector:** Measures include early warning systems to address extreme weather events; systematic action on water and vector borne diseases to raise public awareness of watershed protection, vector control and safe water and food handling regulations; and support for education, research and development on climate related health risks.
- **Environmental management:** Healthy ecosystems provide significant benefits for resilience, livelihoods, risk reduction and adaptive capacity. Measure include strengthening of environmental management in areas of greatest risk from weather hazards; supporting transitions away from those that degrade environments and aggravate risk; and enforcing regulations concerning these practices.
- **Development planning and practices:** Adaptation and disaster risk reduction measures can be made a formal part of the development processes and budgets and programmed into relevant sector projects. For example, in the design of settlements and industries in order to achieve sustainable land management, avoid hazardous areas and build safe schools, hospitals and other public facilities.

160. Iraq faces a double-headed problem: that of climate change and conflict. There are currently 46 countries in the world, home to 2.7 billion people, in which the effects of climate change interacting with economic, social and political problems will create a high risk of violent conflict. The double-headed problem of climate change and violent conflict thus has a unified solution –peace building and adaptation are effectively the same kind of activity, involving the same kinds of methods of dialogue and social engagement, requiring from governments the same values of inclusivity and transparency. At the same time as adaptation to climate change can and must be made conflict-sensitive, peace building and development must be made climate-sensitive. A society that can develop adaptive strategies for climate change in this way is well equipped to avoid armed conflict. And a society that can manage conflicts and major disagreements over serious issues without a high risk of violence is well equipped to adapt

successfully to the challenge of climate change. Climate change could even reconcile otherwise divided communities by posing a threat against which to unite and tasks on which to cooperate.

161. The following options are proposed for addressing climate change in Iraq:

1. **Move the issue of conflict and climate change higher up the international political agenda.** New initiatives are needed to gain agreement on the importance of adaptation, especially in fragile states, and to develop international guidelines and make available adequate funding.

2. **Research the indirect local consequences of climate change.** Research is urgently needed on how the social and political consequences of climate change are likely to play out in specific regions, countries and localities.

3. **Develop and spread research competence.** University and research networks need mobilizing and strengthening to develop and spread competence on these issues, especially where consequences of climate change will hit hardest.

4. **Improve knowledge and generate policy through dialogue.** International cooperation needs to promote dialogue on adaptation among local communities, national governments and regional organizations.

5. **Prioritize adaptation over mitigation.** Priority should be given to understanding and addressing the consequences of climate change to prevent violent conflict.

6. **Develop the right institutional context: good governance for climate change.** Developing competence on adaptation needs to be treated as part of good governance everywhere.

7. **Prepare to manage migration.** Research identifying likely migration flows can help identify both migrant and host communities where dialogue should be started early to prepare to manage the process.

8. **Ensure National Adaptation Plans of Action are conflict-sensitive.** National Adaptation Plans of Action should take account of a state's socio-political and economic context and conflict dynamics.

9. **Climate-proof peace building and development.** Peace building and development strategies should include adaptation to climate change and make explicit how activities of these three interconnected strands strengthen one another.

10. **Engage the private sector.** Guidelines are needed to help companies identify how their core commercial operations can support adaptation.

11. **Link together international frameworks of action.** Greater efforts are needed to link the variety of separate international approaches with the related issues of peace building, development, adaptation and disaster management.

12. **Promote regional cooperation on adaptation.** International cooperation on adaptation is for regional bodies as well as for the UN. The framework of international cooperation on

climate focuses on mitigation and is largely a global agenda, through the UNFCCC and the Conferences of Parties. The EU is probably the only regional body with a developed climate policy while the Arab League have the potential to play a key role in raising awareness, developing policies, generating consensus and mobilizing resources to support adaptation.

162. Failure to integrate climate change considerations into development and peace building activities renders these activities, at best, short-term and, at worst, harmful. Interventions that are not conflict sensitive can exacerbate conflict dynamics and worsen the situation which they intend to assist. Far from complementing one another, policies and strategies for development, peace building and climate change are often disconnected and divergent. This is always an error, because it means opportunities for synergy are lost, and it can be dangerous when the different strands of policy undermine one another. The added dimensions of climate change to the multi-dimensional context of poverty and fragile states mean that decision-making must involve collaboration between the various donor agencies and government departments with the relevant fields of expertise.

163. While there are some examples of joint action between national governments and international donors, research found little evidence of policies or projects that specifically address climate change within an existing development and peace building framework. This is probably due to the general lack of capacity of government institutions to engage with a relatively large number of donors – they often seem to spend their entire time in review meetings with different donors instead of getting everybody together in one forum – as well as the limited scope of project funding and the lack of information sharing between environmental bodies, development actors and affected communities. Beyond this, however, as argued above, such activities need to be developed and implemented with local communities participating fully from the outset.

164. Failure to integrate climate change considerations into development and peace building activities renders these activities, at best, short-term and, at worst, harmful. Interventions that are not conflict sensitive can exacerbate conflict dynamics and worsen the situation which they intend to assist. Lack of conflict- and climate-sensitivity will slow down the development potential of fragile states, which will, in turn, increase the risk of violent conflict.

Early Warning

165. Early warning and information systems are key tools for mitigating disaster impacts. In the past 20 years considerable progress has been made in improving systems for providing short-term advance information on extreme weather events, flood surges, volcanic eruptions and food crises which allow timely action to be taken in the realm of disaster management. Yet there is also a need for information systems to support longer-term risk assessment and monitoring, focusing on vulnerability as well as hazards, as a basis for disaster risk reduction initiatives within a development framework.

166. In several continents main effort has gone into food security early warning systems, which operate at national level and are supported by respective regional intergovernmental organizations and the international systems of FAO and USAID. These have become generally effective in providing timely assessments of seasonal conditions for crops and pastures, generating national food balance estimates, and more recently identifying outcomes for different

livelihood groups. Their main audiences are governments of affected countries, donors and humanitarian agencies.

167. In the case of storms and floods, an important function of early warning systems is to communicate warnings directly to affected populations. The record is mixed. Loss of life in Nicaragua and Honduras due to Hurricane Mitch could have been significantly reduced had communities in remote areas been better warned. In Bangladesh some 34,000 community based volunteers spread the word when cyclone warnings are broadcast by radio, though the provision of user-friendly information to farmers on flood surges in North Bangladesh could be much improved, while in Andhra Pradesh artisanal offshore fishers are exposed to cyclone risks because they have no radios to receive early warning messages.

168. Integration of early warning systems with public alerts, evacuation and emergency response systems across sectors is crucial for disaster management. In this regard, systems that are community-based can sometimes be more effective than top-down centralized systems because they can be more directly integrated into local response and risk reduction strategies.

169. The impacts of Hurricane Mitch fell most heavily on the poorest, especially on those living and working in marginal lands on steep slopes and floodplains. But a few examples have emerged from the region that illustrate how simple disaster risk reduction activities rooted within communities in hazard-prone locations may play a significant role in reducing local deaths. In contrast with neighboring sites, there were no deaths among the inhabitants of La Masica on the coast of Honduras, where external agencies had supported a local capacity-building programme for risk reduction featuring a community based flood early warning system linked to preparedness training. Similarly, there was no loss of life along the Coyolate River in Guatemala, where communities had jointly worked to map flood hazard, establish a high-rainfall alarm system, monitor river levels and build evacuation shelters.

170. Overall, early warning and information systems, often with substantial donor assistance, have significantly improved in terms both of information reliability/timeliness and linkages to early response, saving many lives in disasters. Common shortcomings, however, are that while they establish the means to generate or acquire large volumes of data, including remote sensing data, they are weak at analysis and interpretation and sometimes weaker still at communicating their findings to stakeholders in a useful form which leads to action. In many cases their approach is technical, short-term and oriented towards needs for humanitarian assistance. They are far less attuned to generating knowledge that would improve understanding of longer-term socio-economic and political processes responsible for vulnerability (including conflict), or eliciting action to reduce that vulnerability.

171. Better analysis of this latter kind could provide a solid foundation for designing strategies to integrate risk reduction into development processes at national and sub-national levels. This will require appropriate levels of investment in expertise, adequate resourcing of system operations and a commitment to intersectoral collaboration to strengthen information action links.

C. Knowledge Management and Education

172. Community education is an important component of any risk reduction strategy. People must be properly informed of the risks they face as well as what they can do to reduce those

risks. Risk reduction should be incorporated into the education program at all school levels and into informal community education programs. This may include programs for school-age children which teach, for example, basic understanding of the environment in which they live and likely hazards which occur. More specific practices can be presented, such as how to take shelter in a cyclone or what to do in the event of an earthquake. Programs for adults can focus on the risks associated with the construction of a specific type of dwelling or with living on a steep hillside. In addition, education programs should also be developed for builders, developers, public administrators and educators. These programs might focus on how improved construction standards can reduce risk, especially with regard to public structures such as schools which may serve as temporary refuges during a hazard event.

Information Management and Exchange

173. Making decisions based on reliable disaster risk information from hazard mapping and vulnerability assessment. The Total Disaster Risk Management Approach promotes good decision-making and effective use of limited resources. It attaches great importance to hazard mapping, vulnerability and risk assessment as a fundamental tool for generating reliable disaster risk information which serves as basis for making decisions on disaster reduction and response interventions.

174. The appreciation of the relevance of disaster risks information encourages critical involvement of various sectors in disaster reduction. For example, some major financial institutions and development assistance agencies are now beginning to require risk assessment and risk management processes to be included in new infrastructure development projects. This broadening involvement of various sectors previously less concerned with disaster reduction and response is a positive development.

175. However, many local communities remain unfamiliar with the methods and uses of hazard mapping, vulnerability and risk assessment. In pursuit of a holistic approach to disaster reduction, it is important that sectors are aware of prevalent risks and prevailing vulnerabilities and the methods to assess them. Moreover, it is important that vulnerabilities are assessed and understood in a broad context, including human, socio-cultural, economic, environmental and political dimensions.

176. Among the possible program activities for this strategy are: (a) Promotion of hazard mapping, vulnerability and risk assessment at the local and community levels; (b) Collaboration and cooperation in vulnerability and risk assessment of critical facilities such schools and hospitals; and (c) Collaboration and cooperation in assessment and enhancement of early warning systems.

177. Enhancing coordination and integration of stakeholders' action through good communication and efficient exchange of relevant and reliable information. Information plays an extremely important role in effective disaster reduction and response. The wise and timely use of disaster risk information could mitigate, if not prevent disasters. Moreover, good communication and exchange of critical disaster risk information could enhance coordination and integration of stakeholders' actions in disaster reduction and response. However, ensuring the availability and accessibility of accurate and reliable disaster risk information when required entails an efficient system for information sharing. In this regard, an efficient disaster risk management information systems is important. Moreover, it should be effectively linked to local

early warning systems, local authorities and the media to ensure effective use of disaster risk information for public awareness and education, among others.

178. Among the possible program activities for this strategy are: (a) Enhancement of disaster risk management information systems at various levels; (b) Capability and skills development for media practitioners and school teachers; and (c) Integration of information technology and local knowledge; and (d) Strengthening of early warning systems for natural hazards, including climatic anomalies attributed to climate change.

Enabling Mechanisms

179. Ensuring that appropriate enabling mechanisms are in place, including policy, structure, capacity building, and resources. As disaster reduction becomes essential to sustainable development, disaster reduction policies and measures need to be developed and institutionalized at national and local levels. They should enable communities to be resilient to natural hazards while ensuring that development efforts do not increase vulnerability to those hazards.

180. In pursuit of the TDRM Approach, the following enabling mechanisms for effective disaster reduction are necessary:

(1) Policy. A clear and comprehensive policy that defines the objectives and commitment of the government, organization, or community to disaster reduction and response efforts is important. This may assume the form of legislation, policy guidelines, promulgated plans, or protocols. A policy developed through a strategic and consultative planning process could effectively address the identified gaps in the disaster management cycle.

(2) Structures and systems. Organizational structures and systems that facilitates and ensures coordination of stakeholders' action and contributions should be in place. This involves the establishment and strengthening of focal points and national and local coordination bodies for disaster reduction and response activities, and disaster management systems.

(3) Capacity enhancement. The enhancement of national and local capacity to establish and implement disaster reduction and response measures, especially for vulnerable sectors and communities, should be a constant undertaking. This includes education and training in disaster reduction and related fields.

(4) Resources. The identification and provision of resource requirements, including funds and trained human resources, are important. This includes means to access and use authorized fund appropriations for disaster reduction and response. These enabling mechanisms are more effective when sustained by institutional enthusiasm, political will and commitment, and responsible focal points and advocates in government. Among the possible program activities for this strategy are: (a) Capacity enhancement for national and local disaster coordination bodies; (b) Policy and program development for disaster reduction (including development of disaster reduction plans); and (c) Resource generation and management.

5) Implementing the disaster risk management process from the national level to the community level. The disaster risk management process is a process for good decision-making and

ensuring the best use of limited resources. It applies the standard principles, process and techniques of risk management to disaster management. The process presents a framework and systematic method for identifying, analyzing, assessing and managing disaster risks in six systematic steps:

(1) Establish the disaster risk context. This step establishes the strategic, organizational and risk management context in which the rest of the process takes place. The strategic context refers to the operating environment (i.e. stakeholders, legislations, standards, etc.); the organizational context to organizational goals, objectives and policies; and the risk context to specific disaster risk issues. The criteria against which the risk will be assessed are established through consultation, and the structure of the analysis is identified.

(2) Identify the disaster risks. Second, identify the disaster risks. This step identifies what, why and how hazards or certain events or occurrences could translate into disasters. The sources of risks, areas at risk, and the existing disaster risk reduction measures are also identified.

(3) Analyze the disaster risks. This step determines the existing controls and analyzes disaster risks in terms of likelihood and consequences in the context of those controls. The analysis should consider how likely is an event to happen, and what are the potential consequences and their magnitude. The analysis results in an estimation of the level of risk.

(4) Assess and prioritize the disaster risks. This step compares estimated levels of risk against the pre-established criteria and ranks disaster risks to identify disaster management priorities. (Acceptable vs. treat risk)

(5) Treat the disaster risks. This step involves identifying a range of options for treating the priority risks, such as options for prevention, preparedness, response, and recovery, selecting intervention options, planning and implementing intervention strategies. Moreover, the specific disaster risk management plans for priority disaster risks are developed, funded and implemented.

(6) Lastly, monitor, review and communicate. Since few risks remain static, it is important to monitor and review the performance of the disaster risk management system (Steps 1-5), the changes that might affect it, and ensure that the disaster risk management plan is relevant. It is therefore necessary to undertake the disaster risk management process regularly. (The entire process is iterative.)

181. Among the advantages of using the standard risk management process to disaster management are: (a) it is a formalized and systematic decision-making process; and (b) its adoption provides a common language, system, and process to all organizations and sectors involved, thereby facilitating coordination and collaboration among them and integration of actions. In general, this process aids decision makers in determining possible outcomes of risks and undertake appropriate measures to control or mitigate their impact based on reliable information and available resources. In this regard, disaster risk management promotes good

disaster management practice, and therefore, should be incorporated in disaster reduction plans and programs, and implemented in all sectors.

182. Among the possible program activities for this strategy are: (a) Human resource development in disaster risk management process; (b) Collaboration in disaster risk assessment of specific vulnerable communities; (c) Assessment of disaster risk reduction efforts (including development of methods of measure).

D. Reducing Underlying Risk Factors

183. The implementation of a national strategic action plan entitle, *The Road Map for Disaster Risk Management: Towards a Safer Sri Lanka*, presents a useful illustration for the manner in which Iraq may consider how to reduce its own underlying risk factors t both natural and human induced hazards:

The Initiative

184. In Sri Lanka, the 2004 Indian Ocean Tsunami resulted in the tragic loss of more than 39,000 lives, and left a very large proportion of the population directly affected. The Tsunami also caused heavy losses to agriculture and infrastructure. This devastating impact harshly exposed the nation's and communities' vulnerability to large-scale hazards, and led to a strong commitment by the Government, civil society and several international partners to make Sri Lanka safer. After the enactment of the Sri Lanka Disaster Management Act, the need to complement ongoing policy efforts with risk identification and reduction strategies became clear. National and local level institutions had to be strengthened while paying due attention to private sector and Community based Disaster Risk Management (CBDRM). In acknowledging these needs, the Ministry of Disaster Management and Human Rights proposed to develop a National Strategic Action Plan, called the Road Map for Disaster Risk Management: Towards a Safer Sri Lanka.

185. The Road Map was prepared with UNDP support and benefited from technical inputs from the Asian Disaster Preparedness Centre (ADPC). Governmental organizations, NGOs, UN agencies, donor communities, academia and research institutions and CBOs were actively involved in the process of developing the Road Map. They participated in initial workshops to identify thematic areas and in the project formulation. The document was finally adopted in December 2005. Since the process to develop the document was started immediately after the World Conference on Disaster Reduction, it captured the main elements of the Hyogo Framework for Action and is fully focused on disaster risk management. Serving as a disaster risk management plan for the next ten years, the Road Map comprises 109 specific project proposals covering seven thematic areas consistent with on-going and past efforts in the disaster risk management field and development planning in Sri Lanka. The thematic areas proposed by the disaster risk management framework for Sri Lanka cover:

1. Policy, Institutional Mandates and Institutional Development: Including the preparation of a national disaster management plan, a national policy for disaster management, a national emergency response plan, reviewing, formalizing mandates and identifying capacity development needs of agencies to perform their disaster management functions as well as steps to implement policies already in place.

2. Hazard, Vulnerability and Risk Assessment: Comprising activities ranging from flood simulation modeling in key river basins to the development of a vulnerability atlas for Sri Lanka. This will enable development planning which is sensitive to multiple hazards and different kinds of vulnerabilities.

3. Multi-hazard Early Warning System: Incorporating elements to generate advance warnings for floods, cyclones, abnormal rainfall, droughts, landslides and tsunamis, thus enabling decision-makers to take necessary measures well before the occurrence of a disaster.

4. Preparedness and Response Plans: To minimize the adverse impacts of a hazard through effective precautionary actions and timely, adequate responses. Prioritized activities include development of a national emergency preparedness and response plan, and establishment of emergency operation centers at national, provincial, district and local authority levels.

5. Mitigation and Integration of disaster risk reduction into activities relating to reducing impacts of droughts, preventing floods and landslides, and providing protection against storm surges, sea and coastal flooding by incorporating disaster risk considerations in development plans, thus ensuring sustainable development.

6. Community-based Disaster Risk Management: Involving activities that recognize the fact that communities, even when affected, are still the first line of defense against disasters if they are well prepared. Interventions proposed include mobilization of community teams, creation of a local network of trained volunteers and establishment of resource centers and small grants to fund priority projects by community teams.

7. Public Awareness, Education and Training: Focusing on empowering the public with ways and means to reduce disaster losses, and includes a national awareness campaign, designating a 'National Disaster Safety Day', promoting disaster awareness among professionals through integration into university curricula and training, and among children through school curriculum and school awareness programmes. The estimated cost of the identified projects is approximately US\$609 million.

Creating an Enabling Environment

186. The development of an enabling environment for the growth and development of a disaster resilient nation is dependent on wider institutional, policy and socio-economic factors at the local and national levels. The following table illustrates how this works for in relationship to knowledge and education:

The Enabling Environment

Table 6

COMPONENTS OF RESILIENCE	CHARACTERISTICS OF AN ENABLING ENVIRONMENT
Public Awareness, Knowledge and Skills	<ul style="list-style-type: none"> ▪ General public aware of and informed about disaster risks and how to management them. ▪ Appropriate, high-visibility, awareness-raising programmes designed and implemented at national, regional and local levels by official agencies.

	<ul style="list-style-type: none"> ▪ Media involvement in communicating risk and raising awareness of disasters and counter-disaster measures. ▪ Public communication programmes involve dialogue with stakeholders about disaster risks and related issues (not one-way information dissemination). ▪ External agencies understand communities' vulnerabilities, capacities, risks, risk perception and rationality of risk management decisions; and recognize viability of local knowledge and coping strategies. ▪ Levels of education provision, access, literacy facilitate effective information dissemination and awareness raising.
Information Management and Sharing	<ul style="list-style-type: none"> ▪ Government (national and Local) is committed to information sharing (Transparency) and dialogue with communities relating to information about risk and disaster risk management. ▪ Legislation specifies right of people to be informed and obtain information about risks facing them. ▪ Common understanding among external agencies of principles, concepts, terminology, alternative approaches in disaster risk reduction. ▪ Public and private information-gathering and-sharing systems on hazards, risk, disaster management resources (including resource centers, databases, websites, directories and inventories, good practice guidance) exist and are accessible. ▪ Active professional networks for disaster risk management (sharing scientific, technical and applied information, traditional/local knowledge). ▪
Education and Training	<ul style="list-style-type: none"> ▪ Inclusion of disaster reduction in relevant primary, secondary and tertiary education courses (curriculum development, provision of educational material, teacher training) nationally. ▪ Specialized vocational training courses and facilities for disaster risk reduction/disaster risk management available, at different levels and for different groups, linked through overall training strategy. Certification of training. ▪ Appropriate education and training programmes for planners and field practitioners in disaster risk reduction/disaster risk management and development sectors designed and implemented at national, regional and local levels. ▪ Training resources (technical, financial, material, human) made available by government, emergency services, NGOs to support local-level disaster risk reduction.
Cultivation, Attitudes and Motivation	<ul style="list-style-type: none"> ▪ Political, social and cultural environment that encourages freedom of thought and expression, and stimulates inquiry and debate. ▪ Official and public acceptance of precautionary principle; need to action incomplete information or understanding to reduce potential disaster risks.
Learning and Research	<ul style="list-style-type: none"> ▪ National and sub-national research capacity in hazard, risk and

	<p>disaster studies (in specialist institutions or within other institutions), with adequate funding for ongoing research.</p> <ul style="list-style-type: none"> ▪ Encouragement of inter-disciplinary and policy-oriented research. ▪ National, regional and international cooperation in research, science and technology development. ▪ Comprehensive agenda for scientific, technical, policy, planning and participatory research in disaster risk reduction.
--	--

E. Preparedness For Effective Response and Recovery

Tools for Integrating Risk Reduction Into Development Planning

187. Successful integration of disaster risk reduction into development is not something bilateral donors achieve by the addition of a new programme, a new policy document or even a new department. Rather, it is a shift in approach towards supporting more risk reducing forms of development, an approach which will need to pervade all operations, programmes and departments. There are a number of key tools or entry points which offer opportunities for putting disaster risk reduction onto international and national development agendas and setting goals and priorities. These include PRSPs, UNDAFs, donor country assistance strategies/plans, National Adaptation Programmes of Action for climate change, various partnership agreements with implementing agencies and governments, tools such as programme and project appraisal and early warning systems.

Poverty Reduction Strategy Papers (PRSPs)

188. PRSPs provide the basis of all World Bank and IMF concessional lending and for debt relief under the enhanced Heavily Indebted Poor Countries (HIPC) Initiative. They are also increasingly used by DFID and other donors as a basis for their bilateral support. PRSPs describe a country's macroeconomic, structural and social policies and programmes to promote growth and reduce poverty, as well as associated external financing needs, and are in principle prepared and 'owned' by governments through a consultative process involving civil society and development partners.

189. Given the pre-eminence of PRSPs in HIPC governments' efforts to address poverty and its cross-sectoral approach, they provide an important opportunity for setting out ways in which disaster risk reduction concerns can be integrated into national poverty-focused development and associated development assistance. However, there are several weaknesses in current PRSPs both in processes and outcomes. Awareness of their existence still tends to be limited to a handful of key government and non-government actors, and they are seen to be primarily donor-driven rather than nationally owned. Furthermore whether PRSPs can contribute to poverty reduction and achievement of MDGs also depends on longer-term complementary reforms in public sector governance, and whether they are backed by real implementation capacity. Aspects of disaster risk reduction have been incorporated into some PRSPs but emphasis in this area tends to be primarily on early warning and response rather than on preventive strategies and falls short of a holistic multi-risk analysis.

190. A further constraint to the prospects of PRSPs becoming effective vehicles for ensuring that development activities actually reflect risk reduction concerns is that they are generally

under-resourced in relation to their objectives. Donors have critical roles to play in ensuring support for key components with the potential to reduce disaster risk. Also, contrary to their original intention, in many instances they tend to reinforce existing development models, rather than forcing governments and their donors to re-evaluate their approach to development.

191. Many PRSPs identify disasters as a challenge for poverty reduction. Some link disasters with fluctuating macroeconomic performance while only a few countries were identified by the World Bank's Hazard Management Unit as incorporating aspects of hazard risk management. The Bangladesh Interim PRSP has a similarly integrated approach placing disaster risk management within mainstream development planning and programme/project design validation processes. The significance of natural disaster in Bangladesh is reflected in a dedicated annex on Disaster Vulnerability and Risk Management.

UN Development Assistance Frameworks (UNDAFs)

192. A noteworthy outcome of the UN Secretary General's efforts to improve coordination across the UN system at country level has been the Common Country Assessment (CCA) and UN Development Assistance Framework (UNDAF), designed to enhance the UN Country Teams' collective analysis and programming respectively in support of national goals and priorities, including the MDGs and PRSPs. In principle, the CCA/UNDAF process, supported by the office of the UN Development Group (UNDG), provides an entry point for "a contribution to developing measures and building capacity for crisis prevention and disaster preparedness; and where applicable to mitigation plans, post-conflict/natural disaster recovery and rehabilitation, and planning the transition from relief to development "and for establishing the necessary partnerships (including with donors) for this purpose. In parallel the UNDG has also established a Joint Working Group on Transitions with the UN Executive Committee on Humanitarian Assistance (ECHA) to consider relief-development transition issues in natural disasters and complex emergencies, including how the UN Consolidated Appeals Process for emergencies relates to the UNDAF. So far these initiatives have yet to translate into a systematic incorporation of disaster risk reduction concerns into the UN development planning process, but this could change if more substantial donor support were to be targeted to this area.

Country assistance plans

193. All donors produce strategies or plans for countries in which they fund development activities, based on extensive in-country consultations. For example DFID's Country Assistance Plans (CAPs), reviewed every three or four years, set out objectives and activities of DFID funding as part of the international development effort and link these to poverty reduction outcomes and MDGs. These plans are based on the partner country's own poverty reduction strategy and reflect its government's priorities.

194. Country assistance plans are a tool for both resource planning and performance management. Thus for DFID, CAPs delineate the volume and use of financial and human resources to be deployed to assist countries in reducing poverty, but also provide a framework for annual reporting on progress against local MDG indicators.. As they incorporate analysis of each country's potential for political, social and economic change and risks to the realization of that potential, country assistance plans provide an important opportunity for assessing disaster risks and setting out how donor assistance will help address those risks. The consultations involved in formulating such assistance plans open the way to dialogue on the challenge that

disaster risks pose for the national poverty reduction and development agenda, and how best to meet that challenge.

National Adaptation Programmes of Action (NAPAs)

195. The preparation of NAPAs is an element among the agreements and initiatives established under the United Nations Framework Convention on Climate Change (UNFCCC). Guidelines were set out in 2001 for the development of plans that enable low income countries to communicate proposed programmes of priority action to address the potential impacts of climate change. An emerging principle is that they should concentrate on actions designed to combat urgent problems already caused by present-day climate variability and extremes – problems that may become more acute under future climate change unless remedial action is taken. Key among these is the impacts of extreme climatic events associated with disasters such as flooding, drought and tropical storms

196 NAPAs need to be fully integrated with national development and poverty reduction strategies. They must focus not just on technical responses, but also on wider societal and institutional adaptation that enhances resilience to shocks, including poverty reduction and improved resource management. According to UNFCCC, efforts should be made to create a more enabling environment within countries through: education and awareness-raising on climate change and its impacts; development of skills necessary for implementing adaptation strategies; promoting cross-sectoral approach to policy-making; and developing policy and planning frameworks that can accommodate climate change concerns.

Partnership agreements with implementing agencies and governments

197. The channeling of a large portion of bilateral aid through multilateral agencies and NGOs is governed by agreements which specify strategies, objectives and outcomes. DFID sets out strategies for working with multilateral agencies to increase their poverty focus and effectiveness, while agreements with NGOs provide funding based on agreed outcomes which contribute to overall objectives. Such agreements provide an important opportunity for bilateral donors to promote the incorporation of disaster risk reduction principles into the implementation of programmes and projects that they fund, as well as to support agencies such as IFRC which work on disaster issues.

198. Donor agreements with recipient governments, including for direct budgetary (either general or sector specific) and programme/project level support, also provide opportunities for incorporating principles of disaster risk reduction, based on the assessment of risk and vulnerability as an integral part of the design of programmes. For example, disaster risk assessment can be built into programmes that develop infrastructure such as school buildings in disaster-prone areas.

Programme and project appraisal guidelines

199. Most international donor agencies and several UN agencies now offer Instructions which provide guidance on submitting and assessing funding applications for projects and programmes. These do mention assessment of risks to achieving objectives of proposed activities and environmental impact. Introducing disaster risk reduction considerations into such

standard procedures, including project appraisal guidelines are an effective mechanism for ensuring that activities donors support are disaster risk aware.

Early warning and information systems

200. Early warning and information systems are key tools for mitigating disaster impacts. In the past 20 years considerable progress has been made in improving systems for providing short-term advance information on extreme weather events, flood surges, volcanic eruptions and food crises which allow timely action to be taken in the realm of disaster management. There is also a need for information systems to support longer-term risk assessment and monitoring, focus on vulnerability as well as hazards, and as a basis for disaster risk reduction initiatives within a development framework.

201. In many nations, efforts have begun to examine to develop food security early warning systems supported by respective regional intergovernmental organizations and the international systems of FAO and USAID. These have become generally effective in providing timely assessments of seasonal conditions for crops and pastures, generating national food balance estimates, and more recently identifying outcomes for different livelihood groups. Their main audiences are governments of affected countries, donors and humanitarian agencies.

202. In the case of storms and floods, an important function of early warning systems is to communicate warnings directly to affected populations. The record is mixed. Loss of life in Nicaragua and Honduras due to Hurricane Mitch could have been significantly reduced had communities in remote areas been better warned. In Bangladesh some 34,000 community based volunteers spread the word when cyclone warnings are broadcast by radio, though the provision of user-friendly information to farmers on flood surges in North Bangladesh could be much improved. Integration of early warning systems with public alerts, evacuation and emergency response systems across sectors is crucial for disaster management. In this regard, systems that are community-based can sometimes be more effective than top-down centralized systems because they can be more directly integrated into local response and risk reduction strategies.

203. Overall, early warning and information systems, often with substantial donor assistance, have significantly improved in terms both of information reliability/timeliness and linkages to early response, saving many lives in disasters.

Risk transfer mechanisms

204. An emerging area of interest is the potential for financial instruments of risk management in developing countries. The World Bank is exploring the scope for promoting a range of instruments including public-private partnerships, perhaps linked to corporate social responsibility initiatives, to offer affordable insurance services that would spread the burden of disaster risks for individuals or for governments. The Turkish Catastrophe Insurance Pool scheme inaugurated in September 2000 obliges private residential property owners to take out a basic level of cover against earthquake loss.

205. However there are challenges. Large volumes of covariate risk (i.e. risk that affects many people at once, as is the case in disasters) could over-expose national service providers

and requires mechanisms to spread the risk across international reinsurance markets. Recent developments in such markets, such as catastrophe bonds, in principle provide opportunities to harness the necessary instruments to link world financiers with poor people. Yet many individuals most exposed to natural hazards in poor countries would be unlikely to be able to afford premiums without some assistance, and prospects for 'corporate social responsibility'. Governments with donor support could fill the gap through well designed social protection programmes, perhaps in partnership with private sector financial service providers.

International initiatives and policy forums

206. There are a great many international policy forums at which bilateral donors can highlight and promote disaster risk reduction concerns, including world conferences and summits on related issues (e.g. economic and social development, sustainable development, climate change, food, trade etc.). The intergovernmental World Conference on Disaster Reduction (WCDR) held in Kobe in January 2005, revealed a significant improvement in international awareness of relevant issues since the beginning of the IDNDR, though there was a reluctance to include technological hazards or quantifiable targets on the part of some of the bigger players. The follow-up to the WCDR has offered a range of opportunities for international collaboration in priority areas of action identified at the Conference.

III. CONCLUSIONS

207. The development of national capacities is an important process to be able to better serve the needs of the most vulnerable. With an extensive list of natural and human induced hazards to address, Iraq is ill equipped at this time to meet all these challenges without external support. In interviews with policy planners, program implementers and citizens residing in high-risk areas in Iraq are acutely aware that greater attention has to be paid to preventive strategies aimed at saving lives and protecting resources and assets before they are lost. In essence, this task will require the continuous collection and analysis of relevant information and activities such as:

- Hazard Identification – listing, describing and mapping of key hazards.
- Assessing the geographical distribution of threats – geographical areas subject to seasonal threats.
- Who and what are the most vulnerable to threats – households, groups and communities at greatest risk.
- Assessing the most vulnerable groups' capacity to respond to threats/disasters – strengths and coping mechanisms to local hazards.
- Determining the other players in disaster preparedness and response – development of a network to support a comprehensive program.
- Assessing the capacity of key stakeholders to mitigate and respond to disaster threats – on-going capacity assessment of both response at the time of national or local disasters and to initiate interventions to mitigate the consequences of such disasters on people at-risk.
- The preparation of a National Disaster Preparedness and Response Plan.
- Define gaps in the national, governorate and community level preparedness plans – advocating with policy makers to ensure plans have been developed to reduce the impact of disaster episodes on vulnerable communities.
- The need for a structured and strategic agency responsible for policy formation, information sharing and the formulation of disaster management capacities in terms of preparedness, mitigation, early warning, relief, rehabilitation and recovery actions at the provincial and district level is essential.

208. The challenge perceived for the next decade is to create more effective mitigation programs that enable people at risk to gain mastery of their own lives and overcome the vulnerabilities that inhibit social development. This challenge is to be addressed through greater participation of vulnerable groups in the decision-making process of developmental and risk reduction programs along with communication strategies that effect behavioral changes of the decision-makers in government, development agencies and the donor community.

209. This task takes on greater importance when one foresees a period of growing rather than lessening instability. The destabilizing forces stem from a complex interplay between: population growth; accelerating gaps and disparities caused by globalization; environmental stress and pollution with worsening competition for natural resources; a differential access to technology; and reduction in and privatization of government's social welfare responsibilities.

Accomplishments

The scale, frequency and complexity of natural and human induced disasters as physical and social phenomena can only be addressed by deploying a wide range of knowledge, skills, methods and resources, both in development and emergency programming. This means that disaster risk reduction initiatives must be multi-disciplinary partnerships involving a range of stakeholders. Thus, the accomplishment of the Inter-ministerial Committee for Disaster Management in the development of a draft proposal to create a National Center for the Management and Mitigation of Disaster Impacts and a network for sharing information with national and international stakeholders is significant.

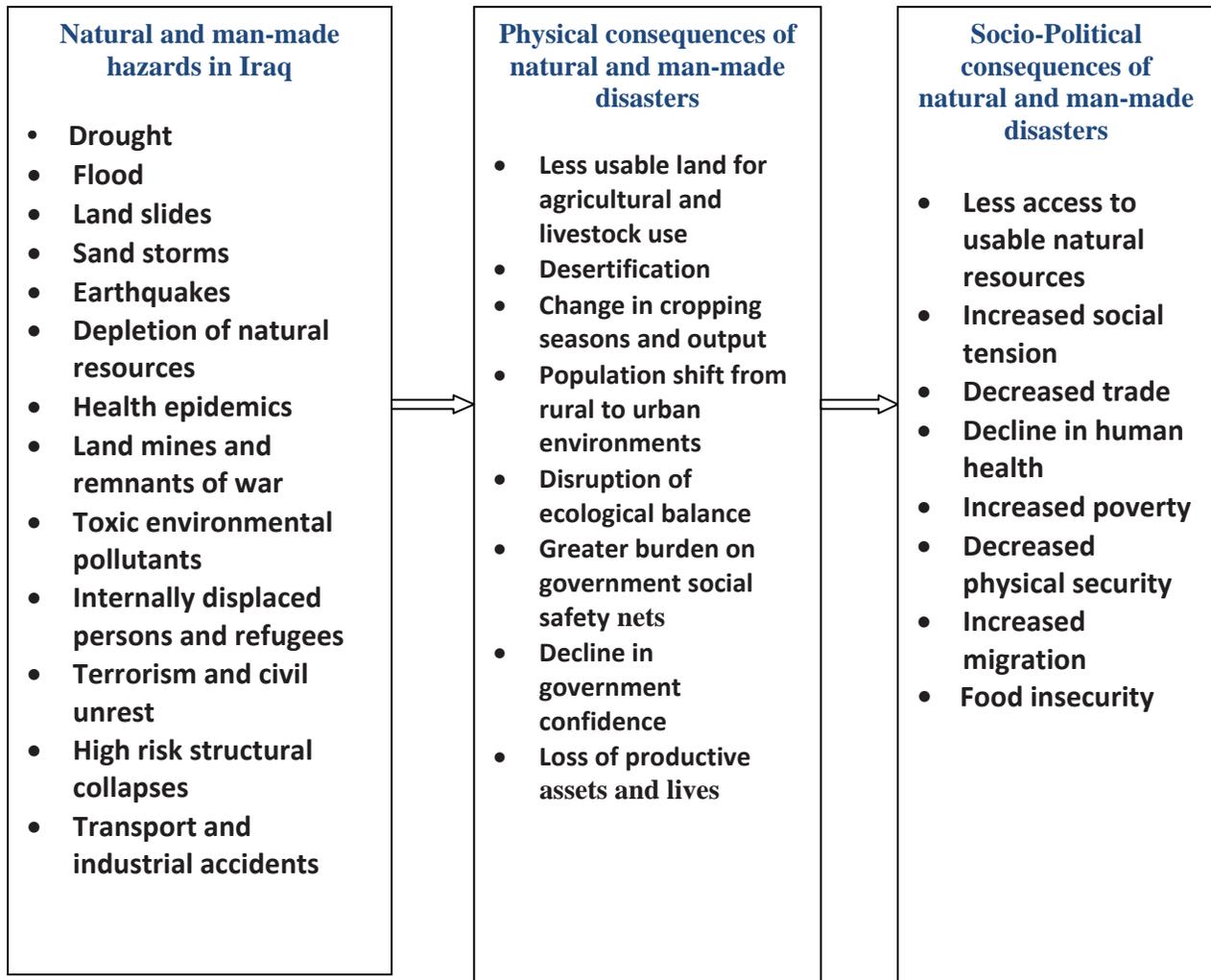
Thus, the opportunity exists for the United Nations and other international/national stakeholders to contribute to this initiative, lead by the Ministry of Science and Technology in concert with other members including the Secretariat General of the Council of Ministers, Ministry of Interior, Ministry of Defense, State Ministry for National Security, Ministry of Planning and Development Cooperation, Ministry of Communication, Ministry of Environment, Ministry of Health, Ministry of Water Resources and the Ministry of Foreign Affairs.

The interest expressed by the leadership of the National Operations Center and the National Joint Operations Center to contribute to the expansion of their present activities to include oversight for natural disaster responses is most commendable and appropriate given their trained manpower, extensive communications links throughout Iraq and other resources. The possibility to merge their capacities into a newly formed institution addressing both natural and human induced threats would be cost effective, efficient and timely³⁹.

Lastly, the support expressed by senior GoI officials in Baghdad and at the governorate level for the creation of a national disaster risk reduction initiative indicates the understanding of the national policy makers of the need to shift from a response driven approach to disaster management to a strategic approach as noted in the following chart:

³⁹ The institution may have institutional capabilities but the legal status of this institution to assume the role of a proper National Center for Disaster Management is uncertain.

The Impact of natural and man-made disasters: Two possible roads ahead



Gaps and Challenges

Disaster risks in Iraq are the primary responsibility of the Gol to protect its people, infrastructure and other natural assets from the impact of natural and all other hazards. Humanitarian crises may be due to planners' inability to anticipate potential hazards and to appreciate their significance, and to decision-makers' inability to reconcile competing demands for resources. The Gol needs to forestall potential disaster episodes by demonstrating a political will to adopt/adapt proactive mechanisms to develop a strategic and sustainable all-risk disaster management structure at the central, provincial/regional and community levels interlinked to the national development plan.

ST
RE
AN
OF
DIS
EX
RE
OF
MA
EN
PR
EV

REACTIVE
PROVISION
PUBLIC
IMMEDIATE
TO SAVE
ENSURE
BASIC SUB
AFFECTED

Disaster preparedness is just one element of a holistic approach to the reduction of risk associated with natural and human induced hazards. However, an adequate level of preparedness can be particularly essential to saving lives and livelihoods in the face of the hazards found in Iraq. The development of an effective preparedness capability should lead to the following outputs:

- Realistic and measurable objectives, outputs, and activities to strengthen and maintain disaster preparedness capabilities that are an integral component of a holistic national disaster risk reduction strategy.
- An approved national legislative framework that details disaster preparedness, response, recovery roles, responsibilities and funding mechanisms is developed or updated, widely disseminated and consistently implemented.
- A well-functioning disaster coordination mechanism is in place with clear policies and procedures and in which all entities are clear about their roles and responsibilities.
- A contingency plan that includes an in-depth analysis of hazard risk, vulnerability and capacities is developed and regularly updated.
- All organizations, persons and volunteers responsible for maintaining preparedness are equipped and trained for effective disaster preparedness and response.
- An effective national and regional early warning system that applies sound scientific information and risk knowledge is in place and able to communicate warnings to mobilize action in all at-risk communities.
- An information management and dissemination system that facilitates the two-way exchange of pertinent technical and management information between internal and external stakeholders is maintained.
- Multi-stakeholder response mechanisms, supported by legislation and accompanied by the necessary resources, are developed and tested based on the contingency plan, enabling efficient action during times of emergency.
- The transition to early recovery activities is considered and planned for in contingency and other preparedness planning processes.
- Financial reserves and emergency funding mechanisms are in place to support effective preparedness, response and early recovery as required.

Preparedness planning is a process that requires constant and sustained vigilance. Developing a preparedness capability is only the first step. Once the basic preparedness activities outlined have been undertaken, it is critical that human and other resources are allocated to maintain and update systems, and those lessons learned in the wake of hazard events be used to strengthen preparedness in the future.

Disaster risk reduction is a proactive approach that needs to be integrated in regular development planning and poverty reduction programs at all levels. Policymakers in the development and poverty reduction sector need to recognize that disasters are not just

“setbacks” or “roadblocks” to development, but result from the paths that development is pursuing. Thus, by changing our planning processes, and incorporating disaster risk assessment in the planning of all new development projects, we can make sure those future natural and human induced hazards will encounter resilient communities that are capable of withstanding their impact and will therefore remain mere emergencies rather than disasters.

We need to recognize that we can mitigate the impact of disasters and make mitigation the cornerstone of our disaster management interventions. We must shift the focus to the poorest and most vulnerable sections of our societies, and ensure that our interventions are community-based and driven. With its supportive role in development in Iraq, and its emphasis on poverty reduction, the UN Country Team in Iraq should continue to provide leadership to various key stakeholders in the complex process of integrating community-based disaster risk and vulnerability reduction in the development agenda.

EJ Goodyear
8 August 2009

COMPOSITION OF ASSESSMENT TEAM

Mr. Earl James Goodyear, Ph.D. International Consultant

Dr. Goodyear has over thirty-five years experience in the design, negotiation, coordination and evaluation of global economic and social development programs and emergency relief to rehabilitation and recovery interventions. Expertise in the creation and strengthening of sustainable developmental institutions contributing to civil society, strategic planning and coordination of multi-sector economic development programs and the design, training and management formation of institutions and policy on disaster preparedness, prevention, mitigation and response. He has worked with international humanitarian organizations, OFDA, IFRC, DFID, OCHA and UNDP in over 50 countries and recently completed assignments with UNDP including: Senior Early Recovery Programme Advisor in Pakistan, Evaluator for UNDP/UNV tsunami relief initiatives in Indonesia and Sri Lanka, and as the Programme Designer of a multi-year disaster risk reduction programme for the UNDP Regional Bureau for Africa and the Tashkent earthquake risk reduction programme in Uzbekistan. Dr. Goodyear is an independent consultant, based in the United States. His contact information is as follows: 3273 Aldoro Avenue, Spring Hill, Florida, 34609, USA. Telephone: (352) 686-9041. Email: Redseadiver2000@yahoo.com

Ms Sarah El-khazin Bouvier, OCHA Consultant

Ms. El-khazin Bouvier, a mechanical engineer by profession, has 17 years of experience in humanitarian, evaluation, early recovery and emergency preparedness in both armed conflicts and natural disasters areas. Sarah has worked for the United Nations in various capacities for 11 years ranging from engineering, to emergency officer, head of sub-office, donors and evaluation officer in Sudan, Somalia, Iraq, North Korea, East Timor, Guinea Conakry, Indonesia, Tunisia and the United Arab Emirates. During the last six years, Sarah has been an independent consultant for the United Nations and the Governments of Qatar, UAE, and Oman. Her main scope of work is on disaster risk reduction, emergency management including preparedness with a special focus on response to natural disasters and capacity building. She has assisted the International Search and Rescue Advisory Group (INSARAG) in developing Urban Search and Rescue Teams in a number of Arab countries and evaluated the second largest Urban Search and Rescue Team in the USA. Sarah has conducted a number of workshops, simulation exercises and training sessions, is fluent in Arabic and English and has a good working knowledge of French.

Acknowledgement

The Consultants wish to acknowledge the contribution and support offered by Dr. Naeema Al Gasseer, UN Resident/Humanitarian Coordinator a.i./WHO Representative, Ms. Helen Olafsdottir, UNDP, Crisis Prevention and Recovery Advisor, Mr. Humam Misconi, Senior Advisor UNDP, and Ms. Rebecca Reynolds, Program Specialist for Arab States, UNDP/BCPR, New York. Ms. Yasmine Rockenfeller, OCHA Acting Head of Agency, OCHA Reporting Officer Mr. Johnstone Summit Oketch, Ms. Mirna Yacoub Chief of Staff, UNAMI, Mr. Stuart Shepherd, UNAMI Humanitarian Affairs Officer, and Mr. Waleed Ahmed, UNDP Driver. Lastly, the newly recruited OCHA Field Officer staff and the OCHA Programme staff deserve recognition for their significant contribution through interviewing disaster risk stakeholders in 17 of the 18 governorates in Iraq.

LIST OF CONTACT PERSONS

NAME/TITLE	ORGANIZATION	CONTACT INFORMATION
	PRINCIPAL STAKEHOLDERS	
DR. NAEEMA AL-GASSEER, HUMANITARIAN COORDINATOR A.I., WHO REPRESENTATIVE	UNITED NATIONS ASSISTANCE MISSION FOR IRAQ	Email algasseer@un.org Tel: 962 796 845 558
YASMINE ROCKENFELLER, HEAD OF Office, A.I.	OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS	Email Rockenfeller@un.org Tel: 96279 970 3120
HELEN OLAFSDOTTIR, CRISIS PREVENTION & RECOVERY ADVISOR	UNITED NATIONS DEVELOPMENT PROGRAMME Amman, Jordan	Email Helen.olafsdottir@undp.org Tel: +964 (0) 797 202 521 674
REBECCA REYNOLDS, PROGRAM SPECIALIST – ARAB STATES	UNDP BUREAU FOR CRISIS PREVENTION AND RECOVERY, New York, USA	Email: Rebecca.reynolds@undp.org Tel: +212 906 5379 Mobile: 1 646 415 3149
	GOVERNMENT OF IRAQ	
MR. THAMIR A. GHADHBAN, CHAIRMAN	PRIME MINISTER'S OFFICE ADVISORY COMMISSION	Email: thamirgadban@gmail.com Mobile: 9640 7901934242 9640 7901103773 9640 7702899999
GENERAL NASIER AL ABADI, DEPUTY COMMANDING OFFICER	MINISTRY OF DEFENSE	Email: nasier.abadi@mod.iraqiaf.org Tel: 07901945181
MAJOR GENERAL ABD AL SALAM AL- FIKIKI, DIRECTOR	STATE MINISTRY FOR NATIONAL SECURITY NATIONAL JOINT OPERATIONS CENTER	Email: abdalsalamfikiki@yahoo.com Tel: 07905 849315
MR. HUSSAIN AL ASADY, DIRECTOR COLONEL STEVE E. MCKINLEY, SENIOR U.S. LIAISON OFFICER TO THE NOC	PRIME MINISTER'S OFFICE NATIONAL OPERATIONS CENTER	Email: pnmnoc2007@yahoo.com Tel: 07901 945 687, 914 882 6664 Email: steven.mckinley@iraq.centcom.mil Tel: 0770 443 6480
DR. SAMIR S. M. RAOUF, SENIOR DEPUTY MINISTER	MINISTRY OF SCIENCE AND TECHNOLOGY	Email: samir.raouf@gmail.com Tel: 9641 77662274 Mobile: 096 7901 939973
DR. SALAM DAWOD AL-KHAFAGY, DEPUTY MINISTER	MINISTRY OF DISPLACED AND MIGRATION	Email: alfafagy2007@yahoo.com Tel: 0770 547 2800, 0790 194 6484
DR. SALAH AL-NIAIMY, ADVISOR	MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH	Email: salahalnuaimy@yahoo.com Tel:
MS. WAFAA GEORGE DANO, DEPUTY OF DIRECTOR GENERAL OF PLANNING	MINISTRY OF TRANSPORT	Email: dano_wafaa@yahoo.com Tel: 07901' 450 327
MR. VAROUJAN K. SISAKIAN,	MINISTRY OF INDUSTRY AND MINERALS	Email: varoujan49@yahoo.com , Telephone 7185450, Mobile (+964)

DIRECTOR OF GEOLOGICAL SURVEY	STATE COMPANY OF GEOLOGICAL SURVEY AND MINING	7901397043, .O. Box 986 Alwiya, Iraq, Baghdad
	UNITED NATIONS MISSION IN IRAQ	
SIKANDER KHAN, REPRESENTATIVE	UNITED NATIONS CHILDREN'S FUND	Email: sikhan@unicef.org Tel: 9626 551 5921
DANIEL ENDRES, REPRESENTATIVE SHOKO SHIMOZAWA, DEPUTY REPRESENTATIVE NAOMI KAWAHARA, SENIOR PROGRAMME OFFICER	UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES	Email: endres@unhcr.org Tel: 964790 194 2452 Email: shimozawa@unhcr.org Tel: 9647801952497 Email: kawahara@unhcr.org Tel: 9626 5100464
JIM PANSEGROUW, DIRECTOR, IRAQ AND JORDAN OPERATIONS NIELS W. GUENTHER, DEPUTY DIRECTOR	UNITED NATIONS ORGANIZATION FOR PROJECT SERVICES	Email: jimp@unops.org Tel: 962 2556 1225 ext. 1101 Email: nielsg@unops.org, guenther@un.org Tel: +390831 052580
SEAN PATERSON, REPRESENTATIVE STAVROS PAPASTAVROU, TECHNICAL PROGRAM COORDINATOR	UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION	Email: s.patterson@unido.org Tel: 9626 5815921 Email: s.papastavrou@unido.org Mobile: 96277 9968559
EDWARD KALLON, COUNTRY DIRECTOR & REPRESENTATIVE JANE PEARCE SENIOR LIAISON OFFICER	WORLD FOOD PROGRAMME	Email: Edward.kallon@wfp.org Tel: 964790 191 3210 Email: Jane.Pearce@wfp.org Tel: 964790 1949943
DR. RADHWAN K. ABDUL HALIM, OIC-FAO BAGHDAD, SUB-OFFICE	FOOD AND AGRICULTURE ORGANIZATION	Email: Radhwan.abdulhaleem@faoiraq.org Tel: 9641 5555 204
SUDIPTO MUKERGEE, HEAD OF MISSION	UN HABITAT	Email: mukergee@unhabitat.org.jo Tel: 9626 592 4889
JOHNSTONE SUMMIT OKETCH, REPORTING OFFICER	ORGANIZATION FOR THE COORDINATION OF HUMANITARIAN AFFAIRS	Email: Oketch@un.org Tel: +962 (0) 6 5534971 Ext 1336 Mobile: +962 (0)79 720 2513
MARLA ZAPACH	OFFICE OF THE RESIDENT COORDINATOR – IRAQ	Email: zapach@un.org Tel: 9626 550 4629
ELBALLA HAGONA, DEPUTY COUNTRY DIRECTOR	UNITED NATIONS DEVELOPMENT PROGRAMME	Email: elballa.hagona@undp.org Tel: 9626 560 8330 Ext. 341

KENT PAULUSSON, MINE ACTION ADVISOR		Email: kent.paulusson.undp.org Tel: 964790 110 1981
DAVID MITCHELL, PSD & CAPACITY BUILDING SPECIALIST		Email: david.mitchell@undp.org Tel: +44 7789 385527
CASEY WALTHER, CONSULTANT, NATURAL SCIENCE	UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION	Email: c.walther@iraq.unesco.org Tel: 9626 5902340
SALAH ZAKI KHALED, LIAISON AND ADMINISTRATIVE OFFICER		Email: s.khaled@unesco.org Tel: 9626 5902340 ext. 110
MIRNA YACOUB, CHIEF OF STAFF	UNITED NATIONS AID MISSION FOR IRAQ Humanitarian, Reconstruction and Development Unit.	Email: Yacoub@un.org
STUART SHEPHERD, HUMANITARIAN AFFAIRS		E mail: shepherds@un.org Tel: + 39 08 3105 2467 Mobile: +964 790 1929 407
COLONEL ISIRELI DAKUNIMATA, CONTINGENT COMMANDING OFFICER		Email: idakunimata@hotmail.com Tel: 00964-083-105
ANA MARIA FULEA, PROGRAM OFFICER	INTERNATIONAL ORGANIZATION ON MIGRATION	Email:afulea@ion-iraq.net Tel: 96279 9998976
PAMELA F. HUSAIN	UNDG ITF Steering Committee Support Office	UNAMI Amman Office: +962 550 4700, ext 2226 Jordan cell: +962 77 725 2046 Iraqna: +964 790 192 8646
	NATIONAL NON-GOVERNMENT AGENCIES	
MR. BASIL AL-AZZAWI	Iraqi Commission for NGOs' and Civil Development and Progress	TEL 7901 429 774 EMAIL IRAQICOMMISSION@YAHOO.COM
RASOUL HASAN AL-DANNAN	Dar Assalam Humanitarian Organization	TEL 0781 094 2752 EMAIL BABIL_COMM@YAHOO.COM
DR. HUSSAIN ALI AL-ANBAKI	Iraqi Organisation for the Woman	Tel 0771 008 6609
MS. DUHAA AL-RAWI	Shams Organisation for Women and Orphans	Tel 07903505694, 07801646211 Email sun_iraqsun@yahoo.com
MS. NAJAT ABRAHIM HASSAN	Iraqi Women for Peace and Democracy	Tel 0790 160 4632, 0770 196 6813 Email najako50@yahoo.com
MS. SHAMERAN MIROKL ODISHO	Secretariat of Iraqi Women League	Tel 0790 171 1208, 0770 629 0858
MR. SHAFEE DIA AIDAN	Al-Rafidain Foundation for Farmers	Not available

SHEIKH KAREEM OUDA AL-MAHAMADAWI	Tribes Humanitarian Organisation	Tel 0790 184 1399, 0770 537 4322 Email akmm_2007@yahoo.com
	INTERNATIONAL NON- GOVERNMENTAL AGENCIES	
LINDA EDWARDS, COUNTRY DIRECTOR, IRAQ IMAD M. RADHI, SOUTH CENTRAL FIELD COORDINATOR	Danish Refugee Council	Email: linda.edwards@drciraq.dk Amman: Mob: +962 79 7045395/Tel: +962 6 5665864 Email: imadmr60@yahoo.com Tel: 07705554780
CARRIE HASSELBACK, DIRECTOR OF HUMANITARIAN ASSISTANCE	INTERNATIONAL MEDICAL CORPS.	Email: chasselback@imcworldwide.org Tel: 9626 5693694
MOHAMMED A. MAHDI, PAC PROJECT MANAGER	INTERNATIONAL RESCUE COMMITTEE	Email: mohammed.Mahdi@iraq.theirc.org Tel: 964 770 645 0126
DR. YASEEN ABBAS, HEAD OF INTERIM COMMITTEE	IRAQ RED CRESCENT SOCIETY	Email: ircsintdep@yahoo.com
DANIEL PUILLET-BRETON COOPERATION COORDINATOR	INTERNATIONAL COMMITTEE FOR THE RED CROSS	
GYULA KADER, ACTING REPRESENTATIVE MARTIN FALLER, DEPUTY HEAD OF ZONE MIDDLE EAST AND NORTH AFRICA ABDEL QADER ABU AWAD, DISASTER MANAGEMENT COORDINATOR	INTERNATIONAL FEDERATION OF THE RED CROSS AND RED CRESCENT SOCIETIES	Email: gyula.kadar@ifrc.org Tel: +9626 5681060 Email: martin.faller@ifrc.org Tel: +9626 5694911 Email: abdelqader.abu@ifrc.org Te: + 9626 5694911
	INTERNATIONAL DONOR ORGANIZATION	
MS. MARIANNA TONUTTI, DEVELOPMENT COOPERATION SECTION	EMBASSY OF ITALY BAGHDAD	Email: Marianna.tonutti@esteri.it Tel: 9640 790 6790 649
AMBASSADOR ILKKA UUSITALO, HEAD OF DELEGATION	EUROPEAN UNION DELEGATION OF THE EUROPEAN COMMISSION TO IRAQ	Email: ilkka.uusitalo@ec.europa.eu Tel: 964 7901933357
MS. SUSAN MCINTYRE, SENIOR HUMANITARIAN OFFICER MS. SARA SKAHILL, HUMANITARIAN OFFICER	US AGENCY FOR INTERNATIONAL DEVELOPMENT - OFFICE OF FOREIGN DISASTER ASSISTANCE	Email: smcintyre@usaid.gov Tel: +964 (0)790 191 9981 Email: skahillsj@usaid.gov Tel:
GRAHAM MCDONALD, OFFICE MANAGER MS. SUMMER R. BARJAS, INCOMING OFFICE MANAGER	DEPARTMENT FOR INTERNATIONAL DEVELOPMENT	Email: gd-mcdonald@dfid.gov.uk Tel: 790 1933 358
	CONSULTANTS	
Mr. SALOMON SCHREUDER	UNDP Mine Action Programme	salomon.schreuder@undp.org

DR. PETER J. MIDDLEBROOK	GEOPOLICITY INC.	Email: middlebrook@geopolicy.com Tel: +0044 20 8121 7739 P.O..Bbox 90151, Dubai., UAE
MR. STAFFORD CLARRY	PUBLIC ADMINISTRATION ADVISOR TO THE KURDISTAN REGIONAL GOVERNMENT	Email: ClarrySF@aol.com Tel: 0750.446.8514.
	GOVERNORATE DISASTER RISK REDUCTION STAKEHOLDERS	
ANBAR	LTC. Wade'a Abdul Haleem Assistant, civil defense directorate Mr. Kareem Hmood Aljboori , Legislation Consultant to Governor. Mr.Kdhair Jasim, Admin., Al Anbar Red Crescent Office Mr.Loai Safi, Coordinator of Handicaps program, Al Anbar Red Crescent Office	
BABYLON	Dr. Osama Abd Al Hussein, Director, Medical Emergency Department Mr. Mahady Qassim Al-Timimi, Manager, Human Rights Office Mr. Salah Hadi Saleh, Administrative Affairs Officer, Civil Defense	Tel: 964 7801201791
BAGHDAD	Dr. Hussein Odha, Deputy, Iraqi Meteorological Organization and Seismology Dr. Dawood, Director (Unofficial as he stated he needed permission from the Minister to speak)	Email: Hussein.odha@yahoo.com Tel: 7788927
BASRAH	Mr. Nezzar Al-Jabery, First Deputy Governor, Basrah Mr. Niaz Nory Mohamed, GEC Liaison Officer Dr. Salah Ahmed Mohamed Alsaed, Operations Manager, Health Chef Engineer Eman Hameed Maged Planning	Tel: 07801000880 Tel: 07801024155.
DAHUK	Mr. Tamar Ramadan, Governor Dr. Abdola Salih, Director General, Health Mr. Wadulah, Chief of Police Dr. Fadil Omer, Head of Provincial Council Mr. Salah Y. Majid, Harikar Program Coordinator Dr. Abid Ali Hasan, ZSVP International, Programme Coordinator Mr. Mosa Ali Bakir, Deputy, Ministry of Displaced and Migration Waleed Shawkat Mohamed, VOP Coordinator Mohamed Amin Hiro-Executive Director of Darya(Society and Women Development Organization)- Local Civil Society NGO. Mr. Mosa Ali Bakir Deputy DG of DDM Mr. Ahmed Zumar DG of Internal Affairs in The Governor office Mr. Majid Said Salih Mayor of Dohuk. Mr. Ibrahim Moh. DG of Roads and Bridges. Mr. Jalal Ahmed. DG of Water Mr. Mohamed Abdulah Hamo – DG of DDM and Deputy Head of GEC in Dohuk. Mr. Shawkat Ahmed Taha-Director of KURDS(Kurdistan Reconstruction and Development Society)- Local Civil Society NGO.	Tel: 07504457718 Tel: 07504455205 Tel: 07504460892 Tel. 07504524723 Tel: 07504509405

	Mr. Mahmoud Othman _ General Director Suleimanyah Statistic Directory Mr. Niaz Nory Mohamed - GEC Liaison Officer	Tel: 07504455442 Tel: 07504457809 Tel: 07504507543
DIYALA	Mr. Abdel Satar Jabbar –Veterinary Doctor. Diyala-Khanaqin. Mr. Jassim Mohammed Mobarak, Municipality Council Member.-Moqdadiya Mr. Hatam Salman Bapeer,. Retierd official-Sadiyaa. Mr. Shahab Ahmed Jassim-Volunteer.Baqoba Ms.Reem Mohammed Ali-Household –Khanaqin. Ms. Intesar Ahmed Salim. English teacher-Baqoba.	
ERBIL	Mr. Nawzad Hadi, Governor Mr. Hoshyar S. Malo / KHRW- Erbil (Kurdish Human Rights Watch) Mr.Rezan Saadi, Chief of Technical Department/Water Department/Rural Areas Mr.Dana Hasan Muhamad,REACH	Tel: 00964-750-445-2454
KERBALA	Eng. Nassif Jassim, Deputy of Kerbala Governorate Council	Email: Alkattabi2009@yahoo.com Tel: 0780 195 8602
MISSAN	Mr.Jabar Alaiwi Shami. Manager ,MODM Mr. Mohammed Salem Jassim . Chief, Amarah District Council. Mr. Waleed Salman Salem, Director of Equipments & Medical Supplies/Health Dep. Eng. Majed Mohammed Ameen . Head of Relief International Mr. Samir Hassan Alwan. Director of Iraqi Red Crescent Society Abdul-Saheb Kaitan Alawi. Manager of Scout Camps of Missan. Wesam Jabar Abdul Redha . Title: Missan GEC Coordinator.	Email: jabar_mayssan65@yahoo.com Tel:9647801082640 Email: mabujaafar@yahoo.com Tel: 9647801352989 Email: wal650@yahoo.com Tel: 9647801079180 Email: majid@ri.org Tel: 9647801279821 Email: samir_hs2003@yahoo.com Tel: 9647801406964 Email: fadel1955@yahoo.com Tel: 9647801124110 Email: drscs_cbmissan@yahoo.com Tel: 9647801430995
MUTHANNA	Mr. Dargham Faleh, Fireman, Civil Defense Department Mr.Salah Mahdi Nasif, IRCS Manager Mr. Wessam Salem Gayath, IRCS Disaster Sector Officer Mr. Ahmed Aqeel, IRSC Deputy Manager Mr. Nasser Al-Mayaly, Manager, Governor's Office	
NAJAF	Mr. Dhia Shakir Mousa IRCS Najaf Branch Manager Mushraq Yaqoob Yousif IRCS /youth and Volunteer Dept. Hassan Hamza Al-Zubaydi second deputy of Najaf governor Mashkoo Jassim hamadi MoDM Najaf branch manager Ali Mohemmad Rashad Fakhuldin planning directorate of reconstruction committee	Email: alnajaf-ircs@yahoo.com Tel: 07802508863 Tel. 07801142968 Email: maskkor-2007@yahoo.com Tel: 07702617928

	Haider Al-Mayali head of reconstruction committee	
		Email: N-r-council@yahoo.com
QADISSYA	Dr. Asad Salman Al-Fatlawai, Head, School Health Department Mr. Riyah Hasan Jasim, Head, Disaster Department, IRC Eng. Abbas Ali Hakim, Assistant Manager, Municipalities Department Mr. Mohamad Taher Sadoum, Head, Civil Defense Department Mr. Laith Sheik Mohamad, Head, Planning Unit at Municipalities Department Mr. Ahmed Al-Mhanah, LNGO Manager Mr. Hamid Majeed Aurebi, Intersos,	
SALAD AL-DIN	Brig. General Eissa Abid Mahmoud, PJCC Director Dr. Amen Aziz, Deputy to Governor Mr. Khalid H. Mahdi, Deputy Chairman, Provincial Council Brig. General Nizar Mustafa Assad, Manager, Civil Defense Akel Hussein Abdullah :Iraqi Red Crescent Branch , Salahadin , Environmental Pollution Officer	Email: generaleissa@yahoo.com Tel:P 00964770589271 Email: drameen73@yahoo.com Tel: 009646601319451 Email: did_darraji@yahoo.com Email: uday_abd@yahoo.com Tel: 009647701742667
SULAYMANIYAH	Khanim Latif _ Manager, ASUDA (Women Organization) Barzan Abdullah Rasheed, Technical Manager, Director of the Department of Training and Development & Industrial Safety Kosar S. Abdullah, Lawyer,CDO/ PROTECTION ASSISTANT COMMITTE Mr. Jwan Thasin Ahmmed, Program Development Officer, DAI /IRAP –Iraq Rapid Assistance Program Safen Ahmed Ali, Administration Manager, (Political Bureau) Mohammed H. Tofiq, Program Manager, KSC (Kurdistan save the Children) Goran Latif, Legal Affairs Officer, Directory of Residency Sabir Abdulkarim _ Director of the Legal & Awareness Section Dana Faiq Ahmed _ GEC Coordinator	
TAMEEM	Abdulmon'am Ahmed Hassan, Secretary General, Relief Foundation for Sustainable Development Mohammed Khurshid Samanji, President of Human Rights Center in Iraq	
THI-QAR	Mr. Talib Al-Hassan Thi-Qar GOVERNOR Mr. Haider Abdul Wahid Bonain, Deputy to the Governor Mr. Haider Radi, Administrative Department, Emergency Room Mr. Ahmed Kadum Fahad, Governorate Staff Ms. Shatha Gassi, Governorate Staff Mr. Aqueel Mohamad Reda, IRCS Chairman Mr. Emad Zuhair, Disaster & Preparedness Unit Mr. Ayad, Head of IRSC Disaster and Preparedness	Tel: 07801008136 Email: galairh@yahoo.com Tel: 07801418411 Tel: 07801008136 Email: ahmedkadhum@gmail.com Tel: 07808691428 Email: aroma_nass@yahoo.com Tel: 07811567452

	Unit Major Kareem Sarhan, Head Civil Defense- Nassaryah Mr. Hussin Matab, Civil Defense Operations Officer	Email: ircs_thiqar@yahoo.com Tel: 07806273030 Email: emad_zuhair@yahoo.com IRCS_thiqar@yahoo.com Tel: 07810160676 - Tel: 07801107457
WASSIT	Mr. Lateef Hamad Al-Torfa, Governor	Email: lateef_torfa@yahoo.com Tel: 07801098505

**DOCUMENTATION LIST FOR THE UNDP/OCHA DISASTER RISK REDUCTION CONSULTANCY
May 9 – July 31, 2009**

TITLE OF DOCUMENT	SOURCE OF DOCUMENT	DATE	PROVIDED BY	CATEGORY
UNCT/IRAQ COORDINATION STRUCTURE	UNCT IRAQ	12-12-2007	OCHA	HUMANITARIAN, RECONSTRUCTION AND DEVELOPMENT
FACT SHEET ON THE INTERNATIONAL COMPACT WITH IRAQ	UNAMI/UNDPI	27-04-2007	CONSULTANT	PEACE, GOVERNANCE AND ECONOMIC DEVELOPMENT
UNCT PLAN OF ENGAGEMENT FOR THE CCA/UNDAF PROCESS IN IRAQ	IAU	13-05-2009	IAU	DEVELOPMENT OF COMPLIMENTARY PROGRAMMES IN SUPPORT OF GOI DEVELOPMENT STRATEGY
UN IRAQ ASSISTANCE STRATEGY 2008-2010	UNAMI	05-2008	UNAMI	STRATEGIC PLAN OF ASSISTANCE
UN ASSISTANCE STRATEGY FOR IRAQ - RESULTS MATRIX	IAU	2007	IAU	2008-2010 STRATEGY FOR EDUCATION, HEALTH AND NUTRITION, WATSAN, HOUSING AND SHELTER, AGR & FOOD SECURITY, FOOD AID, PROTECTION, GOVERNANCE AND ECONOMIC REFORM AND DIVERSIFICATION.
STRATEGIC DIRECTIONS OF ISDR TO ASSIST THE IMPLEMENTATION OF THE HFA2005-2015	INTER-AGENCY TASK FORCE ON DISASTER REDUCTION	24-05-2005	ISDR	BUILDING THE RESILIENCE OF COMMUNITIES AND NATIONS TO DISASTERS.
INTERDISCIPLINARY EDUCATION IN EMERGENCY PREPAREDNESS –ASSURING THE SAFETY OF AGING POPULATIONS	FORUM ON PUBLIC POLICY –JOURNAL OF THE OXFORD ROUNDTABLE	22-06-2007	CONSULTANT	EMERGENCY PREPAREDNESS
PROTECTING THE ELDERLY IN TIMES OF DISASTER: THE CRITICAL NEED FOR A COMPREHENSIVE DISASTER PLANNING AND EXERCISE DESIGN.	FORUM ON PUBLIC POLICY –JOURNAL OF THE OXFORD ROUNDTABLE	22-06-2007	CONSULTANT	EMERGENCY PREPAREDNESS/TRAINING
IRAQ HAS COME A LONG WAY SINCE 2003	THE REGISTER GUARD	04-02-2009	CONSULTANT	GOVERNANCE/ELECTIONS
TERMINOLOGY OF DISASTER RISK REDUCTION FOR THE UNDP IRAQ CONSULTANCY	INTERNATIONAL STRATEGY FOR DISASTER REDUCTION	2008	CONSULTANT	DISASTER RISK REDUCTION DEFINITIONS
TOR FOR MOHAMAD MUKALLED, BCPR	BCPR/AMMAN	05/2009	BCPR/AMMAN	CONSULTANT SUPPORT
CLOSING REMARKS OF THE WHO SECRETARY GENERAL AT THE 62TH WORLD HEALTH GENERAL ASSEMBLY	WHO	22-05-2009	HUMANITARIAN COORDINATOR/ WHO REPRESENTATIVE	HEALTH PREPAREDNESS FOR PANDEMIC EPISODES
DANISH REFUGEE COUNCIL –IRAQ. GOVERNMENT EMERGENCY CELLS	DANISH REFUGEE COUNCIL	2009	Danish Refugee Council Representative	NGO SUPPORT TO DISASTER RISK REDUCTION ACTIVITIES.
GUIDANCE NOTE ON NEW UN COORDINATION STRUCTURE FOR IRAQ	UNCT IRAQ	12/2007	OCHA	UNCT CLUSTER RESPONSIBILITIES DURING CRISES IN IRAQ
THE DO NO HARM	LOCAL CAPACITIES	11/2004	CONSULTANT	THE FRAMEWORK FOR ANALYZING THE

HANDBOOK	FOR PEACE PROJECT			IMPACT OF ASSISTANCE ON CONFLICT
TITLE OF DOCUMENT	SOURCE OF DOCUMENT	DATE	PROVIDED BY	CATEGORY
UPHILL STRUGGLE BOOSTING DISASTER RISK REDUCTION EFFORTS	IRIN	21-05-2009	CONSULTANT	MIDDLE EAST REGIONAL DRR INITIATIVES
2009 GLOBAL REPORT ON DISASTER RISK REDUCTION: RISK AND POVERTY IN A CHANGING ENVIRONMENT	UNISDR	2009	UNISDR	BIENNIAL GLOBAL DRR ASSESSMENT
CONFLICT AND HEALTH – MEETING REPORT ON DOCUMENTING MORTALITY IN CONFLICT SITUATIONS	CRED	02-2009	CONSULTANT	DOCUMENTING MORTALITY IN COMPLEX EMERGENCIES
PEACE THROUGH DEVELOPMENT	EARTH INSTITUTE	21-05-2009	CONSULTANT	RECOVERY STRATEGY FOR CONFLICT SITUATIONS
JEFFREY SACHS ADDRESSES THE IRAQ WAR	COLUMBIA SPECTATOR	29-04-2008	CONSULTANT	ECONOMIC STIMULOUS PACKAGE FOR IRAQ
TOR FOR EJ GOODYEAR, DISASTER RISK MANAGEMENT ADVISOR	UNDP	09-05-2009	UNDP	TERMS OF REFERENCE FOR DELIVERABLE PRODUCTS
PROCEEDINGS OF THE WORLD CONFERENCE ON DISASTER REDUCTION	ISDR	22-01-2005	CONSULTANT	HYOGO FRAMEWORK FOR ACTION
GUIDELINES: NATIONAL PLATFORMS FOR DISASTER RISK REDUCTION	ISDR	03-2007	CONSULTANT	UN SUPPORT TO NATIONAL PLATFORMS FOR DRR
IRAQ PRESENTATION AT GLOBAL PLATFORM FOR DRR WORKSHOP IN GENEVA	ISDR	07-06-2007	CONSULTANT	DRR THREATS IN IRAQ
CRITICAL GUIDELINES: COMMUNITY LEVEL DRM	ADPC	27-01-2006	CONSULTANT	TEMPLATE FOR DRM AT THE COMMUNITY LEVEL
UNAMI Human Rights Report	UNAMI	07-01-2008 TO 31-12-2008	UNAMI	PROTECTION OF HUMAN RIGHTS
NATIONAL DEVELOPMENT STRATEGY 2005-2007	GOVERNMENT OF IRAQ	06-2005	GOVERNMENT OF IRAQ	NATIONAL DEVELOPMENT STRATEGY
STATUS OF WOMEN IN IRAQ: UPDATE TO THE ASSESSMENT OF THE IRAQ'S DE JURE AND DE FACTO COMPLIANCE WITH INTERNATIONAL LEGAL STANDARDS	AMERICAN BAR ASSOCIATION	12-2006	AMERICAN BAR ASSOCIATION	RULE OF LAW FOR WOMEN IN IRAQ
UNAMI STRATEGIC VISION FOR IRAQ 2009	UNAMI/SRSG	-	UNAMI/SRAG	STRATEGIC VISION
INTERNATIONAL COMPACT FOR IRAQ	GOVERNMENT OF IRAQ	-	GOVERNMENT OF IRAQ	SHARED VISION AND MUTUAL COMMITMENT
FOCUS ON OPERATIONALITY	NCCI	01/2008	NCCI	PERSPECTIVE OF NGO OPERATING IN IRAQ
CONFIDENCE BUILDING AND STABILIZATION OF IDPS IN SRI LANKA	UNHCR GOVERNMENT OF SRI LANKA	-	UNHCR GOVERNMENT OF SRI LANKA	SUPPORT TO IDP RESETTLEMENT
COMPREHENSIVE FOOD SECURITY AND VULNERABILITY ANALYSIS IN IRAQ	WORLD FOOD PROGRAMME	2008	WORLD FOOD PROGRAMME	
INTERIM STRATEGY NOTE FOR THE PERIOD 2009-2011	WORLD BANK	10-02-2009	WORLD BANK	RISK ASSESSMENT OF FISCAL SYSTEMS IN IRAQ
ASSESSMENT OF	UNEP	2005	UNEP	EXAMINATION OF ENVIRONMENTAL

ENVIRONMENTAL "HOT SPOTS" IN IRAQ				THREATS
HUMAN IMPACT REPORT ON CLIMATE CHANGE	GLOBAL FORUM	30-05-2009	CONSULTANT	EFFECTS OF GLOBAL WARMING
TITLE OF DOCUMENT	SOURCE OF DOCUMENT	DATE	PROVIDED BY	CATEGORY
DEPLETED URANIUM MAY CAUSE ENVIRONMENTAL HAZARDS IN IRAQ	VOICE OF AMERICA	28-04-2003	CONSULTANT	ENVIRONMENTAL AND HEALTH RISKS
CHEMICAL AND MEDICAL WASTE AS ENVIRONMENTAL HAZARDS	MILITARY TIMES	29-10-2008	CONSULTANT	ENVIRONMENTAL AND HEALTH RISKS
IRAQ; INSECURITY AND FUNDING PREVENTS CLEANSING OF POLLUTED SITES	IRIN	17-04-2007	CONSULTANT	ENVIRONMENTAL "HOT SPOTS"
IRAQ'S TOXIC SHIPWRECKS	NATIONAL INSTITUTE FOR ENVIRONMENTAL HEALTH SCIENCE	01-04-2005	CONSULTANT	ENVIRONMENTAL POLLUTION OF THE SEAS
REDUCING DISASTER RISKS – A CHALLENGE FOR DEVELOPMENT	BCPR UNIT	2004	CONSULTANT	DISASTER RISK REDUCTION TRENDS
THE TSUNAMI LEGACY; INNOVATION, BREAK THROUGH AND CHANGE	UNDP	04/2009	CONSULTANT	CRITICAL NEED FOR DISASTER PREPAREDNESS
THE EIGHT POINT AGENDA:PRACTICAL, POSITIVE OUTCOMES FOR WOMEN AND GIRLS IN CRISIS	UNDP BCPR	2006	CONSULTANT	GENDER EQUALITY PRINCIPLES
BCPR FOCUS ON IRAQ	BCPR	2009	CONSULTANT	BCPR KEY ISSUES AND CHALLENGES
BCPR DIRECTOR ON LAUNCH OF ISDR GLOBAL ASSESSMENT REPORT	BCPR	05/2009	CONSULTANT	DRR PRIORITY ISSUES
DISASTER RISK MANAGEMENT AND VULNERABILITY REDUCTION: PROTECTING THE POOR	ASIAN DISASTER PREPAREDNESS CENTER	1999	CONSULTANT	PARADIGM SHIFTS IN DEVELOPMENT AND DISASTER PREPAREDNESS. COMMUNITY DISASTER PREPAREDNESS MODEL
IRAQ'S POLITICAL FACTIONS: THE LAST CHANCE TO BUILD A GOVERNING COALITION	MIT CENTER FOR INTERNATIONAL STUDIES	01/2007	CONSULTANT	GOVERNANCE ISSUE FOR ESTABLISHING POWER SHARING AT THE NATIONAL, REGIONAL AND COMMUNITY LEVELS.
EDUCATION SECTOR PAPER FOR IRAQ FIVE-YEAR PLAN	MINISTRY OF EDUCATION	05/2009	IAU	EDUCATION SECTOR DATA
WATER/SANITATION AND HOUSING SECTOR PLAN FOR IRAQ FIVE-YEAR PLAN	MINISTRY OF RECONSTRUCTION AND HOUSING	05/2009	IAU	WATSAN AND HOUSING SECTOR DATA
PUBLIC INVESTMENT DRAFT PLAN	MINISTRY OF PLANNING AND DEVELOPMENT COOPERATION	05/2009	IAU	PUBLIC INVESTMENT PLAN – 2010 TO 2014
YOUTH IN IRAQ DRAFT PLAN	MINISTRY OF YOUTH AND SPORTS	05/2009	IAU	YOUTH UNEMPLOYMENT
HUMANITARIAN UPDATE	OCHA	04/2009	CONSULTANT	MINISTRY OF DISPLACED AND MIGRATION REPORT OF RETURNEES
MOSUL CHRISTIAN DISPLACEMENTS	UNAMI/HRDU	14-10-2008	CONSULTANT	REPORT BY MINISTRY OF DISPLACED AND MIGRANTS
IRAQ AND THE REGION – CAP APPEAL 2009	OCHA	2009	CONSULTANT	HUMANITARIAN PRIORITY FOCUS

REDUCING DISASTER RISK: A CHALLENGE FOR DEVELOPMENT	BCPR	2004	CONSULTANT	DEVELOPMENT AT RISK
DISASTER RISK REDUCTION: A DEVELOPMENT CONCERN	DFID	01/2005	CONSULTANT	NATURAL DISASTER REDUCTION
TITLE OF DOCUMENT	SOURCE OF DOCUMENT	DATE	PROVIDED BY	CATEGORY
AGRICULTURE AND WATER RESOURCES PLAN	MINISTRY OF AGRICULTURE	05/2009	IAU	AGRICULTURE AND WATER RESOURCES FIVE-YEAR PLAN
THE GENERAL FRAMEWORK OF LABOUR FORCE IN IRAQ	MINISTRY OF LABOUR	05/2009	IAU	EMPLOYMENT AND UNEMPLOYMENT AND CHALLENGES FACING IRAQ
DEVELOPMENT OF THE PRIVATE SECTOR	MINISTRY OF TRADE	05/2009	IAU	PRIVATE SECTOR DEVELOPMENT
VISIONS AND ECONOMIC POLICIES	MINISTRY OF PLANNING AND DEVELOPMENT COOPERATION	05/2009	IAU	SOCIO-ECONOMIC CHALLENGES TO ECONOMIC GROWTH
ECONOMIC AND SOCIAL DEVELOPMENT STRATEGIES IN KURDISTAN REGION	KRG MINISTRY OF PLANNING	05/2009	IAU	KRG PLANNING STRATEGY FOR FIVE-YEAR PERIOD
MEASURING STABILITY AND SECURITY IN IRAQ	REPORT TO THE US CONGRESS	06/2008	CONSULTANT	USG MILITARY POSITION ON IRAQ – SECURITY ENVIRONMENT
THE KOBE CONFERENCE: A REVIEW	FEINSTEIN INTERNATIONAL FAMINE CENTER	03/2005	CONSULTANT	<i>We recognize the intrinsic relationship between disaster reduction, sustainable development and poverty eradication, among others, and the importance of involving all stakeholders, including governments, regional and international organizations and financial institutions, civil society, including Non-governmental organizations and volunteers, the private sector and the scientific community.</i>
EARTHQUAKE HAZARD CONDITIONS FOR IRAQ	FOURTH INTERNATIONAL CONFERENCE ON EARTHQUAKE ENGINEERING AND SEISMOLOGY	12-14/05/200	CONSULTANT	SEISMIC ZONING MAP; HISTORICAL DATA FROM 1260 BC TO 1900 AD
SEISMOLOGICAL ENGINEERING CONSIDERATIONS OF THE EASTERN ARAB REGIONS	EURO-MEDITERRANEAN SEMINAR ON NATURAL, ENVIRONMENTAL AND TECHNOLOGICAL DISASTERS	08-10/102001	CONSULTANT	IMPORTANCE OF COORDINATED TEAMWORK IN SEISMIC RISK IDENTIFICATION AND RESEARCH IN THE REGION.
Probabilistic Seismic Hazard Assessment for Iraq Using Complete Earthquake Catalogue Files	PURE AND APPLIED GEOPHYSICS JOURNAL	01/03/2004	CONSULTANT	The forces, through which the geological structure along the plate boundary in Eastern and Northeastern Iraq are evolved, are still active causing stress-strain accumulation, deformation and in turn producing higher probabilities of earthquake activity. Thus, relatively large destructive earthquakes cannot be ruled out in this region. The study is intended to serve as a reference for more advanced approaches and to pave the path for the probabilistic assessment of seismic hazard in this region.
IRAQ: Appeal for help to clear landmines	IRIN	08/06/2009	OCHA	Data on landmine and OXO in Iraq

RAPID AGRICULTURAL DISASTER ASSESSMENT ROUTINE	FAO	2008	FAO	ASSESSMENT METHODOLOGY FOR SHORT AND LONG TERM IMPACTS ON AGRICULTURE LOSSES TO NATURAL DISASTER EPISODES.
LAW OF ADMINISTRATION FOR THE STATE OF IRAQ TRANSITIONAL PERIOD	GOVERNMENT OF IRAQ	8 MARCH 2004	CONSULTANT	INTERIM LEGAL SYSTEM
TITLE OF DOCUMENT	SOURCE OF DOCUMENT	DATE	PROVIDED BY	CATEGORY
DISASTER RISK REDUCTION	GLOBAL PLATFORM FOR DISASTER RISK REDUCTION	16/06/2009	CONSULTANT	WORLD IS 'SLEEPWALKING' TOWARDS PREVENTABLE NATURAL DISASTERS.
TOWARDS A COMMON SECURITY FRAMEWORK: SECURING ACCESS AND MANAGING RISKS IN HAZARDOUS MISSIONS	HARVARD UNIVERSITY	10/2004	CONSULTANT	THE ESCALATION OF SECURITY THREATS REQUIRES MATCHING INSTITUTIONAL STRATEGIES TO MITIGATE OPERATIONAL RISKS.
2005 ELECTIONS IN IRAQ	HARVARD POLICY BRIEF	05/2005	CONSULTANT	ELECTION RESULTS
THE END OF OCCUPATION IN IRAQ	SIR ADAM ROBERTS	06/2004	CONSULTANT	? CAN A MILITARY OPERATION END IN A SINGLE MOMENT ?
PROTECTING PERSONS AFFECTED BY NATURAL DISASTERS - IASC Operational Guidelines on Human Rights and Natural Disasters	INTER-AGENCY STANDING COMMITTEE	09/06/2006	CONSULTANT	DRAFT OPERATIONAL GUIDELINES ON HUMAN RIGHTS AND NATURAL DISASTERS
ICRC OPERATIONAL UPDATE	ICRC	05/2009	PAMELA HUSAIN	ICRC RESPONSE TO ARMED CONFLICT
GLOBAL RISK IDENTIFICATION PROGRAMME	UNDP	20-0202009	CONSULTANT	SITUATION EVALUATION TOOL FOR NATIONAL RISK ASSESSMENTS AND NATIONAL PROFILE.
Disaster Risk Reduction Strategies and Risk Management Practices:	IASC / ISDR	11/11/2008	CONSULTANT	CRITICAL ELEMENTS FOR ADAPTATION TO CLIMATE CHANGE
TABATHA SITUATION REPORT ON DROUGHT	UNAMI-HRDU FIELD OFFICER, MOSEL	06/20/2009	MIRNA YACOB	REPORT ON SEVERTY OF DROUGHT AS REPORTED BY THE TABALTHA COUNCIL OF REPRESENTATIVES
FOR DISASTER IDPS: AN INSTITUTIONAL GAP	ROBERTA COHEN, Nonresident Senior Fellow, Foreign Policy	08-08-2008	CONSULTANT	HUMAN RIGHTS AND NATURAL DISASTERS
BRIEF ON THE KURDISTAN REGIONAL GOVERNMENT	KRG	UNDATED	CONSULTANT	KRG FRAMEWORK

