

# **Profile on Environmental and Social Considerations in Iraq**

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## Abbreviations

|       |   |
|-------|---|
| ADB   | Asian Development Bank                                      |
| AfDB  | African Development Bank                                    |
| BP    | Bank Procedure  |
| CBD   | Convention on Biological Diversity                          |
| CDM   | Clean Development Mechanism                                 |
| CPA   | Coalition Provisional Authority                             |
| CRRPD | Commission for Resolution of Real Property Disputes         |
| DU    | Depleted Uranium  |
| EA    | Environmental Assessment                                    |
| EHS   | Environmental, Health, and Safety Guidelines                |
| EIA   | Environmental Impact Assessment                             |
| EMP   | Environmental Management Plan                               |
| ESSAF | Environmental and Social Screening and Assessment Framework |
| FAO   | Food and Agriculture Organization                           |
| FGM   | Female Genital Mutilation                                   |
| GEF   | Global Environmental Facility                               |
| IBA   | Important Bird Area   |
| IDB   | Inter-American Development Bank                             |
| IEE   | Initial Environmental Evaluation                            |
| ILO   | International Labour Organization                           |
| IOM   | International Organization for Migration                    |
| IPCC  | Iraq Property Claim Commission                              |
| IUCN  | International Union for Conservation of Nature              |
| JI    | Joint Implementaiton  |
| KBA   | Key Biodiversity Areas                                      |
| KDP   | Kurdistan Democratic Party                                  |
| MRG   | Minority Rights Group International                         |
| NCCI  | NGO Coordination Committee for Iraq                         |
| OD    | Operational Directive                                       |
| OP    | Operational Policy  |
| PEA   | Programmatic Environmental Assessment                       |
| PUK   | Patriotic Union of Kurdistan                                |
| RAP   | Resettlement Action Plan                                    |
| SEA   | Strategic Environmental Assessment                          |
| SFP   | Safegaards Focal Point                                      |
| SMWA  | State Ministry of Women's Affairs                           |

|            |  |
|------------|--|
| UN OCHA    | UN Office for the Coordination of Humanitarian Affairs |
| UNAMI      | UN Assistance Mission for Iraq                         |
| UNDP       | UN Development Programme                               |
| UNEP       | UN Environmental Programme                             |
| UNESCO     | UN Educational, Scientific and Cultural Organization   |
| UNFCCC     | United Nations Framework Convention on Climate Change  |
| UNFPA      | UN Population Fund                                     |
| UN-HABITAT | UN Human Settlements Programme                         |
| UNHCR      | Office of the UN High Commissioner for Refugees        |
| UNICEF     | UN Children's Fund                                     |
| UNIDO      | UN Industrial Development Organization                 |
| UNIFEM     | UN Development Fund for Women                          |
| UNOCHA     | UN Office for the Coordination of Humanitarian Affairs |
| UNOPS      | UN Office for Project Services                         |
| USAID      | United States Agency for International Development     |
| USIP       | United States Institute of Peace                       |
| WFP        | World Food Programme                                   |
| WHO        | World Health Organization                              |





## Chapter 1

### General Condition of the Republic of Iraq



## Chapter1 General Condition of Iraq

### 1.1 General Condition of the Republic of Iraq

#### 1.1.1 Location and Topography <sup>1</sup>

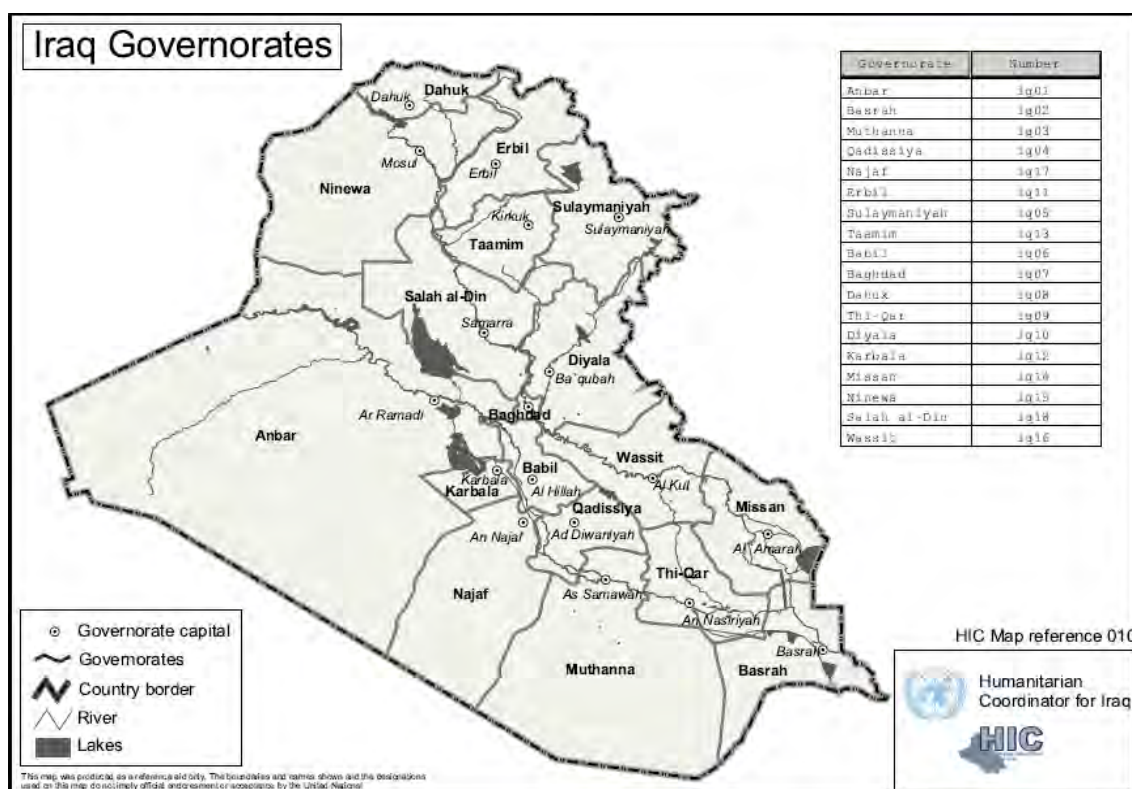
Republic of Iraq is located in the Middle East, bordering on Iran, Kuwait, Saudi Arabia, Jordan, Syria, and Turkey. Following maps are attached; location map as Figure 1.1-1, administrative boundaries as Figure 1.1-2, general information on topography and geographical zones as Table 1.1-1 and 1.1-2.



Source: CIA Website

**Figure1.1-1 Map of Iraq**

<sup>1</sup> Website of CIA (<https://www.cia.gov/library/publications/the-world-factbook/geos/iz.html>) May 2011 accessed and UNEP (2007) "UNEP in Iraq"



**Figure1.1-2 Govenorate Boundary of Iraq (source Humanitarian Information Center)**

**Table1.1-1 Geography of Iraq**

| Item                   | Discription   |
|------------------------|---|
| Geographic coordinates | 33 00 N, 44 00 E  |
| Area                   | total: 438,317 sq km<br>land: 437,367 sq km<br>water: 950 sq km   |
| Land boundaries        | total: 3,650 km<br>border countries: Iran 1,458 km, Jordan 181 km, Kuwait 240 km, Saudi Arabia 814 km, Syria 605 km, Turkey 352 km                      |
| Coastline              | 58 km   |
| Elevation              | lowest point: Persian Gulf 0 m<br>highest point: unnamed peak; 3,611 m; note - this peak is neither Gundah Zhur 3,607 m nor Kuh-e Hajji-Ebrahim 3,595 m |

Source : CIA website

Geographical features can be largely divided by four zones. The features are as follows.

**Table1.1-2 Geographical Features of Iraq**

| Geographical zones     | %  | Location   | Feature  |
|------------------------|----|--|--|
| Desert plateau         | 40 | West and southwest of the Euphrates River  | A broad, stony plain with scattered stretches of sand, and sparsely inhabited by pastoral nomads. A network of seasonal watercourses (or wadis) runs from the border to the Euphrates River.                                     |
| Northeastern highlands | 20 | South of a line between Mosul to Kirkuk towards the borders with Turkey and Iran | Mountain ranges reach up to 3,600m in altitude   |
| Uplands region         | 10 | A transitional area between the highlands and the desert plateau                 | Much of this zone may be classified as desert because watercourses flow in deeply cut valleys.   |
| Alluvial plain:        | 30 | Formed by the combined deltas of the Tigris and Euphrates Rivers.                | The once-extensive wetlands of the region have been decimated by damming and diversion of the Euphrates in Turkey and Syria, and by large-scale drainage works carried out by the Iraqi regime in the wake of the 1991 Gulf War. |

Source : Summarized from UNEP(2007)"UNEP in Iraq"

The distribution map of the above mentioned geographical zones is in Attachment1 Map of Geographical Zones and Elevations.

### 1.1.2 Climate

The area is mostly desert climate with mild to cool winters and dry, hot, cloudless summers. The northern mountainous regions along Iranian and Turkish borders experience cold winters with occasionally heavy snows that melt in early spring, sometimes causing extensive flooding in central and southern Iraq.

Iraq Central Organization for Statistics and Information Technology (COSIT) publishes data on climate, saying that the temperature in Baghdad is in the average of 9.2°C(January)-34.7°C(July) during 30 years from 1977 to 2006 with the humidity of 24 % (June, July)-72 % (January).(Table1.1-3)

**Table1.1-3 Temperature and humidity in Baghdad**

| Month | Temperature(°C) |      |       |      |         |      | Humidity(%) |     |      |     |         |      |
|-------|-----------------|------|-------|------|---------|------|-------------|-----|------|-----|---------|------|
|       | Min.            |      | Max.  |      | Average |      | Date        | Min | Date | Max | Average |      |
|       | Av.Yr           | 2006 | Av.Yr | 2006 | Av.Yr   | 2006 |             |     |      |     | Av.Yr   | 2006 |
| 1     | 3.7             | 4.9  | 15.5  | 16.6 | 9.2     | 10.0 | 2           | 24  | 13   | 100 | 72      | 70   |
| 2     | 5.2             | 8.7  | 18.3  | 19.6 | 11.7    | 14.2 | 26          | 23  | 13   | 98  | 61      | 63   |
| 3     | 9.2             | 11.5 | 22.9  | 26.6 | 16.0    | 18.4 | 8           | 16  | 1    | 94  | 52      | 43   |
| 4     | 14.9            | 17.0 | 29.8  | 30.3 | 22.5    | 23.3 | 27          | 17  | 17   | 100 | 42      | 49   |
| 5     | 19.7            | 22.5 | 36.3  | 38.2 | 28.4    | 30.4 | 26          | 7   | 8    | 73  | 31      | 33   |
| 6     | 22.8            | 25.5 | 41.2  | 44.2 | 32.3    | 35.1 | 22,26       | 4   | 13   | 55  | 24      | 20   |
| 7     | 25.1            | 27.0 | 43.8  | 45.3 | 34.7    | 35.5 | 10          | 4   | 16   | 53  | 24      | 22   |
| 8     | 23.9            | 26.5 | 43.4  | 42.7 | 33.8    | 34.9 | 2           | 7   | 4    | 42  | 26      | 23   |
| 9     | 20.1            | 20.9 | 40.1  | 40.0 | 30.2    | 30.4 | 20          | 5   | 28   | 70  | 30      | 28   |
| 10    | 15.4            | 18.5 | 33.1  | 34.0 | 24.1    | 26.3 | 2           | 12  | 27   | 93  | 40      | 41   |
| 11    | 9.2             | 8.1  | 23.8  | 22.7 | 16.1    | 14.6 | 18          | 8   | 1    | 87  | 57      | 49   |
| 12    | 5.2             | 3.1  | 17.0  | 15.7 | 10.8    | 8.8  | 3           | 14  | 22   | 100 | 72      | 62   |

Source: COSIT, "Av.Yr" means the average of the last 30 years. Date for Humidity means the date when it was highest or lowest in a month.

**Table1.1-4 Rainfall**

| Govenarate            | Rainfall(mm/year) |       |       |       |       |       |       |       |       |       |       |         |
|-----------------------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
|                       | 1996              | 1997  | 1998  | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  | 2006  | Average |
| Nineveh/Al-Mosul      | 528.7             | 360.7 | 222.2 | 165.1 | 272.8 | 262.4 | 405.7 | 227.6 | 357.1 | 294.5 | 511.2 | 328.0   |
| Kirkuk                | 398.5             | 495.3 | 287.7 | 229.8 | 234.2 | 277.0 | 461.6 | 183.6 | 312.1 | 249.4 | 458.4 | 326.1   |
| Salah Al-Deen/Tikreet | 203.1             | 244.0 | 83.3  | 109.4 | 166.7 | 180.1 | 177.3 | 94.3  | 125.8 | 121.5 | 196.9 | 154.8   |
| Al-Anbar/Al-Rutbah    | 133.4             | 236.9 | 80.9  | 62.6  | 84.4  | 103.3 | 103.5 | 56.5  | M     | M     | M     | 107.7   |
| Diala-Khnaqeen        | 282.1             | 407.8 | 268.9 | 171.7 | 288.7 | 223.1 | 366.6 | 173.9 | 240.6 | 222.0 | 205.2 | 259.1   |
| Baghdad               | 83.8              | 104.3 | 110.0 | 61.5  | 75.9  | 74.6  | 97.8  | 64.3  | 76.5  | 129.4 | 162.3 | 94.6    |
| Babylon-Hilla         | 120.1             | 98.7  | 95.8  | 65.3  | 85.3  | 81.3  | 102.8 | 134.5 | 71.1  | 73.2  | 170.3 | 99.9    |
| Wasit/Al-Hay          | 233.4             | 159.4 | 97.8  | 130.8 | 89.3  | 66.5  | 137.0 | 23.4  | 42.0  | 106.2 | 179.1 | 115.0   |
| Al-Najaf              | 91.3              | 142.9 | 83.8  | 48.8  | 54.6  | 75.0  | 42.1  | 46.1  | 51.4  | 71.4  | 190.7 | 81.6    |
| Al-Qadisiya/Diwaniya  | 117.2             | 112.6 | 108.4 | 98.7  | 223.4 | 93.4  | 186.1 | 109.2 | 56.6  | 100.6 | 106.9 | 119.4   |
| Kerbela               | 125.8             | 138.7 | 99.8  | 40.9  | 42.2  | 83.8  | 78.2  | 59.7  | 62.6  | 68.0  | 96.2  | 81.4    |
| Al-Muthanna/Simawa    | 116.5             | 163.1 | 165.6 | 228.3 | 115.0 | 76.2  | 82.6  | M     | M     | M     | 165.9 | 139.2   |
| Thi Qar/Nasiriya      | 180.8             | 159.9 | 153.1 | 157.0 | 108.0 | 62.9  | 151.0 | M     | 55.5  | 105.7 | 245.8 | 138.0   |
| Maysan/Al-Umarah      | 324.1             | 253.1 | 210.8 | 328.2 | 201.2 | 109.8 | 88.9  | 7.8   | 182.7 | 158.2 | 251.4 | 192.4   |
| Al-Basrah             | 214.2             | 232.5 | 74.2  | 238.6 | 130.0 | 127.3 | 127.3 | M     | 53.5  | 95.5  | 174.1 | 146.7   |
| Al-Sulaymaniya        | 790.1             | 854.8 | 623.6 | 339.4 | 499.0 | 464.9 | 929.5 | 810.8 | 557.9 | M     | M     | 652.2   |
| Arbil                 | 427.7             | 441.6 | 337.2 | 157.1 | 291.3 | 309.3 | 297.1 | M     | M     | M     | M     | 323.0   |
| Dohouk                | 1,320.3           | 977.2 | 717.2 | 608.9 | 867.6 | 457.5 | 389.7 | M     | M     | M     | M     | 762.6   |

Source: COSIT, M means no data. The three govenerates in the bottom forms Kurdistan Region.

### 1.1.3 Hydrology<sup>2</sup>

The rainfall in Iraq is so limited that Iraq depend domestic, agricultural and industrial water on only two large international rivers, or the Tigris and the Euphrates.

#### **Surface water resources: transboundary rivers**

Both the Tigris and the Euphrates are transboundary rivers originating their source in Turkey. A Joint Technical Committee on Regional Waters<sup>3</sup> was set up in 1980 by Turkey and Iraq for discussing regional water matters. Furthermore, tensions among the countries regarding water management intensified when Turkey began a major development project called Southeastern Anatolia Project

#### **Groundwater resources**

Good quality subterranean water has been found in the foothills of the mountains in the northeast of the country and in the area along the right bank of the Euphrates. But the Global Environment Outlook 2000 reported that the groundwater is rapidly deteriorating in Iraq, because the water volumes withdrawn far exceed natural recharge rates. Consequently, the traditional systems tapping aquifers using gravity-fed underground conduits, called 'Afalaj systems', have heavily suffered.

### 1.1.4 Political Structure, Legal Framework, Administrative Organization

Britain granted independence to Iraq in 1932 as a kingdom, and the regime was overthrown by a coup d'etat of the Iraqi Army, known as the 14 July Revolution to become a republic.

Major political movements after the fall of Saddam Hussein's regime in 2003 with the subsequent establishment of the Coalition Provisional Authority, are shown below.

**Table 1.1-5 Political movements in Iraq(2004/6-2011/4)**

| Date       | Political movements   |
|------------|---|
| 2004/6/28  | The Coalition Provisional Authority transferred its governing authority to an Iraqi Interim Government                    |
| 2005/1/30  | Iraqi legislative election  |
| 2005/4/28  | Approval of the new Transitional Government by the elected Parliament   |
| 2005/10/15 | Iraqi constitutional referendum and its approval on 25th October 2005   |
| 2005/12/15 | Iraqi legislative election  |
| 2006/4/22  | National assembly selected President Jalal Talabani, Speaker Mahmoud al-Mashhadani and appointed Prime Minister al-Maliki |
| 2006/5/20/ | The new Iraqi government, which succeeds to the Iraqi Transitional Government, begins its functions.                      |

<sup>2</sup> See UNESCO webpage <http://www.unesco.org/water/wwap/news/iraq.shtml>, April 2011 accessed

<sup>3</sup> Joint Technical Committee on Regional Waters : Turkey and Iraq jointly formed the committee to discuss the water resource use of the Tigris and the Euphrates. Syria joined it in 1982.



|            |   |
|------------|---|
| 2010/3/7   | Second legislative election   |
| 2010/11/11 | National assembly selected President Jalal Talabani, Speaker Osama al-Najafi and appointed Prime Minister al-Maliki |
| 2010/12/21 | Cabinet was approved and second Maliki Government started its functions   |

Source : <http://www.mofa.go.jp/mofaj/area/iraq/kankei.html#top>, April 2011 accessed

## 1.2 Regulations and Policies on the Environmental and Social Considerations

Environmental and social considerations law and regulations are shown in the table below. Many of them are old, and recently being updated with the support of international organizations.

Regarding EIA regulations, a draft EIA guideline was prepared as of April 2010 as one of the outputs of Emergency Environmental Management Project supported by the World Bank<sup>4</sup>. As of October 2010, the final draft of the EIA guideline was prepared in English and Arabic<sup>5</sup>, while this document was not available.

**Table1.2-1 Iraqi Laws and Regulations on Environmental and Social Considerations**

| Category    | Title  | Year    |
|-------------|--|---------|
| General     | Law No. 79 for Protection and Improvement of Environment   | 1986    |
|             | Law No. 3 for Protection and Improvement of Environment  | 1997    |
|             | Modified Law of Protection and Improvement of Environment No. 3 of the year 1997 and No. 73 of the year 2001 | 2001    |
|             | Law No. 27 for Protection and Improvement of the Environment   | 2009    |
|             | Environmental Instruction for Agricultural, Industrial and Public Service Projects                           | 1990    |
| Institution | CPA Order #44 for Establishing the Iraqi Ministry of Environment   | 2003    |
|             | Law No. 37 for Creation of MOE   | 2008    |
| Air         | Law No. 1 for Safety Instructions for the Use of Asbestos  | 2002    |
|             | National Limitations of Emissions for Activities and Works   | Unknown |
| Water       | Law No. 25 System of Rivers and Other Water Resources Protection (Include of 45 Pollutants)                  | 1967    |
|             | The New Limits of the Regulation of the Protection of Rivers and Public Waters for a Year 1967               | 1967    |
|             | Law No. 89 for Public Health (Drinking Water Provision, Sanitation and Environmental Monitoring)             | 1981    |
|             | Law No. 2 for Water System Protection  | 2001    |
|             | Standard No. 417 on Drinking Water and Analysis  | 2001    |
|             | Law No. 12 for Maintenance of Networks of Irrigation and Drainage  | 1995    |
|             | Regulation for the preservation of water sources (act No.B (2)- amendment)                                   | 2001    |
| Noise       | Law No. 21 for Noise Prevention  | 1966    |
| Solid Waste | Specification of Sanitary Landfill of Wastes   | 1980    |
|             | Law No. 29 for Regulation of Landfills   | 2009    |
| Chemical    | Cancerous Chemical Stuffs – Instruction No.2   | 1984    |
|             | Law No. 84 for the Hydrocarbon Preservation  | 1985    |
|             | Instruction No.(4) for Safety in Storing and Handling Chemical Materials                                     | 1989    |

<sup>4</sup> Implementation Status & Results, Iraq-Emergency Environment Management Project (P099809), Report No: ISR941

<sup>5</sup> Implementation Status & Results, Iraq-Emergency Environment Management Project (P099809), Report No: ISR1931

|                             |  |      |
|-----------------------------|--|------|
| Factory                     | Health Care System for Factories   | 1968 |
| Radiation                   | Law No. 99 for Ionized Radiation   | 1980 |
|                             | Instructions No 1 for Protection from Non-Ionic Radiation Emanated from Mobile Phone Systems | 2010 |
| Flora, Fauna & Biodiversity | Law No. 30 for Forest  | 2009 |
|                             | Law No. 17 for Wild Animal Protection  | 2010 |
| Land Use                    | Law No. 64 for Cities Land Use   | 1965 |
|                             | Law No. 106 for Rangelands and Their Protection  | 1965 |
| Work Condition              | Law No. 89 for Public Health (Article 105 on lighting in the Work Environment)               | 1981 |
|                             | Act No. 71 promulgating the Labor Code (LC)  | 1987 |
|                             | The Professional Health Instructions to Protect Workers From Vibrations                      | 1993 |
|                             | Instructions No. (7) on the lighting in the work Environment                                 | 1993 |

Source : JICA (2010) "Preliminary Environmental and Social Impact Assessment Baiji Refinery Upgrading Project"

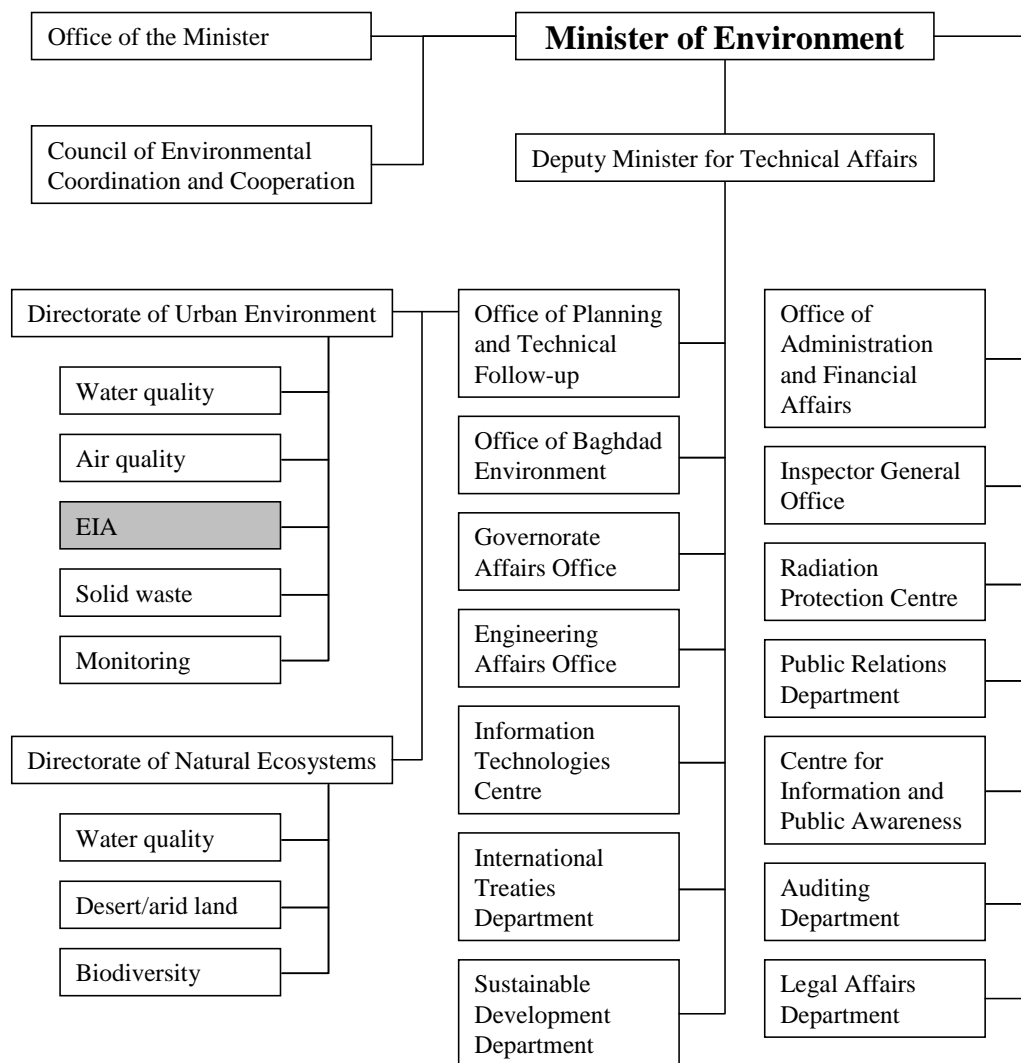
JICA (2006) "The Feasibility Study on Baghdad Water Supply System Improvement Project Final Report"

Fichtner(2009) "Rehabilitation of the Hartha Power Plant in Basra (Iraq) Environment and Social Impact Assessment Final Report"

<http://www.hammurabi-environment.com/iraqi-legislation.php>

### 1.3 Administrative Organizations related to the Environmental and Social Considerations

EIA is under the authority of EIA department, Directorate of Urban Environment of the ministry of environment. Organization chart is attached.



Note: as of April 2005

**Figure1.3-1 Organization Structure of the Ministry of Environment**

Source: UNEP (2006) "Iraq Institutional Capacity Assessment Report"  
[http://postconflict.unep.ch/publications/ICA\\_iraq.pdf](http://postconflict.unep.ch/publications/ICA_iraq.pdf) (April 2011 accessed)

And it is mentioned in "Iraqi Fourth National Report to the Convention of Biological Diversity (CBD) (July 2010) that until 2009, the Kurdistan Regional Government (KRG) also maintained an environmental ministry that worked autonomously but at the end of 2009 the ministry was abolished and replaced with a supervisory committee that reports to the KRG's Prime Minister's office. Little information is available on the structure, organization or operational budget of this supervisory body. There is a military environmental force (a division of the Peshmerga) and a Forestry Police tasked with dealing with forest protection, fires, and hunting in the KRG area.

In the report to CBD, these organizations are listed that have sections related to environment.

**Table1.3-1 Environment Related Organizations in the Government of Iraq**

| Ministries   | Organizations  |
|--|--|
| Ministers Council (Cabinet)                          | Directorate of Committees affairs, marshes and wetlands Commission   |
| Ministry of Agriculture                              | Department of Planning and Follow-up, Department of the environment.   |
| Ministry of Construction and Housing                 | Technical directorate, Department of the environment.  |
| Ministry of Finance                                  | -  |
| Ministry of Foreign Affairs                          | Directorate of Organizations and International Cooperation, Environment department.  |
| Ministry of Health                                   | Department of Public Health and Primary Health Care<br>Technical directorate, Treatment dept., Environment protection section                      |
| Ministry of Higher Education and Scientific Research | University of Technology, Centre for Environmental Research  |
| Ministry of Human Rights                             | Research Directorate   |
| Ministry of Industry                                 | Service development and industrial organization, Department of the environment<br>Department of Industrial Development, Department of environment. |
| Ministry of Interior                                 | General Directorate of Civil Defence, Police Directorate of Environmental Protection, Department of the environment.                               |
| Ministry of Labor and Social Affairs                 | National Center of the Vocational Health and Safety  |
| Ministry of Municipalities and Public Works          | Planning and Follow-up Directorate, Department of the environment.   |
| Ministry of Oil                                      | Directorate of Studies and Planning and follow-up, Department of the environment<br>Refinery of Al Doora, Department of the environment            |
| Ministry of Planning and Development                 | Central Organization for Statistics and Information Technology (COSIT)   |
| Ministry of Science and Technology                   | Environmental Technologies and Testing Directorate   |
| Ministry of State for Tourism and Antiquities        | Tourism Authority  |
| Ministry of Trade                                    | Directorate of Supply and Planning<br>Directorate of Planning and follow-up  |
| Ministry of Transport                                | Department of Planning and Follow-up, Division of Environment  |
| Ministry of Water Resources                          | Department of Planning and Follow-up, Department of the environment.   |
| Ministry of Water Resources                          | Centre for Research in the Iraqi Marshlands (CRIM)   |
| Ministry of Work and Social Affairs                  | General Authority for Health and Environmental Safety  |
| Municipality of Baghdad                              | Directorate of Solid Waste and the environment, Environment Department   |
| Parliament Council                                   | Health and Environment Committee   |
| State Ministry for the Marshes                       | -  |

#### 1.4 Ratification on International Treaties

Iraq ratifies/accessed 42 international treaties and is signatory to 8 international treaties. Detail is shown in Attachment 2 International treaties to which Iraq is signatory.

The environmental international treaties which GoI is under preparation for ratification are as follows.

- Convention on Migratory Species of wild animals
- Convention on Illegal Trade in Endangered Species
- Basel Convention on the Trans-boundary Movements of Hazardous Wastes

- Stockholm Convention on Persistent Organic Pollutants
- Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

## 1.5 Trend of NGO

The NGO Coordination Committee in Iraq (NCCI) was established in April 2003 in Baghdad by (largely) European NGOs with a pre-war presence: Premiere Urgence, Oxfam GB, Un Ponte Per, Medecins du Monde, Intersos). Following the tragic bombing of UN headquarters in Baghdad in August 2003 and the evacuation of UN foreign staff from Iraq, many NGOs scaled back programming and resorted to remote management. Some NGOs ended their programs completely, while others stayed, adopting a low profile to avoid danger. NCCI also stayed, and took on many of the UN coordination activities – including OCHA's, who was to remain absent from Iraq until March 2007. At this point, NCCI had offices in Baghdad, Erbil, Basrah, Kuwait and Amman. By the end of 2005, NCCI relocated from Baghdad to Amman, closed offices in Kuwait, and significantly reduced staff. Since August 2009, NCCI has experienced a 'renaissance'. A new Executive Coordinator has led the consolidation of the NCCI structure and staff and revived the NCCI field presence, in part by increasing local participation and representation. Current functions of NCCI are; Coordination and Information Sharing, Advocacy, Support to local and national NGOs, Increase awareness of NGO activities in Iraq and Security<sup>6</sup>.

The member list of NCCI is in Attachment2.

## 1.6 Trend of Donors

UN organizations established UN Assistance Mission in Iraq (UNAMI) in August 2003. Each term is 1 year and as of March 2011, UNAMI will be functioning at least till 31<sup>st</sup>, July, 2011. The following 16 organizations are operating in Iraq as of October 2009.

**Table1.6-1 International Organizations operating in Iraq**

|   |   |
|---|---|
| 1 | Food and Agriculture Organization (FAO)                       |
| 2 | International Labour Organization (ILO)                       |
| 3 | International Organization for Migration (IOM)                |
| 4 | UN Assistance Mission for Iraq (UNAMI)                        |
| 5 | UN Development Programme (UNDP)                               |
| 6 | UN Educational, Scientific and Cultural Organization (UNESCO) |
| 7 | UN Population Fund (UNFPA)                                    |
| 8 | UN Human Settlements Programme (UN-HABITAT)                   |

<sup>6</sup> Kerren Hedlund, 2010, "STRENGTHS IN NUMBERS: A Review of NGO Coordination in the Field / Case Study: Iraq 2003-2010", icva

|    |  |
|----|--|
| 9  | Office of the UN High Commissioner for Refugees (UNHCR)          |
| 10 | UN Children's Fund (UNICEF)                                      |
| 11 | UN Industrial Development Organization (UNIDO)                   |
| 12 | UN Development Fund for Women (UNIFEM)                           |
| 13 | UN Office for the Coordination of Humanitarian Affairs (UN OCHA) |
| 14 | UN Office for Project Services (UNOPS)                           |
| 15 | World Food Programme (WFP)                                       |
| 16 | World Health Organization (WHO)                                  |

Bilateral donors are not many, and USAID, JICA, Italian government, and CIDA are the donors working in Iraq.

### 1.7 The current situation of local resource persons

Due to serious security conditions, assistance and projects by the donors are at the limited scale, which result in little information on the local consultant and resource persons.

The table below shows the consulting firms engaged in the projects by the international organizations in Iraq, and the organizations which may have competence on environmental and social considerations.

**Table1.7-1 List of Organizations Operating in Iraq**

|   | Name of the organization            | Type of the organization | Address  | Work involved in Iraq                         |
|---|-------------------------------------|--------------------------|--|---|
| 1 | The Fichtner Group                  | Company                  | Germany( also offices in UAE and Saudi Arabia)           | EIA for Rehabilitation of Basra Power Plant   |
| 2 | SMEC                                | Company                  | Australia  | Enviromental Report on Rehabilitation of Dams |
| 3 | MWH UK Ltd.                         | Company                  | Warrington, UK   | Waste Management                              |
| 4 | RTI International                   | Company                  | NC, USA  | Study on the institutional issues on land     |
| 5 | Dar Al-Handasah                     | Company                  | Cairo and others (offices in Bagdad, Sammarra and Erbil) | Irrigation sector project                     |
| 6 | Nature Iraq                         | NGO                      | Sulaimani Kurdistan Region, Iraq                         | Natural Environment                           |
| 7 | Iraq Foundation                     | Foundation/NGO           |  | Children, Women and Human Rights              |
| 8 | Minority Rights Group International | NGO                      | London, UK   | Minorities, Vulnerables and Human Rights      |
| 9 | NCCI                                | NGO                      | Bagdad and others  | NGO coordination                              |

Other than above, individual names of the consultants are shown in the UNEP reports. Cf. "UNEP in Iraq (2007)", Appendix IV

## Chapter 2

### Natural Environment





## Chapter2 Natural Condition

### 2.1 General Condition

The development policies and the economic sanction during Hussein's regime in Iraq caused the environmental degradation, and the war in 2003 and following conflicts and violence in Iraq are thought to put even more pressure on the natural environment in Iraq.

The important natural environmental area in Iraq is represented by three marshland stretching in the delta of Tigris and Euphrates River. Besides these marshland and the northern forest area, most of the land in Iraq is desert or dry area.

With the support from international organizations such as UNEP, the Ministry of Environment was established in 2006, and the institutional development of laws and regulations are in progress. However, bylaws are not yet institutionalized and effective environmental management system is not yet in place. After 2007, Iraqi Government started to join international agreements and treaties such as Ramsar Convention, Kyoto Protocol and the Convention of Biological Diversity, and the future investment for the natural environment sector is expected with the condition of the security improvement.

Besides that, Iraqi Ministry of Environment firstly prepare and publish "Iraqi Fourth National Report to the Convention on Biological Diversity" in July 2007.

### 2.2 Flora and Fauna

#### **General Condition**

Though most of the information on flora and fauna was old from pre-Baath's regime, recently Nature Iraq, a domestic NGO in Iraq started the inventory survey of the critical areas for natural environmental conservation and biodiversity conservation with the support of Iraqi Ministry of Environment, international donors and international NGOs. Especially, Nature Iraq focus on the survey in Kurdistan Region, and the survey and conservation of the southern marshlands, and the information collection is undergoing despite the security deterioration. Currently available major sources of the information on biodiversity are; "Iraqi Fourth National Report to the Convention of Biological Diversity", July 2010 by Iraqi Ministry of Environment, research papers by Nature Iraq<sup>7</sup>, and Redlist by International Union for Conservation of Nature (IUCN).

Information on flora and insects is very limited and the need of ecosystem survey remains to be very high. And the information currently available has discrepancies among each other, thus cross checking of each information source, reference to the latest survey, and even conducting surveys will be in need. The information on distribution of the critical species is also very limited besides the

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<sup>7</sup> <http://www.natureiraq.org/site/en/>, May 2011 accessed

Key biodiversity Area (KBA) survey implemented by Nature Iraq.

### Birds

The latest ecosystem survey is the Key biodiversity Area (KBA) survey implemented every two years after 2005. Currently, 417 species of the birds are recorded, among these 182 species are migratory birds. Of these, 18 species are considered to be of conservation concern, the majority of which are either possible or confirmed breeders (See Attachment 4). Five species of birds are either endemic or have endemic races found in Iraq, and Basra Reed Warbler is the only one specimen which falls in the category of both endemic and conservation concern (Attachment2 Iraqi birds: Conservation concern and endemic/endemic race). An additional 27 are vagrant species are recorded besides the 417 species list.

This list is at the draft stage and Nature Iraq is still recording additional species to update the list.

The bird species recorded in the IUCN Redlist is shown below. The detail of species of endangered species and near threatened species is attached. (Attachment3 endangered bird species in Iraq based on the IUCN Redlist)

**Table2.2-1 Condition of Bird in IUCN Redlist (May 2011)**

|      | Recorded Spp. | Endangered | Near-threatened | Data Deficient |
|------|---------------|------------|-----------------|----------------|
| AVES | 378           | 18         | 12              | 0              |

Source: summarized from IUCN Redlist, <http://www.iucnredlist.org/>, May 2011 accessed

### Fish

Many marine fish that are important in the fisheries of the Gulf countries utilize the Iraqi marshlands for spawning and nursing grounds making this ecosystem particularly important to regional biodiversity. Some 106 species of fish (including freshwater and marine entrant species) have now been recorded in the non-marine waters of Iraq and of these 53 species are marine fish.

Ecoregions of the World website ([www.feow.org/index.php](http://www.feow.org/index.php)), three of these fish are endemic in the Tigris/Euphrates Basins ecoregion: *Glyptothorax steindachneri*; *Caecocypris basim*, and Iraq blind barb (*Typhlogarra widdowsoni*). *Caecocypris basimi* and the Iraq blind barb are endemic genera and species from a cave habitat near Haditha on the Euphrates, and are listed as Vulnerable on the IUCN Red List. Another near-endemic cyprinid, *Hemigrammocapoeta elegans* is probably restricted to the lowlands, as is an undescribed tooth-carp (*Aphanius* sp.).

**Table2.2-2 Endemic Fish Species in Lower Tigris & Euphrates Ecoregion**

| Ecoregion                         | Species                    | Common name     | Endemic                    | Conservation Concern   |
|-----------------------------------|----------------------------|-----------------|----------------------------|------------------------|
| Tigris/Euphrates Basins ecoregion | Glyptothorax steindachneri | –               | Endemic                    | Not yet in the Redlist |
|                                   | Caecocypris basim          | –               | endemic genera and species | Vulnerable             |
|                                   | Typhlogarra widdowsoni     | Iraq blind barb | endemic genera and species | Vulnerable             |

Source : "Freshwater Ecoregions of the World" Website, May 2011 accessed

The fish species recorded in the IUCN Redlist is shown below. The detail of species of endangered species and near threatened species is attached. (Attachment 2-4 endangered fish species in Iraq based on the IUCN Redlist)

**Table2.2-3 Condition of Fish in IUCN Redlist (May 2011)**

|                | Recorded Spp. | Endangered | Near-threatened | Data Deficient |
|----------------|---------------|------------|-----------------|----------------|
| CHONDRICHTHYES | 15            | 9          | 5               | 1              |
| ACTINOPTERYGII | 39            | 2          | 4               | 2              |

Source : IUCN Redlist, <http://www.iucnredlist.org/>, May 2011 accessed

### Vertebrate animals

As of 2010, most of the information regarding insects, amphibians, reptiles and mammals is qualitative, while Nature Iraq is collecting information and conducting surveys. The website of Nature Iraq mentions that the "DRAFT NI Species Checklist - Reptiles and Amphibians of Iraq –" was prepared in June 2010. (the contents is not published on the website)

### Mammals

Twenty species of mammals are of conservation concern<sup>8</sup> and Iraq has two endemic/semi-endemic species: the Mesopotamian gerbil (*Gerbillus mesopotamiae*) and Cheesman's gerbil (*Gerbillus cheesmani*).

Nature Iraq is in the process of verifying the presence of the smooth-coated otter in Iraq (an endemic sub-species of this otter, *Lutra perspicillata maxwelli*, existed in the marshes prior to their desiccation), and the presence of the near-threatened leopard (*Panthera pardus*) has been verified in the border regions between Iraq and Iran.

The mammal species recorded in the IUCN Redlist is shown below. The detail of species of endangered species and near threatened species is attached. (Attachment 2-5 endangered fish

<sup>8</sup> Nature Iraq (2009) Nature Iraq Species checklist – Mammals of Iraq. Sulaimani, Iraq: Nature Iraq. Publication No. NI-0209-002 (this document is not available in Internet, thus further information on 20 species was not available)

species in Iraq based on the IUCN Redlist)

**Table2.2-4 Condition of Mammal in IUCN Redlist (May 2011)**

|          | Recorded Spp. <sup>9</sup> | Endangered | Near-threthened | Data Deficient |
|----------|----------------------------|------------|-----------------|----------------|
| Mammalia | 80                         | 13         | 5               | 1              |

Source : IUCN Redlist, <http://www.iucnredlist.org/>, May 2011 Accessed

### **Amphibians**

A list of ten amphibians has been compiled from the literature by Nature Iraq. Many are conservation concern species and the vulnerable Mountain newt (*Neurergus crocatus*) and the endangered Kurdistan Newt (*Neurergus microspilotus*) are endemic or near-endemics.

The Amphibian species recorded in the IUCN Redlist is shown below. The detail of species of endangered species and near threthened species is attached. (Attachment 2-6 endangered fish species in Iraq based on the IUCN Redlist)

**Table2.2-5 Condition of Amphibians in IUCN Redlist (May 2011)**

|          | Recorded Spp. | Endangered | Near-threthened | Data Deficient |
|----------|---------------|------------|-----------------|----------------|
| AMPHIBIA | 6             | 1          | 1               | 1              |

Source : IUCN Redlist, <http://www.iucnredlist.org/>, May 2011 Accessed

### **Reptiles**

A list of ninety-seven reptiles has been compiled from the literature by Nature Iraq. Many are conservation concern species and the endangered Euphrates Softshell Turtle (*Rafetus euphraticus*) is endemic or near-endemics.

The Reptile species recorded in the IUCN Redlist is shown below. The detail of species of endangered species and near threthened species is attached. (Attachment 2-7 endangered fish species in Iraq based on the IUCN Redlist)

**Table2.2-6 Condition of Reptiles in IUCN Redlist (May 2011)**

|          | Recorded Spp. | Endangered | Near-threthened | Data Deficient |
|----------|---------------|------------|-----------------|----------------|
| REPTILIA | 37            | 2          | 1               | 2              |

Source : IUCN Redlist, <http://www.iucnredlist.org/>, May 2011 Accessed

### **ARTHROPODA**

CRUSTACEA such as crabs and INSECTA such as insects are included in this phylum, and little

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<sup>9</sup>Extinct 1 specimen is included (Saudi Gazelle, *Gazella saudiya*)

information is available.

The Arthropoda species recorded in the IUCN Redlist is shown below. The detail of species of endangered species and near threatened species is attached. (Attachment 2-8 endangered Arthropoda species in Iraq based on the IUCN Redlist)

**Table2.2-7 Condition of ARTHROPODA in IUCN Redlist (May 2011)**

|           | Recorded Spp. | Endangered | Near-threatened | Data Deficient |
|-----------|---------------|------------|-----------------|----------------|
| CRUSTACEA | 2             | 0          | 0               | 0              |
| INSECTA   | 28            | 2          | 3               | 3              |

Source : IUCN Redlist, <http://www.iucnredlist.org/>, May 2011 Accessed

## **CNIDARIA**

In this phylum, jelly fish and sea anemone are included, and little information is available.

The CNIDARIA species recorded in the IUCN Redlist is shown below. The detail of species of endangered species and near threatened species is attached. (Attachment 2-9 endangered CNIDARIA species in Iraq based on the IUCN Redlist)

**Table2.2-8 Condition of CNIDARIA in IUCN Redlist (May 2011)**

|          | Recorded Spp. | Endangered | Near-threatened | Data Deficient |
|----------|---------------|------------|-----------------|----------------|
| ANTHOZOA | 102           | 13         | 28              | 2              |
| HYDROZOA | 2             | 0          | 0               | 0              |

Source : IUCN Redlist, <http://www.iucnredlist.org/>, May 2011 Accessed

## **PLANTAE**

Ministry of Agriculture, Ministry of Environment, Kew Garden in England, Nature Iraq, the Centre for Middle Eastern Plants of the Royal Botanic Garden Edinburgh, Missouri Botanical Garden (USA), and Old Dominion University(USA) collaborate to update the list of plants which was studied in 1960s and 80s. Now, the draft list of 4,500 plant species are prepared, which include 195 endemic or endemic race species.

IUCN Redlist records 5 species and none of them are conservation concern.

### **2.3 Important Ecosystem and Habitat**

#### **Ramsar Wetland**

Iraq became a contracting party of Ramsar Convention (entry into force:17 February 2008) and one site is registered as the Wetland of International Importance (Hawizeh marsh, 137,700 hectares)<sup>10</sup>.

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<sup>10</sup>

[http://www.ramsar.org/cda/en/ramsar-pubs-annolist-annotated-ramsar-16559/main/ramsar/1-30-168%5E16559\\_4000\\_0\\_\\_](http://www.ramsar.org/cda/en/ramsar-pubs-annolist-annotated-ramsar-16559/main/ramsar/1-30-168%5E16559_4000_0__), April 2011 accessed

Though New Eden Group initiatives drafted the management plan in 2008<sup>11</sup>, actual management is not yet in place<sup>12</sup>.

Major characteristic regarding Hawizeh marsh is summarized as below. The detail information is attached (Attachment 12: Montreux Record - Questionnaire on Hawizeh Marsh)

**Table2.3-1 Condition of Hawizeh Marsh**

| Item                               | Brief description   |
|------------------------------------|---|
| Area                               | 137,700 hectare   |
| Location                           | East of the Tigris River between the cities of Amara and Basrah. The marshes extend over the international border into the Islamic Republic of Iran, where it is named the Haur Al Azim   |
| Condition of the Wetland           | The Hawizeh Marsh forms part of the Mesopotamian Marshes which used to be the largest freshwater marsh in Western Eurasia. This is as a result of lowering water level in the marsh due to excessive drainage in the 1990s which subsequent restoration efforts have not been able to fully reverse, the construction of upstream dams that have decreased the flow from the rivers that enter the marsh, a lack of agreement with riparian states over the sharing of water that enters the marsh, all of which has been exacerbated by a decrease in rainfall in the catchment due to climate change. |
| Major conservation concern species | Basra Reed Warbler( <i>Acrocephalus griseldis</i> ): Endangered<br>White-headed Duck( <i>Oxyura leucocephala</i> ):Endangered   |
| Function as habitat                | Staging and wintering area<br>- for at least 79 species of waterfowl<br>- for at least 9 species of raptors<br>Critical nursery area<br>- freshwater fish   |
| Cultural importance                | The marsh provides a home for up to some 400,000 Ma'dan or Marsh Arabs for at least five thousand years, who are dependent on the resources of the marsh for survival.  |

Source : Website of Ramsar Convention

([http://www.ramsar.org/cda/en/ramsar-news-archives-2010-mrhawizeh/main/ramsar/1-26-45-437%5E24678\\_4000\\_0\\_](http://www.ramsar.org/cda/en/ramsar-news-archives-2010-mrhawizeh/main/ramsar/1-26-45-437%5E24678_4000_0_), May 2011 accessed)

### Protected Areas in Iraq

Besides the protected area described above, it is written in the report of the Ministry of Environment (national report to the convention on biological diversity) that Mesopotamia Marshland National Park (planned) and 6 other protected areas (recommended) though they are not legally registered and there is no official management system besides the activities by NGOs. In that report, it is written that the Ministry of Agriculture and Irrigation also set 14 protected areas (total area: 31.8 km<sup>2</sup>) and conservation area for breeding area of wildlife is included, though the location and current condition is unknown.

<sup>11</sup> "New Eden" MASTER PLAN For Integrated Water Resources Management in the Marshlands Area INTERIM REPORT (DRAFT/ December 20, 2005)  
<http://www.iraqfoundation.org/edenagain/publications/pdfs/New%20Eden%20Master%20Plan%20-%20INTERIM%20REPORT%202005%20-%20REDUCED.pdf> (May 2011 accessed, Final Report (2006) was not available in Internet)

<sup>12</sup> 4<sup>th</sup> National Report on CBD (July 2010)

Nature Iraq is doing wildlife inventory survey in Key Biodiversity Areas (KBA). These KBA are recommended to be designated (Figure 2.3-1 the list of KBA), but currently not officially recognized by the Government.

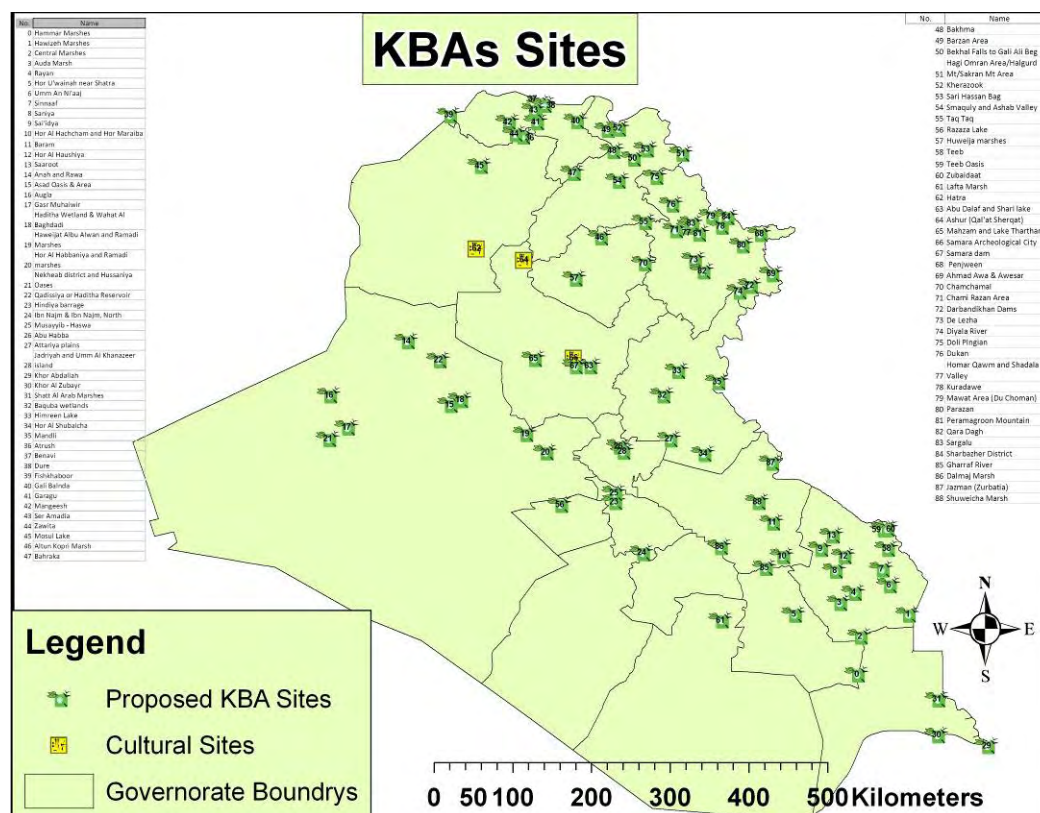


Figure2.3-1 KBA List (Nature Iraq, 2010)

And according to the Internet information, “Regulation of Natural Protected Areas” is drafted but approval is not completed.<sup>13</sup>

## Mangrove

There is no mangrove area in Iraq. It may be because of the climate condition or the previous human pressure<sup>14</sup>.

## World Natural Heritage

There is no registered natural heritage in Iraq, but the Mesopotamia Marshland registered in the tentative list in 2003 is applied as complex heritage.

<sup>13</sup> <http://www.hammurabi-environment.com/iraqi-legislation.php>, April 2011 accessed

<sup>14</sup> Source : GULF WAR ENVIRONMENTAL INFORMATION SERVICE:IMPACT ON THE MARINE ENVIRONMENT



UNEP-UNESCO contracted with IUCN to conduct screening survey to register Mesopotamia Marshland as world natural heritage. The result is published in 2011 and revealed that the site have high potential to be approved.

#### Other protected areas by international organizations

IUCN Website indicates the 8 breeding stations and 6 protected areas under the category of National Designations, while the legal status of these areas in Iraq is not clear(Attachment10).

BirdLife International nomites 42 wetland as Important Bird Area (IBA) which are the home of 16 species of globary threatened bird.(Attachment11 Important Bird Areas(IBA)).

## 2.4 Forest

### General Forest Condition

Forest resource assessment by FAO in 2000 reveals the forest condition of Iraq as follows.

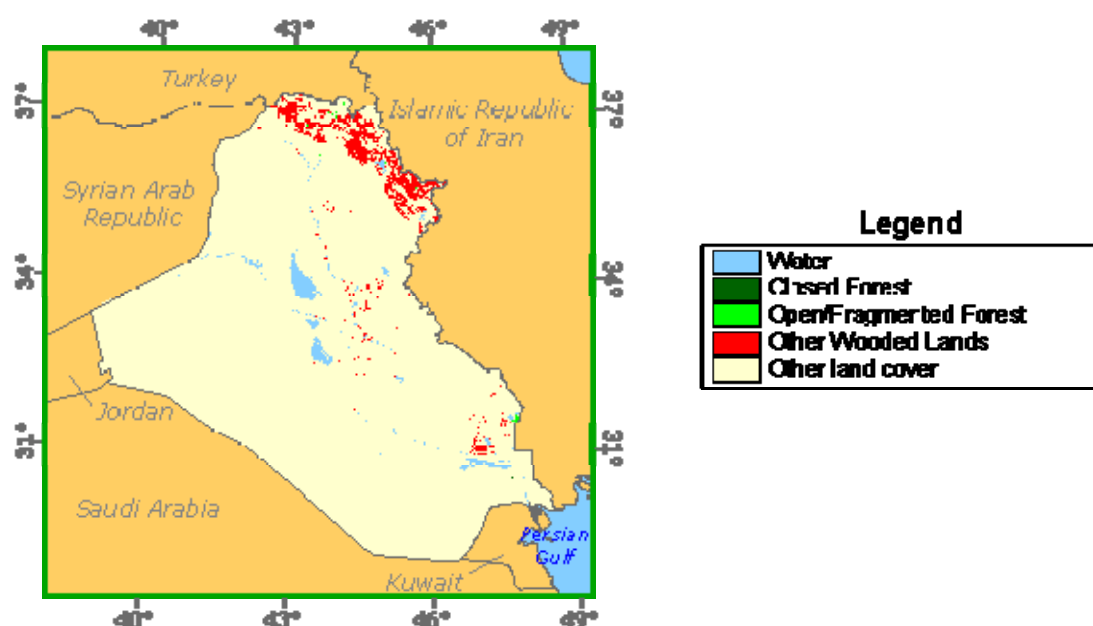


Figure2.4-1 Forest Distribution in Iraq

The change of forest area in Iraq from FAO statistic is summarized in the following table. There is not much change after 1990.

**Table2.4-1 Forest Area**

| FRA 2005 categories                 | Area (1000 hectares) |               |               |
|-------------------------------------|----------------------|---------------|---------------|
|                                     | 1990                 | 2000          | 2005          |
| Forest                              | 804                  | 818           | 822           |
| Other wooded land                   | 1245                 | 1033          | 927           |
| <b>Forest and other wooded land</b> | <b>2,049</b>         | <b>1,851</b>  | <b>1,749</b>  |
| Other land                          | 41,688               | 41,886        | 41,988        |
| ...of which with tree cover         | 70                   | 70            | 70            |
| <b>Total land area</b>              | <b>43,737</b>        | <b>43,737</b> | <b>43,737</b> |
| Inland water bodies                 | 95                   | 95            | 95            |
| <b>Total area of country</b>        | <b>43,832</b>        | <b>43,832</b> | <b>43,832</b> |

Source: FAO, Global Forest Resources Assessment 2005

**Table2.4-2 Change of Forest Area**

| FRA 2005 categories   | Area (1000 hectares) |            |            |                   |              |            |
|-----------------------|----------------------|------------|------------|-------------------|--------------|------------|
|                       | Forest               |            |            | Other wooded land |              |            |
|                       | 1990                 | 2000       | 2005       | 1990              | 2000         | 2005       |
| Primary               | 0                    | 0          | 0          | 0                 | 0            | 0          |
| Modified natural      | 789                  | 803        | 809        | 1,245             | 1,033        | 927        |
| Semi-natural          | 0                    | 0          | 0          | 0                 | 0            | 0          |
| Productive plantation | 0                    | 0          | 0          | 0                 | 0            | 0          |
| Protective plantation | 15                   | 15         | 13         | 0                 | 0            | 0          |
| <b>Total</b>          | <b>804</b>           | <b>818</b> | <b>822</b> | <b>1,245</b>      | <b>1,033</b> | <b>927</b> |

Source: FAO, Global Forest Resources Assessment 2005

20 native tree species are identified, and there is no conservation concern species.

**Table2.4-3 Tree Species in Iraq**

| FRA 2005 categories                | Number of species (2000) |
|------------------------------------|--------------------------|
| Native tree species                | 20                       |
| Critically endangered tree species | 0                        |
| Endangered tree species            | 0                        |
| Vulnerable tree species            | 0                        |

Source: FAO, Global Forest Resources Assessment 2005

### Plantation

The afforestation plan of 42,000 ha was prepared in 1970s and 10,195 ha was planted by 1999 (24% completed)<sup>15</sup>. The recent data was not available.

### 2.5 Analysis of Gaps between Current Relevant Regulations in Iraq and JICA Guidelines for Environmental and Social Considerations (April, 2010) as well as Safeguard Policies in the World Bank

Law No. 30 in 2009 replaced the Forest Law (No 75 of 1995). The law was not available in Internet.

<sup>15</sup> <http://www.fao.org/forestry/country/18316/en/irq/>, May 2011 accessed



## Chapter 3

### Pollution Control



## Chapter3 Pollution Control

### 3.1 General Condition<sup>16</sup>

In Iraq, due to the prolonged war, insecurity and the economic sanction hindered the effort in environmental sector, which has many problems in institutions, organizations and infrastructures. Recently, following the establishment of the ministry of environment, World Bank and Donors support the institutional development, capacity development, however, the environmental condition is still serious because of 1. delay of institutional development, 2. shortage of investment in the environmental sector, and 3. the weakness of monitoring and law enforcement.

### 3.2 Current Condition of Air Pollution and Approaches to the Problems

The major sources of air pollution are 1. old vehicles using leaded or diesel fuel, 2. traffic congestions in urban area, 3 heavy industry plants, 4 open burning of waste and 5 gas flaring.

The limit for the air quality is follows. The legal status of this Iraqi official document is not known .

**Table3.2-1 Air Quality**

| Pollutant                       | Iraqi Regulations<br>(proposal)   |                   | US EPA                |                   | Adopted project Air<br>Quality Std.  |
|---------------------------------|---|-------------------|-----------------------|-------------------|--|
|                                 | concentration   | Averaging<br>Time | concentration         | Averaging<br>Time | Conc. – averaging<br>Time  |
| CO                              | 10 ppm  | 8 hour            | 35 ppm                | 1 hour            | 35 ppm – 1 hour  |
|                                 | 35 ppm  | 1 hour            | 9 ppm                 | 8 hour            | 9 ppm – 8 hour   |
| SO <sub>2</sub>                 | 0.1 ppm   | 1 hour            | 0.14 ppm              | 24 hour           | 0.1 ppm – 1 hour   |
|                                 | 0.04 ppm  | 24 hour           |                       |                   | 0.04 ppm – 24 hour   |
|                                 | 0.018 ppm   | 1 year            | 0.03 ppm              | 1 year            | 0.018 ppm – 1 year   |
| NO <sub>2</sub>                 | 0.05 ppm  | 24 hour           | 0.053 ppm             | 1 year            | 0.05 ppm – 24 hour   |
|                                 | 0.04 ppm  | 1 year            |                       |                   | 0.04 ppm – 1 year  |
| O <sub>3</sub>                  | 0.06 ppm  | 1 hour            | 0.12 ppm              | 1 hour            | 0.06 – 1 hour  |
|                                 |   |                   | 0.075 ppm             | 8 hour            | 0.075 – 8 hour   |
| PM <sub>10</sub>                | 150 µg/m <sup>3</sup>   | 24 hour           | 150 µg/m <sup>3</sup> | 24 hour           | 150 µg/m <sup>3</sup> – 24 hour  |
| PM <sub>2.5</sub>               | 65 µg/m <sup>3</sup>  | 24 hour           | 35 µg/m <sup>3</sup>  | 24 hour           | 35 µg/m <sup>3</sup> – 24 hour   |
|                                 | 15 µg/m <sup>3</sup>  | 1 year            | 15 µg/m <sup>3</sup>  | 1 year            | 15 µg/m <sup>3</sup> – 1 year  |
| Total suspended<br>particulates | 350 µg/m <sup>3</sup>   | 24 hour           | -                     | -                 | 350 µg/m <sup>3</sup> – 24 hour  |
|                                 | 150 µg/m <sup>3</sup>   | 1 year            | -                     | -                 | 150 µg/m <sup>3</sup> - 1 year   |
| Falling Dust                    | 10 t/km <sup>2</sup> /month<br>residential zone<br>20 t/km <sup>2</sup> /month<br>Industrial zone | 30 days           | -                     | -                 | 10 t/km <sup>2</sup> /month<br>residential zone<br>20 t/km <sup>2</sup> /month<br>Industrial zone<br>30 days |
| Hydrocarbons                    | 0.24 ppm  | 3 hour            | -                     | -                 | 0.24 ppm – 3 hour  |
| Pb                              | 2 µg/m <sup>3</sup>   | 24 hour           | 1.5 µg/m <sup>3</sup> | 3 months          | 2 µg/m <sup>3</sup> – 24 hour  |
|                                 | 1.5 µg/m <sup>3</sup>   | 3 months          |                       |                   | 1.5 µg/m <sup>3</sup> – 3 months   |
|                                 | 1 µg/m <sup>3</sup>   | 1 year            |                       |                   |  |

<sup>16</sup> Reference: UN (2010) The Iraq Briefing Book, UNEP (2007) UNEP in Iraq

| Pollutant | Iraqi Regulations (proposal) |                | US EPA        |                | Adopted project Air Quality Std.   |
|-----------|------------------------------|----------------|---------------|----------------|------------------------------------|
|           | concentration                | Averaging Time | concentration | Averaging Time | Conc. – averaging Time             |
| Benzene   | 0.003 mg/m <sup>3</sup>      | 1 year         | -             | -              | 0.003 mg/m <sup>3</sup> – 1 year   |
| Dioxin    | 0.6pico g/m <sup>3</sup>     | 1 year         | -             | -              | 0.6 pico g/m <sup>3</sup> – 1 year |

Source:Government of Iraq

Followings are the limitation standard stipulated in National Limitations of Emissions for Activities and Works By virtue of the provisions of Article (38/Second) of the Law of Protecting and Improving the Environment No (27) of 2009 and Article (14) of the Law of the Ministry of Environment No (37) of 2008.

**Table3.2-2 MAXIMUM ALLOWABLE EMISSION LIMITSOF AIR POLLUTANTS  
EMITTED FROM STATIONARY SOURCES**

| SUBSTANCE  | SYMBOL                        | SOURCES   | MAX. ALLOWABLE EMISSION LIMITS (mg/Nm <sup>3</sup> ) |
|--|-------------------------------|---|--|
| Visible Emissions  | -                             | Combustion sources<br>other sources   | 250<br>None  |
| Opacity  | -                             | All sources   | 20%  |
| Carbon Monoxide  | CO                            | All sources   | 500  |
| Nitrogen Oxide (expressed as nitrogen dioxide)                                 | NO <sub>x</sub>               | Combustion sources<br>material producing industries<br>other sources        | See Annex (2)<br>1000<br>1000                        |
| Sulphur dioxide  | SO <sub>2</sub>               | Combustion sources<br>material producing industries<br>other sources        | 500<br>2000<br>1000                                  |
| Sulphur trioxide Including Sulphuric Acid Mist (expressed as sulphur Trioxide) | SO <sub>3</sub>               | Material producing industries<br>other sources                              | 150<br>50  |
| Total Suspended particles  | TSP                           | Combustion sources<br>Cement industry:<br>- Exist<br>- new<br>other sources | 250<br>150<br>100<br>150                             |
| Ammonia and Ammonium compounds (expressed as ammonia)                          | NH <sub>3</sub>               | Material producing industries<br>other sources                              | 50<br>10   |
| Benzene  | C <sub>6</sub> H <sub>6</sub> | All sources   | 5  |
| Iron   | Fe                            | Iron& steel foundries   | 100  |
| Lead and its Compounds (expressed as lead)                                     | Pb                            | All sources   | 5  |
| Antimony and its Compounds (expressed as Antimony)                             | Sb                            | Material producing industries<br>other sources                              | 5<br>1   |
| Arsenic and its Compounds (expressed as arsenic)                               | As                            | All sources   | 1  |
| Cadmium and its Compounds (expressed as cadmium)                               | Cd                            | All sources   | 1  |

| SUBSTANCE  | SYMBOL            | SOURCES   | MAX. ALLOWABLE EMISSION LIMITS (mg/Nm <sup>3</sup> ) |
|--|-------------------|---|--|
| Mercury and its Compounds (expressed as mercury)                                   | Hg                | All sources   | 0.5  |
| Chrome   | Cr                | All sources   | 5  |
| Vanadium   | V                 | All sources   | 5  |
| Nickel and its compounds (expressed as nickel)                                     | Ni                | All sources   | 1  |
| Copper and its compounds (expressed as copper)                                     | Cu                | All sources   | 5  |
| Hydrogen sulphide  | H <sub>2</sub> S  | All sources<br>Material producing industries        | 5<br>10  |
| Chloride   | Cl <sup>-</sup>   | Chlorine works<br>other sources                     | 200<br>10  |
| Hydrogen chloride  | HCl               | Chlorine works<br>other sources                     | 200<br>20  |
| Hydrogen Fluoride  | HF                | All sources   | 2  |
| Silicon fluoride   | SiF <sub>4</sub>  | All sources   | 10   |
| Fluoride and its compounds including HF & SiF <sub>4</sub> (expressed as fluoride) | F <sup>-</sup>    | Aluminum smelters<br>other sources                  | 20<br>50   |
| Formaldehyde   | CH <sub>2</sub> O | Material producing industries<br>other sources      | 20<br>2  |
| Carbon   | C                 | Material producing industries<br>Waste incineration | 250<br>50  |
| Total Volatile Organic Compounds (expressed as total organic carbon (TOC))         | VOC               | All sources   | 20   |
| Dioxins & Furans   |                   | All sources   | 1 (ng TEQ/m <sup>3</sup> )                           |

Source: Annex 1, National Limitations of Emissions for Activities and Works By virtue of the provisions of Article (38/Second) of the Law of Protecting and Improving the Environment No (27) of 2009 and Article (14) of the Law of the Ministry of Environment No (37) of 2008

**Table3.2-3 MAXIMUM ALLOWABLE EMISSION LIMITS OF AIR POLLUTANTS  
EMITTED FROM HYDROCARBON FUEL COMBUSTION SOURCES**

| SUBSTANCE  | SYMBOL          | SOURCES                | MAX. ALLOWABLE EMISSION LIMITS (mg/Nm <sup>3</sup> ) |
|--|-----------------|------------------------|--|
| Visible emissions  |                 | All sources            | 250  |
| Nitrogen Oxides (expressed as nitrogen dioxide (NO <sub>2</sub> )) | NO <sub>x</sub> | Fuel combustion units: |  |
|  |                 | Gas fuel               | 350  |
|  |                 | Liquid fuel            | 500  |
|  |                 | Turbine units:         |  |
|  |                 | Gas fuel               | 70   |
|  |                 | Liquid fuel            | 150  |
| Sulphur Dioxide  | SO <sub>2</sub> | All sources            | 500  |
| Total Suspended Particles  | TSP             | All sources            | 250  |
| Carbon Monoxide  | CO              | All sources            | 500  |

Source: Annex 2, National Limitations of Emissions for Activities and Works By virtue of the provisions of Article (38/Second) of the Law of Protecting and Improving the Environment No (27) of 2009 and Article (14) of the



**Table3.2-4 MAXIMUM ALLOWABLE EMISSION LIMITS OF AIR POLLUTANTS  
EMITTED FROM SOLID WASTE INCINERATORS**

| SUBSTANCE (symbol)  | MAX. ALLOWABLE EMISSION LIMITS (mg/Nm <sup>3</sup> ) |   |
|---|--|---|
|   | Incinerator capacity less than 3 ton/hour            | Incinerator capacity 3 ton/hour or more |
| Total suspended particles (TSP)   | 100(daily average)                                   | 30(daily average)                       |
| Carbon Monoxide (CO)  | 100(daily average)                                   | 100(daily average)                      |
| Nitrogen Oxides (NO <sub>x</sub> ) (expressed as nitrogen dioxide (NO <sub>2</sub> ))   | 350(daily average)                                   | 300(daily average)                      |
| Sulphur Dioxide (SO <sub>2</sub> )  | 500(daily average)                                   | 300(daily average)                      |
| Hydrogen Chloride (HCl)   | 30(daily average)                                    | 20(daily average)                       |
| Hydrogen Fluoride (HF)  | 4(daily average)                                     | 2(daily average)                        |
| Total Volatile Organic Compounds (VOC) (expressed as total organic carbon (TOC))  | 20(daily average)                                    | 20(daily average)                       |
| Nickel (Ni) and its Compounds (expressed as Ni)<br>Arsenic (As) and its Compounds (expressed as As)   | Total (1)  | Total (1)                               |
| Cadmium (Cd) and its Compounds (expressed as Cd)<br>Mercury (Hg) and its Compounds (expressed as Hg)  | Total (0.2)  | Total (0.1)                             |
| Lead (Pb) and its Compounds (expressed as Pb)<br>Chrome (Cr) and its Compounds (expressed as Cr)<br>Copper (Cu) and its Compounds (expressed as Cu)<br>Manganese (Mn) and its Compounds (expressed as Mn) | Total (5)  | Total (1)                               |
| Dioxins and Furans  | 0.1 (ng TEQ/m <sup>3</sup> )                         | 0.1 (ng TEQ/m <sup>3</sup> )            |

Source: Annex 3, National Limitations of Emissions for Activities and Works By virtue of the provisions of Article (38/Second) of the Law of Protecting and Improving the Environment No (27) of 2009 and Article (14) of the Law of the Ministry of Environment No (37) of 2008

**Table3.2-5 MAXIMUM ALLOWABLE EMISSION LIMITS OF AIR POLLUTANTS  
EMITTED FROM HAZARDOUS AND MEDICAL WASTES INCINERATORS**

| SUBSTANCE (symbol)  | Max. ALLOWABLE EMISSION LIMITS mg/Nm <sup>3</sup> |
|---|---|
| Total suspended particles(TSP)  | 10(daily average)<br>30(half-hourly average)      |
| Carbon Monoxide(CO)   | 50(daily average)<br>100(half-hourly average)     |
| Nitrogen oxides(NO <sub>x</sub> )<br>(expressed as nitrogen dioxide NO <sub>2</sub> ) | 200(daily average)<br>400(half-hourly average)    |
| Sulphur dioxide(SO <sub>2</sub> )   | 50(daily average)<br>200(half-hourly average)     |
| Hydrogen Chloride(HCL)  | 10(daily average)<br>60(half-hourly average)      |
| Hydrogen Fluoride(HF)   | 1(daily average)<br>4(half-hourly average)        |
| Total Volatile Organic compounds(VOC)<br>(expressed as total organic carbon(TOC))     | 10(daily average)<br>20(half-hourly average)      |

| <b>SUBSTANCE (symbol)</b>   | <b>Max. ALLOWABLE EMISSION LIMITS mg/Nm<sup>3</sup></b> |
|---|---|
| Cadmium(cd) and Its Compounds (expressed as cd)<br>Thallium(Tl) and Its Compounds (expressed as Tl)   | Total(0.1)  |
| Mercury(Hg) and Its Compounds (expressed as Hg)   | 0.1   |
| Antimony(Sb) and Its Compounds (expressed as Sb)<br>Arsenic(As) and Its Compounds (expressed as As)<br>Chrome(Cr) and Its Compounds (expressed as Cr)<br>Cobalt(Co) and Its Compounds (expressed as Co)<br>Copper(Cu) and Its Compounds (expressed as Cu)<br>Lead(Pb) and Its Compounds (expressed as Pb)<br>Manganese(Mn) and Its Compounds (expressed as Mn)<br>Nickel(Ni) and Its Compounds (expressed as Ni)<br>Tin(Sn) and Its Compounds (expressed as Sn)<br>vanadium(V) and Its Compounds (expressed as V) | Total(1)  |
| Dioxins and Furans  | 0.1(ng TEQ/M <sup>3</sup> )                             |

Source: Annex 4, National Limitations of Emissions for Activities and Works By virtue of the provisions of Article (38/Second) of the Law of Protecting and Improving the Environment No (27) of 2009 and Article (14) of the Law of the Ministry of Environment No (37) of 2008

**Table3.2-6 DIOXINES AND FURANS**

| <b>Dioxin / Furan</b>                             | <b>TEF*</b> |
|---|-------------|
| 2,3,7,8- Tetrachlorodibenzo-p-dioxin (TCDD)       | 1           |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (peCDD)     | 0.5         |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)    | 0.1         |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)    | 0.1         |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)    | 0.1         |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.01        |
| Octachlorodibenzo-p-dioxin (OCDD)                 | 0.001       |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF)            | 0.1         |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)         | 0.05        |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)         | 0.5         |
| 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)        | 0.1         |
| 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)        | 0.1         |
| 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)        | 0.1         |
| 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)        | 0.1         |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)     | 0.01        |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)     | 0.01        |
| Octachlorodibenzofuran (OCDF)                     | 0.001       |

\*TEQ=  $\Sigma$  (TEF X Concentration) for each type of Dioxin or Furan

Source: Annex 5, National Limitations of Emissions for Activities and Works By virtue of the provisions of Article (38/Second) of the Law of Protecting and Improving the Environment No (27) of 2009 and Article (14) of the Law of the Ministry of Environment No (37) of 2008

### 3.3 Current Condition of Water Pollution and Approaches to the Problems<sup>17</sup>

Water problem in Iraq is decrease of water resource and deterioration of water quality.

<sup>17</sup> reference: UN (2010)The Iraq Briefing Book, UNEP(2007)UNEP in Iraq

During last two decades, water level of Tigris and Euphrates River decreased by 60% and when the rain fall is less than the average in the northern mountain ranges, it sometimes even causes the wipe out of growing agricultural crops.

The deterioration of water quality is due to the wastewater from plants, untreated sewage water and agriculture effluent.

The quality of water along the Tigris and Euphrates is also deteriorating due to the discharge of industrial effluents, untreated sewage, and agricultural run-off. A number of Tigris tributaries (such as Diyala river) regularly face anaerobic conditions due to an overload in organic material discharges from untreated municipal and industrial effluents. Water-borne diseases are frequent due to polluted drinking water supplies. In 2009, studies undertaken by Ministry of Environment indicated that bacteriological contamination in drinking water varied from 2.5 per cent to 30 per cent with a national average of 16 per cent, which exceeds the permissible limit of 5 per cent according to both Iraq national drinking water standards and WHO guidelines for drinking water.

The current standard regarding water quality are summarized as below.

**Table3.3-1 Water Quality Standard**

| No. | Parameter<br>(unit: mg/l)                   | Water Source  |                |              |                |
|-----|---|---------------|----------------|--------------|----------------|
|     |   | A-1<br>Rivers | A-2<br>Streams | A-3<br>Lakes | A-4<br>Springs |
| 1   | Color (-)                                   | Normal        | Normal         | Normal       | Normal         |
| 2   | Temperature (deg C)                         | -             | -              | -            | -              |
| 3   | Suspended Solid                             | -             | -              | -            | -              |
| 4   | pH (-)                                      | 6.5-8.5       | 6.5-8.5        | 6.5-8.5      | -              |
| 5   | Dissolved Oxygen                            | >5            | >5             | >5           | -              |
| 6   | BOD   | <3            | <3             | <3           | -              |
| 7   | COD (Cr <sub>2</sub> O <sub>7</sub> method) | -             | -              | -            | -              |
| 8   | Cyanide CN <sup>-</sup>                     | 0.02          | 0.02           | 0.02         | 0.02           |
| 9   | Fluoride F <sup>-</sup>                     | 0.2*          | 0.2*           | 0.2*         | 0.2*           |
| 10  | Free Chlorine                               | Trace         | Trace          | Trace        | Trace          |
| 11  | Chloride Cl <sup>-</sup>                    | 200*          | 200*           | 200*         | 200*           |
| 12  | Phenol                                      | 0.005         | 0.005          | 0.005        | 0.005          |
| 13  | Sulphate SO <sub>4</sub> <sup>2-</sup>      | 200*          | 200*           | 200*         | 200*           |
| 14  | Nitrate NO <sub>3</sub> <sup>-</sup>        | 15            | 15             | 15           | 15             |
| 15  | Phosphate PO <sub>4</sub> <sup>3-</sup>     | 0.4           | 0.4            | 0.4          | 0.4            |
| 16  | Ammonium NH <sub>4</sub> <sup>+</sup>       | 1             | 1              | 1            | 1              |
| 17  | DDT   | nil           | nil            | Nil          | nil            |
| 18  | Lead  | 0.05          | 0.05           | 0.05         | 0.05           |
| 19  | Arsenic                                     | 0.05          | 0.05           | 0.05         | 0.05           |
| 20  | Copper                                      | 0.05          | 0.05           | 0.05         | 0.05           |
| 21  | Nickel                                      | 0.1           | 0.1            | 0.1          | 0.1            |
| 22  | Selenium                                    | 0.01          | 0.01           | 0.01         | 0.01           |
| 23  | Mercury                                     | 0.001         | 0.001          | 0.001        | 0.001          |

| No.   | Parameter<br>(unit: mg/l) | Water Source  |                |              |                |
|---|---------------------------|---------------|----------------|--------------|----------------|
|   |                           | A-1<br>Rivers | A-2<br>Streams | A-3<br>Lakes | A-4<br>Springs |
| 24  | Cadmium                   | 0.005         | 0.005          | 0.005        | 0.005          |
| 25  | Zinc                      | 0.5           | 0.5            | 0.5          | 0.5            |
| 26  | Chromium                  | 0.05          | 0.05           | 0.05         | 0.05           |
| 27  | Aluminum                  | 0.1           | 0.1            | 0.1          | -              |
| 28  | Barium                    | 1.0           | 1.0            | 1.0          | 1.0            |
| 29  | Boron                     | 1.0           | 1.0            | 1.0          | 1.0            |
| 30  | Cobalt                    | 0.05          | 0.05           | 0.05         | 0.05           |
| 31  | Iron                      | 0.3           | 0.3            | 0.3          | 0.3            |
| 32  | Manganese                 | 0.1           | 0.1            | 0.1          | 0.1            |
| 33  | Silver                    | 0.01          | 0.01           | 0.01         | 0.01           |
| <b>Water Source Category:</b><br>A-1 Rivers, Branches<br>A-2 Streams, aqua ducts, water courses and their original and secondary branches<br>A-3 Lakes, Basins and other water bodies<br>A-4 Springs, wells and underground water<br><b>Notes:</b><br>*) Quality standard are to be set in the listed value or more according to what is existed naturally in the source. |                           |               |                |              |                |

Source : The New Limits of the Regulation of the Protection of Rivers and Public Waters for a Year 1967, Ministry of Health, Directorate General of Human Environment.

**Table3.3-2 Wastewater Standard**

| No. | Parameter<br>(unit: mg/l)                   | Wastewater Discharged to                  |                      |                 |                |
|-----|---|---|----------------------|-----------------|----------------|
|     |   | B-1<br>any water source                   | B-2<br>public sewers | B-3<br>drainage | B-4<br>marshes |
| 1   | Color (-)                                   | -   | -                    | -               | -              |
| 2✓  | Temperature (deg C)                         | <35                                       | 45                   | -               | -              |
| 3✓  | Suspended Solid                             | 50  | 750                  | -               | -              |
| 4✓  | pH (-)                                      | 6-9.5                                     | 6-9.5                | -               | -              |
| 5   | Dissolved Oxygen                            | -   | -                    | -               | -              |
| 6✓  | BOD   | <40                                       | 1000                 | -               | -              |
| 7✓  | COD (Cr <sub>2</sub> O <sub>7</sub> method) | <100                                      | -                    | -               | -              |
| 8✓  | Cyanide CN <sup>-</sup>                     | 0.05                                      | 0.5                  | -               | -              |
| 9   | Fluoride F <sup>-</sup>                     | 5   | 10                   | -               | -              |
| 10✓ | Free Chlorine                               | Trace                                     | 100                  | -               | -              |
| 11  | Chloride Cl <sup>-</sup>                    | *a)<1%<br>*b)600 mg/l<br>*c)              | -                    | -               | -              |
| 12✓ | Phenol                                      | 0.01-0.05                                 | 5-10                 | -               | -              |
| 13  | Sulphate SO <sub>4</sub> <sup>2-</sup>      | **a)<1%<br>**b)<400 mg/l<br>**c)<200 mg/l | 300                  | -               | -              |
| 14  | Nitrate NO <sub>3</sub> <sup>-</sup>        | 50  | -                    | -               | -              |
| 15✓ | Phosphate PO <sub>4</sub> <sup>3-</sup>     | 3   | -                    | -               | -              |
| 16  | Ammonium NH <sub>4</sub> <sup>+</sup>       | -   | -                    | -               | -              |
| 17  | DDT   | Nil                                       | -                    | -               | -              |
| 18✓ | Lead  | 0.1                                       | 0.1                  | -               | -              |
| 19  | Arsenic                                     | 0.05                                      | 0.05                 | -               | -              |

| No.  | Parameter<br><br>(unit: mg/l)        | Wastewater Discharged to |                      |                 |                |
|--|--------------------------------------|--------------------------|----------------------|-----------------|----------------|
|  |                                      | B-1<br>any water source  | B-2<br>public sewers | B-3<br>drainage | B-4<br>marshes |
| 20✓  | Copper                               | 0.2                      | -                    | -               | -              |
| 21✓  | Nickel                               | 0.2                      | 0.1                  | -               | -              |
| 22   | Selenium                             | 0.05                     | -                    | -               | -              |
| 23✓  | Mercury                              | 0.005                    | 0.001                | -               | -              |
| 24✓  | Cadmium                              | 0.01                     | 0.1                  | -               | -              |
| 25   | Zinc                                 | 2.0                      | 0.1                  | -               | -              |
| 26✓  | Chromium                             | 0.1                      | 0.1                  | -               | -              |
| 27   | Aluminum                             | 5.0                      | 20                   | -               | -              |
| 28   | Barium                               | 4.0                      | 0.1                  | -               | -              |
| 29   | Boron                                | 1.0                      | 1.0                  | -               | -              |
| 30   | Cobalt                               | 0.5                      | 0.5                  | -               | -              |
| 31✓  | Iron                                 | 2.0                      | 15.0                 | -               | -              |
| 32   | Manganese                            | 0.5                      | -                    | -               | -              |
| 33   | Silver                               | 0.05                     | 0.1                  | -               | -              |
| 34✓  | Total Hydrocarbons and its compounds | Note***                  | Note***              | Note***         | Note***        |
| 35✓  | Sulphide S <sup>2-</sup>             | -                        | 3.0                  | -               | -              |
| 36   | Ammonia                              | -                        | 10.0                 | -               | -              |
| 37   | Ammonia gas                          | -                        | 6.0                  | -               | -              |
| 38   | Sulphur Dioxide                      | -                        | 7.0                  | -               | -              |
| 39   | Petroleum Alcohol                    | -                        | Not permissible      | -               | -              |
| 40   | Calcium Carbonate                    | -                        | Not permissible      | -               | -              |
| 41   | Organic Solvent                      | -                        | Not permissible      | -               | -              |
| 42✓  | Benzene                              | -                        | 0.5                  | -               | -              |
| 43   | Chlorobenzene                        | -                        | 0.1                  | -               | -              |
| 44   | TNT                                  | -                        | 0.5                  | -               | -              |
| 45   | Bromine                              | -                        | 1-3                  | -               | -              |
| <u>Wastewater Category:</u><br>B-1 Wastewater discharged to any water bodies<br>B-2 Wastewater discharged to public sewers – Special conditions should be defined taking in consideration the limits mentioned in item B-1.<br>B-3 Wastewater discharged to drainage – Special conditions should be defined taking in consideration the limits mentioned in item B-1.<br>B-4 Wastewater discharged to marshes – Special conditions should be defined taking in consideration the limits mentioned in item B-1.   |                                      |                          |                      |                 |                |
| <u>Notes:</u><br>*Item 11- Chloride Cl <sup>-</sup><br>**Item 13- Sulphate SO <sub>4</sub> <sup>2-</sup><br>*a) When the ratio of the amount of the discharged water to the source water is (1:1000) or less.<br>*b) When the ratio of the amount of the discharged water to the source water is more than (1:1000).<br>*c) When the ratio of the amount of the discharged water to the source water is less than 200 mg/l, then each case should be studied by the responsible authority for executing this regulation.<br>***Item 34- Total Hydrocarbons and its compounds<br>It is allowed to discharge to the water sources A1 & A2 according to the concentration limits that are shown below.<br>It is not allowed to discharge any hydrocarbons to water sources A3 & A4. |                                      |                          |                      |                 |                |

| No. | Parameter<br><br>(unit: mg/l)  | Wastewater Discharged to |                      |                 |                |
|-----|--|--------------------------|----------------------|-----------------|----------------|
|     |  | B-1<br>any water source  | B-2<br>public sewers | B-3<br>drainage | B-4<br>marshes |
| 1)  | 10 mg/l  |                          |                      |                 |                |
|     | a) When the ratio of the amount of the discharged water to the source water is (1:1000) or less. |                          |                      |                 |                |
|     | b) The river should be flowing.  |                          |                      |                 |                |
|     | 5 mg/l   |                          |                      |                 |                |
| 2)  | 5 mg/l   |                          |                      |                 |                |
|     | a) When the ratio of the amount of the discharged water to the source water is (1:500) or less.  |                          |                      |                 |                |
|     | b) The river should be flowing.  |                          |                      |                 |                |
|     | 3 mg/l   |                          |                      |                 |                |
|     | a) When the ratio of the amount of the discharged water to the source water is (1:300) or less.  |                          |                      |                 |                |
| 3)  | 3 mg/l   |                          |                      |                 |                |
|     | b) The river should be flowing.  |                          |                      |                 |                |

Source : The New Limits of the Regulation of the Protection of Rivers and Public Waters for a Year 1967, Ministry of Health, Directorate General of Human Environment.

Notes that the columns with √ in Table 3.3-2 indicate the items where the guideline of the World Bank/IFC sets up the standard value.

The standard for drinking water is as follows.

(Standard No. 417 on Drinking Water and Analysis, 2001)

#### 1- Natural

| Item            | The Maximum allowable limit |
|-----------------|-----------------------------|
| Color           | 10 units                    |
| Turbidity (NTU) | 5 units                     |
| Taste           | Accepted                    |
| Smell           | Accepted                    |
| PH value        | 6.5-8.5                     |

#### 2- Chemical

| Item                                      | The Maximum allowable limit<br>(mg/l) |
|---|---------------------------------------|
| Arsenic                                   | 0.01                                  |
| Cadmium                                   | 0.003                                 |
| Chrome                                    | 0.05                                  |
| Cyanide                                   | 0.02                                  |
| Fluoride                                  | 1.0                                   |
| Lead                                      | 0.01                                  |
| Mercury                                   | 0.001                                 |
| Nitrate (NO <sub>3</sub> )                | 50                                    |
| Nitrite (NO <sub>2</sub> )                | 3                                     |
| Selenium                                  | 0.01                                  |
| Aluminum                                  | 0.2                                   |
| Chloride (Cl)                             | 250                                   |
| Copper                                    | 1.0                                   |
| Total Hardness (as CaCO <sub>3</sub> )    | 500                                   |
| Iron                                      | 0.3                                   |
| Manganese                                 | 0.1                                   |
| Sodium                                    | 200                                   |
| T.D.S                                     | 1000                                  |
| Sulphate (SO <sub>4</sub> ) <sup>-2</sup> | 250                                   |
| Zinc                                      | 3.0                                   |

| Item                        | The Maximum allowable limit (mg/l) |
|-----------------------------|------------------------------------|
| Calcium                     | 50                                 |
| Magnesium                   | 50                                 |
| Barium                      | 0.7                                |
| Nickel                      | 0.02                               |
| Dissolved H.C               | 0.01                               |
| Carbon-chloroform Extracted | 0.3                                |
| Industrial Detergents       | 0.3                                |
| Phenolic compounds          | 0.002                              |

### 3-Bacteria

| Bacteria type                                   | The Maximum allowable limit |
|---|-----------------------------|
| Coliform<br>(100 ml after 24hr at 35°C)         | <1.1                        |
| E.coli<br>(100 ml after 24hr at 44°C)           | <1.1                        |
| Escherichia coli<br>(250 ml after 24hr at 35°C) | Zero                        |
| Plate count<br>(1ml after 24hr at 35°C)         | Zero                        |

### 4-Pesticide

| Pesticide                    | The Maximum allowable limit (mg/l) |
|------------------------------|------------------------------------|
| Organic chloro (chlorinated) | 0.7                                |
| Organic Phosphorous          | 0.000005 <sup>18</sup>             |
| Multi chloro-diphenolic      | 0.001                              |

### 5- Radiation

| Radiation            | The maximum limit (Becquerel/liter) |
|----------------------|-------------------------------------|
| Total Alfa radiation | 0.1                                 |
| Total Beta radiation | 1                                   |

## 3.4 Current Condition of Waste and Approaches to the Problems

The causes of the soil pollution are the emission of toxic substances around oil production and refinery plants, soil deterioration of wetland and farmland by salination, war-related toxic waste and etc.

The information on restriction and standards was not available.

With regard to soil pollution, in October 2009, US Navy reported<sup>19</sup> as follows, saying the pollution from war is not serious.

In general, soil contamination is localized to specific areas surrounding industrial facilities and waste

<sup>18</sup> The limit of Organic Phosphorous may be misprint (Japanese standard: 0.1mg/l).

<sup>19</sup> <http://www.med.navy.mil/sites/nmcpl/Clinics/nepmu2/Documents/updates/IraqMFP20091019.pdf> (April 2011 accessed)

disposal sites. Even in such areas, significant exposure to contaminants in soil is unlikely in the absence of windblown dust, active digging, or migration of contaminants from soil into groundwater. As a result, soil contamination usually presents a low risk to human health.

A 1981 study of the soil around the city of Baghdad found elevated levels of lead in the soil. The source of contamination is most likely the large number of older motor vehicles in the small urban area of Baghdad. More recent soil data are unavailable; however, soil lead concentrations are not expected to have decreased and may have increased. Although U.S. forces used approximately 300 metric tons of depleted uranium (DU) munitions during Operation Desert Storm in 1991 and additional munitions during Operation Iraqi Freedom, AFMIC assesses the radiological and toxicological risks to the Iraqi population and U.S. forces from exposure to DU contamination in the environment are insignificant.

However, there is report that DU was detected in the southern part of Iraq. Especially around the human settlement and water source, monitoring is necessary. Regarding the toxic chemical substances abandoned by war, UNEP is supporting the countermeasures including the cleaning of the polluted soil.

### 3.5 Current Condition of Waste and Approaches to the Problems

Regulations on landfill were set in Law No. 67 of 1986 and it is replaced by Law No.29 in 2009<sup>20</sup>. The contents of the regulations were not available.

The national waste management plan was prepared by Iraq Ministry of Municipalities and Public Works with input from the Ministry of Environment and other Federal Ministries<sup>21</sup>. The plan itself is not published in Internet, while the planning process and framework of the plan are explained in the article in an academic journal (Waste Manag Res June 2009 vol. 27 no. 4 322-327). According to the article, the waste management plan estimated 600 million m<sup>3</sup> of final disposal sites in total for the country (33 locations) during the period of 2007-2027. The plan analyzed both short-term (within 5 years) and mid-long term (within 5-20 years) on necessary policy, institution, technology, operation, enlightenment, and economic/financial aspects.

There is no updated information on actual situation of waste management, while in Kirkuk, first sanitary landfill (at the level of USA standard) together with transfer station and necessary equipments were constructed and supplied by the support of USA. The sanitary landfill was completed in May 2008 and expeted operation period is 10 years<sup>22</sup>.

Other than above, UNICEF in collaboration with EU and Iraqi Ministry of Municipalities and Public

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<sup>20</sup> <http://www.hammurabi-environment.com/iraqi-legislation.php> (April 2011 accessed)

<sup>21</sup> <http://iraqswm.com/national.htm> (April 2011), <http://wmr.sagepub.com/content/27/4/322.abstract> (April 2011 accessed)

<sup>22</sup> [http://iraqswm.com/Docs/Kirkuk%20 SWM Brief Nov 08.pdf](http://iraqswm.com/Docs/Kirkuk%20SWM%20Brief%20Nov%2008.pdf) (April 2011 accessed)



Works is implementing waste management project<sup>23</sup> in Basra and other 5 govenerates<sup>24</sup>. This project will be implemented in 3 more govenerates<sup>25</sup> additionally.

### 3.6 Current Condition of Other Pollutions and Approaches to the Problems

Iraq applies EHS guideline target for noise pollution.

**Table3.6-1 Noise Guideline(EHS)**

| Receptor                                | One hour L <sub>Aeq</sub> (dBA) |                              |
|---|---------------------------------|------------------------------|
|   | Daytime<br>(07:00 – 22:00)      | Nighttime<br>(22:00 – 07:00) |
| Residential, Institutional, educational | 55                              | 45                           |
| Industrial, Commercial                  | 70                              | 70                           |

Source : Iraq Governemnt, World Bank Group, Environmental, Health, and Safety Guidelines GENERAL EHS GUIDELINES 2007

<sup>23</sup> UNAMI Newsletter feb2011 ([http://www.uniraq.org/FileLib/misc/Newsletter\\_Feb2011\\_EN.pdf](http://www.uniraq.org/FileLib/misc/Newsletter_Feb2011_EN.pdf)) (April 2011 accessed)

<sup>24</sup> Anbar, Thi-Qar, Dohuk, Suleimaniya, Erbil

<sup>25</sup> Kut, Salahaldin, Mosul

## Chapter 4

### Social Environment



## Chapter4 Social Environment

### 4.1 General Condition

#### 4.1.1 General Conditions<sup>26</sup>

Iraq region falls into the heart of the Mesopotamian Civilizations called “the cradle of the civilization”. Based on the high productivity of the fertile delta formed by Tigris and Euphrates Rivers, it also prospered as the key point of trading. It is also known that the open accessible topographic character of the region allowed many ethnic invasion resulting in the rise of many countries.

Major social factors of Iraq are as follows.

**Table4.1-1 Social Development Factor of Iraq**

| Item                                     | Figure | Unit                                   | Year |
|--|--------|--|------|
| Population                               | 29.682 | Million people                         | 2007 |
| Urban population                         | 19.753 | Million people                         | 2007 |
| Rural population                         | 9.929  | Million people                         | 2007 |
| Birth rate                               | 4.3    | number of children per woman           | 2006 |
| Annual population increase ratio         | 2.5    | %                                      | 2009 |
| GDP                                      | 97.2   | US billion dollar                      | 2008 |
| GDP per capita                           | 3,198  | US dollar                              | 2008 |
| Unemployment rate: total over 14 years   | 15.3   | %                                      | 2008 |
| Life expectancy at birth                 | 59     | Year                                   | 2007 |
| Infant (under 1 year) mortality rate     | 35     | number of deaths per 1,000 live births | 2006 |
| Literacy rate (15 years and above)       | 82.3   | %                                      | 2007 |
| Population living under the poverty line | 22.9   | %                                      | 2007 |

Source : UNITED NATIONS DEVELOPMENT ASSISTANCE FRAMEWORK FOR IRAQ 2011-2014

#### 4.1.2 Religions

As of May 2011, CIA estimates the religious composition of the population as Muslim 97% (Shia 60%-65%, Sunni 32%-37%), and Christian or other 3%.

The Article 2 of Iraqi Constitution mentions that Islam is the official religion of the State and is a foundation source of legislation. At the same time, in the Article 2 and 43, the Constitution guarantees the Islamic identity of the majority of the Iraqi people and guarantees the full religious rights to freedom of religious belief and practice of all individuals such as Christians, Yazidis, and Mandaean Sabaeans.

As mentioned above, most population believe in Islam while there are many ethnic people with various historical background, or Christian, Sabian mandaeen, Jewish, Yazidi and Kaka'i etc. During Huseinn's regime, Sunni people were favored to be the ruling ethnic, and the arabization policy persecuted the minorities (both ethnic and religious), thus the inter-religious group

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<sup>26</sup>reference: Iwanami Chronology of World History 2<sup>nd</sup> Edition(2001) and Kadokawa Dictionary of World History (2001)

relationship is not calm. Despite the effort of the religious leaders for reconciliation (ex. Shia and Sunni), the relationship is not yet settled and developed.

After the fall of Hussein's regime, religious and ethnic tension and fear of terrorism remain high. The huge increase of sectarian violence occurred after the bombing of Shia Muslim holy site "askari mosque" and during 2006-2007, more than 2,000 civilians were killed every month by the violence. Current situation is better than that worst time, however, in average, still more than 10 civilians are killed everyday in 2011.

#### 4.1.3 Culture

Iraqi cultural heritage is primary the large number of ancient sites. Ur, Uruk are from Sumerian ancient sites of thousands of years BC, Babylonia ancient sites are from 2,000-1,000 years BC, and Malwiya Minaret constructed during Abbasid Caliphate all still exist. However, recent increase of the bombing of important sites and the weak management of such important site make UNESCO to register some of the sites as world heritage and the world heritage in danger at the same time. Thus the conservation and management of these historical sites will be of high importance. Also the diverse historical background and the function for the center of trading contributes to the Iraqi cultural diversity. Due to the recent arabization and persecution of minority by Hussein's regime, diversity is lost in some sense, and the security improvement is also important in the conservation of Iraqi culture.

### 4.2 Major Social Problems

#### 4.2.1 Poverty

Government of Iraq established National Strategy for Poverty Reduction (2009) and National Development Plan Years 2010-2014(2010) to tackle poverty problems.

In the National Strategy for Poverty Reduction, poverty problems are analyzed as follows based on the poverty indicator in 2007.

- Poverty ratio is 22.9%. Rural area is poorer than urban area.

Poverty gap is 4.5% and low, however the size of the gap varies markedly between governorates. The governorates in which the rate of the poor is high, the poverty gap widens.

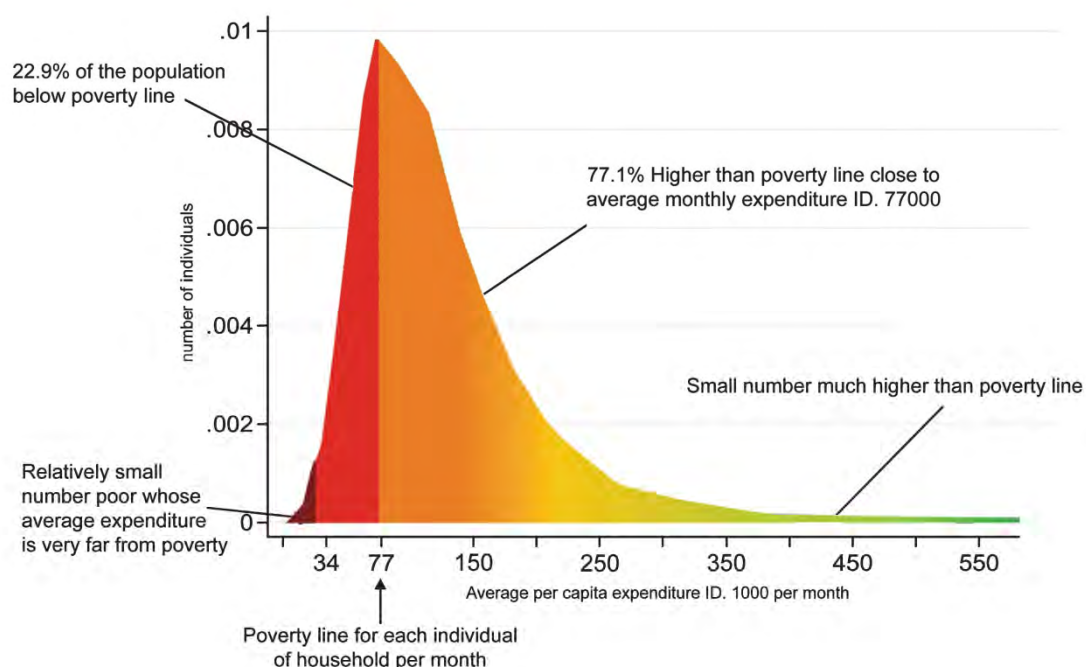
The poverty rate in Kurdistan Region is low and less than 10%. Compared with all Iraq, proportion of population in rural area is lower, fertility rate is lower, the access to the commodities and information is better through border trade, and stability of the security situation is better. These are considered to contribute to lower the poverty rate.

**Table 4.2-1 Poverty condition in 2007**

| Indicator                                      |         | Figure |
|--|---------|--------|
| Poverty line<br>(1,000Iraq<br>dinar/Prs/Month) | Country | 76.9   |
|  | Food    | 34.3   |

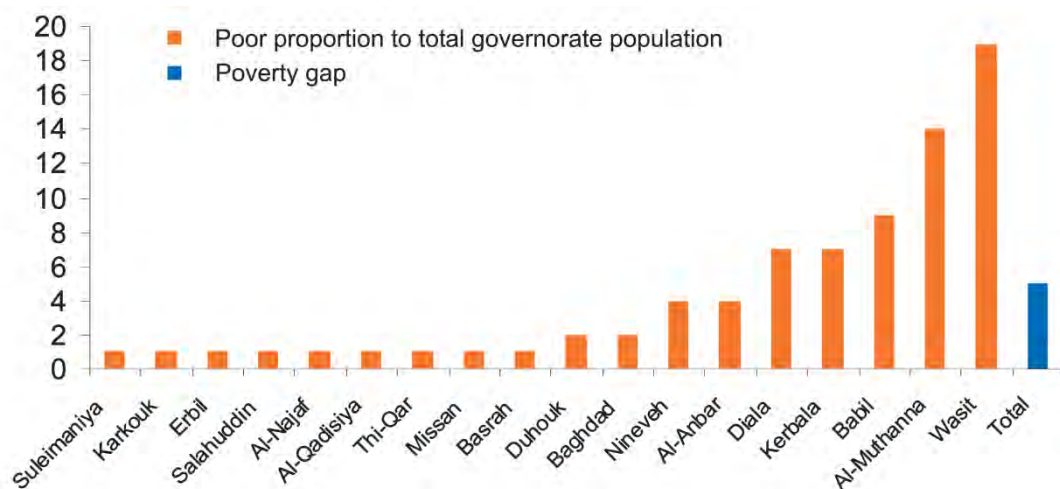
|                                     |          |      |
|-------------------------------------|----------|------|
|                                     | Non-food | 42.6 |
| Poverty rate (%)                    | Total    | 22.9 |
|                                     | Urban    | 16.1 |
|                                     | Rural    | 39.3 |
| Poverty population (Million people) | Total    | 6.9  |
|                                     | Urban    | 3.5  |
|                                     | Rural    | 3.4  |
| Poverty Gap (%)                     | Total    | 4.5  |
|                                     | Urban    | 2.7  |
|                                     | Rural    | 9.0  |

Source : Government of Iraq(2009)National Strategy for Poverty Reduction



Source : Government of Iraq(2009)National Strategy for Poverty Reduction

**Figure4.2-1 Poverty Line and Distribution of Monthly Expenditure (2007)**



Source : Government of Iraq(2009)National Strategy for Poverty Reduction

**Figure4.2-2 Poverty Gap of Governorate**

#### 4.2.2 Gender • Child Labour

International agreements which Iraq is a member is as follows.

| International Agreement   | Adoptation        | Entry into force  | Status       | Year        |
|---|-------------------|-------------------|--------------|-------------|
| the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)                          | 14 May 1954       | 7 August 1956     | Ratification | 14 May 1954 |
| the Convention on the Rights of the Child (CRC – which covers the girl child and adolescent women up to age 18) | 20 November 1989  | 2 September 1990  | Accession    | 15 Jun 1994 |
| the MDGs, including Goal 3 on gender equality   | 18 September 2000 | 18 September 2000 |              |             |
| the Declaration on Elimination on Violence Against Women  | 18 December 1979  | 3 September 1981  | Accession    | 13 Aug 1986 |

Source : JICA study team, and UN website(<http://treaties.un.org/Home.aspx?lang=en>), (May 2011 accessed) and etc.

In Iraq, before the Gulf War, it is said that the right of women was legally and practically better protected compared with other Arabic countries. However, after the war, it is considered that the women's condition (ex. livelihood, social position and domestic and social violence) became worse because the Husein's regime utilized the Islamic and Tribal culture as the tool for the governing people and the economic condition declined due to the economic sanction. Especially in the northern Kurdistan region, violence such as honor killing, Female Genital Mutilation(FDM) based on the Kurds' historical and cultural background, is serious problems<sup>27</sup>. Under the Constitution, this kind of violence is banned because it is contrary to human rights even though it is the tradition.

<sup>27</sup> Reference: Human Right Watch Report, Brochure for 16 Days Campaign to End Violence Against Women

Recently, the preparation of domestic violence bill is processed both in Iraqi Government and Kurdistan Regional Government. In Iraq, State Ministry of Women's Affairs (SMWA) is responsible for the gender equity. The prime minister of Kurdistan Regional Government declared the elimination of the violence against women and FGM in November 2010<sup>28</sup> and Ministry of Culture and Youth are considering to prepare the law to assure the gender equity in terms of art and culture<sup>29</sup>. However, there are many report on the arguments from Mullah (Islamic religious leader), agitator in the public, abduction and threat to the activist on women and human right. Discrimination against women is deep-rooted.

It is assumed that the children of poor families are forced to work for livelihood, resulting in the deprivation of the opportunity to be educated and to look for better job.

#### 4.2.3 Trend concerning Protection of Rights on Socially Vulnerable Groups and Approaches to Such Problems

Iraqi Government discusses the supporting policy for the socially vulnerable peoples. Since the government does not have clear information of the current situation, it proposes confirmation of the current situation, establishing social safety net, promoting livelihood generating projects, capacity development of the relevant ministries, promoting the participation of the vulnerable people into the policy decision.

**Table4.2-2 Condition of Socially Vulnerables**

| Socially Vulnerables | Condition  |
|----------------------|--|
| Disabled             | Iraqi Government is implementing census on disabled population. The actions will be taken based on the result. It is required to establish compensation system for disability caused by war and terrorism and to implement countermeasures to diseases which may cause disabilities. |
| Widow, Orphan        | No detail information is available. Some estimated that the number is increasing and the number of the orphan reached 4 million.   |
| Poor children        | Child labour, deprivation of education are common problem for poor children.   |
| Displaced people     | Many displaced family face the difficulty of livelihood and expensive living cost after the migration.   |
| Children             | Population under 18 accounts for the half of Iraqi population. They are the victims of terrorism and violence and many are forced to work for their family.  |

Source : National Development Plan

#### 4.2.4 Trend on Considerations for Labor's Right

The unemployment ratio is raised as one of the big problems in the National Development Plan. It is estimated that the migration of rural poor to the urban area where no proper job opportunities available ends up with living in slum or on the street. These people are more exposed to the violence and terrorism, which further instabilize the security.

<sup>28</sup> <http://www.rudaw.net/english/kurds/3318.html>

<sup>29</sup> <http://www.equalitylaw.co.uk/news/602/66/Kurdish-Government-responds-to-Mullahs-Gender-Equality-protest/>



Regarding work in the factories, there are several regulations such as for labor codes, standard for light, vibrations, etc. Though the information on the actual practice is not available, it is noted that not only setting the regulations, the inspection and law enforcement will be required.

### 4.3 Cultural Heritage

#### 4.3.1 Major cultural heritage

Iraq region, being famous as the cradle of civilization, is the area where world oldest Mesopotamia civilization thrived.

Iraq became a member to UNESCO Heritage Convention (accession) in 1974 and Hatra was registered as the first world cultural heritage in Iraq in 1985. Iraqi Government, in 2000, submitted the tentative list of seven cultural heritages. In June 2003, the 27<sup>th</sup> committee approved Ashur (Qal'at Sherqat) and in June 2007, the 31<sup>st</sup> committee approved Samarra Archaeological City as both cultural heritage and world heritage in danger. Table4.3-1 shows the list of world heritage and tentative list of world heritage. Currently, UNESCO office in Amman, Jordan is responsible for Iraqi region.

**Table4.3-1 World Heritage List (registered and tentative)**

| Site name  | Description   |
|--|---|
| <b>Sites registered in the World Heritage List</b> |   |
| Hatra  | <Registered in 1995><br><UNESCO Criteria : (ii), (iii), (iv), (vi)><br>Cultural heritage                    |
| Ashur (Qal'at Sherqat)                             | <Registered in 2003 ><br><UNESCO Criteria : (iii), (iv)><br>Cultural heritage<br>World heritage in danger   |
| Samarra Archaeological City                        | <Registered in 2007 ><br><UNESCO Criteria : (ii)(iii)(iv)><br>Cultural heritage<br>World heritage in danger |
| <b>Tentative list</b>                              |   |
| Ur   | <Submitted in 2000>   |
| The Ancient City of Nimrud                         | <Submitted in 2000>   |
| The Ancient City of Nineveh                        | <Submitted in 2000>   |
| The Fortress of Al-Ukhaidhir                       | <Submitted in 2000>   |
| Wasit  | <Submitted in 2000>   |
| The Sacred Complex of Babylon                      | <Submitted in 2003><br><UNESCO Criteria : (iii)(iv)><br>Cultural heritage                                   |
| The Marshlands of Mesopotamia                      | <Submitted in 2003><br><UNESCO Criteria : TBD><br>Complex heritage  |



**Table 4.3-3 Essence of Antiquities and Heritage Law (2002)**

|  |
|--|
| <p>(1) Conservation at planning stage</p> <p>(a) Applicable Projects : Item 3 of Article 9 stipulates "The concerned authorities shall be committed to conserve the Antiquity, Heritage and Historical Sites when the mentioned authorities are about to making state industrial, agricultural or residential projects and other projects like: city and the village planning, beautification, expansion, irrigation canals and the road paving. The written permission from the Antiquity Authority shall be acquired before or at changing the plans of these projects. " However, related regulations and instructions are not yet specify the practical projects.</p> <p>(b) Procedures: Item 5 of Article 9 stipulates " The building license, shall not be granted in the antiquity locations or adjacent to which with about one kilometer, except for the cases when a permission is to be granted by the Antiquity Authority within a time not exceeding 30 days from the date of handing in a license application ." However, politically important projects may be exempted and Item 4 of Article 9 stipulates "In case of an inconsistency of a specific and important project within the (Growth Plan) with an antiquity Site, the Antiquity Authority shall be committed to undertake Excavations, therein, which shall be financed by the (Executive Authority), putting a dead line that must be adequate from the scientific and project time schedule point of view. The total cost of the excavations shall be listed in the project's budget before the initiation of digging. "</p> <p>In many Islamic countries, most of the religious buildings are managed not by the state, but by the occupant. Article 10 mentions that "Mosques, Masjids, Holy Shrines, Monasteries, Convents, Tombs, Takaya, Churches, Inns and other ancient buildings , owned or constituted in Waqf, in the occupation of persons de facto or de jure whether they own or run such buildings, to be used for the purpose for which they have been built, taking into consideration development and expansion works in accordance with the contemporary demands. " Thus, in case any impact on the religious buildings are expected by the project, it is crucial to conduct due consultation in advance with the religious organizations which are responsible for the management of the buildings.</p> <p>(2) Conservation at implementation stage</p> <p>(a) Applicable projects: at implementation stage, conservation procedure is important when the antiquities are found. the procedures are stipulated in Article 12 and 19, but they don't specify the type of applicable projects.</p> <p>(b) Procedures : Article 12 and 19 stipulates that " Any person who discovers or ever discovered an immovable antiquity, shall, within 24 hours, be committed to inform the nearest official authority, which in turn, shall immediately notify the Antiquity Authority. (Article 12)" and "Whoever discovers a movable or immovable antiquity or have been acknowledged about that, shall be committed to inform the nearest official authority or any (public organization) within 24 hours from the date of discovery or acknowledgment.(19)" only with regard to movable antiquity, "The Antiquity Authority, shall be allowed to pay the discoverer or informer, a suitable reward provided that, in the case of gold, silver or precious stones, the reward which has been determined by the (Artistic Committee) shall not be less than the intrinsic value of the artifact, regardless of its antiquity, workmanship and historical value."</p> <p>(3) Forbidden actions and punishment</p> <p>(a) Forbidden actions : especially with regard to the item 5, it should be taken care for site selection that the construction which may cause pollution shall not be allowed with in 3 km from the Antiquity sites and the heritage buildings.</p> <ul style="list-style-type: none"> <li>- Actions like: cultivation, erecting residential or other kinds of buildings, construction upon the Antiquity, Heritage sites and their prohibited zone, or rendering their features. (Item 2, Article 15)</li> <li>- Using the Antiquity sites as a rubbish or debris collecting places or erecting buildings, cemeteries and quarries therein. (Item 3, Article 15)</li> <li>- Uprooting trees and plants, removing any utilities from the Antiquity sites or carrying out any acts those may render the features of an Antiquity site . (Item 4, Article 15)</li> <li>- Erecting an eco-pollution industrial facilities, those probable to affect the (general health), less than 3km, from the Antiquity sites and the Heritage building, at each side. (Item 5, Article 15)</li> <li>- Removing any Antiquity or Heritage monument, disposing with its construction material in a manner, that might cause any damage or render.( Item 6, Article 15)</li> </ul> <p>(b) Punishment</p> <ul style="list-style-type: none"> <li>- Item 1 of Article 43 stipulates that "Whoever dug, built, planted or inhabited in a declared antiquity site, or removed, rendered, damaged, deformed, demolished an antiquity or heritage monument, attempted to dispose with its</li> </ul> |
|--|

2k6MDtzOjE6IjAiO31zOjU6InlYXJzIjthOjE6e2k6MDtzOjE6IjAiO31zOjk6ImRvY3VtZW50cyI7YToyOntpOjA7czo4OiJvcmlnaW5hbnCI7aToxO3M6MTA6InRyYW5zbGF0ZWQiO319&lng=en) (March 2011 accessed)

construction materials or used it in a harmful manner which may result in tearing it down or altering the original features of which, shall be punishable with imprisonment for a period not exceeding 10 years, a compensation two times the evaluated value of the damage and removing the contravene on his charge. (Item 1, Article 43)  
 - the punishment will be give to any employee or a representative of the party concerned with sustaining the deliberate damage upon the antiquity sites or the heritage districts or dwellings (Item 2, Article 43)

#### 4.3.3 Cultural Heritage Conservation Policy and Isses

In the national development plan 2010-2014, cultural heritage conservation is a part of tourism sector development which mentions the importance of the protection, rehabilitation and database building of the heritages. However, the priorities have been given to the oil industry sector rehabilitation after the war and the concrete plan for cultural sector is not yet formulated. The planning and implementation of practical plan will be crucial.

UNESCO is conducting following cultural heritage conservation activities. As of now, Japanese support for cultural heritages are through UNESCO.

- Rehabilitation of Askariyya Mosque in Sammara
- Countermeasure against illegal trade of cultural heritages
- Capacity development of national cultural organizations
- Conservation of major cultural and historical heritage

the current issues to be addressed are summarized as follows.

- Appropriate conservation and rehabilitation against the destruction of cultural heritages by conflict and suicide bombing
- Rehabilitation of museums destroyed by 2003 War and following chaos. And identification and recovery of the robbed cultural heritage.
- Confirmation of cultural heritage sites and goods including the database development
- Conservation of heritages against the development projects
- Capacity development on the heritage management

#### 4.3.4 International Agreements regarding Cultural Heritages

The status on international agreements regarding cultural heritage is summarized as follows. Some are not yet ratified.

| International Treaties  | Adoptation    | Entry into Force | Status       | Year of Ratification |
|---|---------------|------------------|--------------|----------------------|
| Convention for the Protection of Cultural Property in the Event of Armed Conflicts and 1 <sup>st</sup> protocol | 14 May 1954   | 7 August 1956    | Ratification | 14 May 1954          |
| 2 <sup>nd</sup> protocol for Convention for the Protection of Cultural Property in the Event of Armed Conflict  | 26 march 1999 | 9 March 2004     | Not ratified | -                    |
| Universal Copyright Convention  | 24 July 1971  | 10 July 1974     | Not ratified | -                    |

| <b>International Treaties</b>  | <b>Adoptation</b> | <b>Entry into Force</b> | <b>Status</b> | <b>Year of Ratification</b> |
|--|-------------------|-------------------------|---------------|-----------------------------|
| Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property) | 14 November 1970  | 24 April 1972           | Accession     | 12 February 1973            |
| Convention for the Protection of the World Cultural and Natural Heritage   | 16 November 1972  | 17 December 1975        | Ratification  | 19 April 1974               |
| Convention on the Protection of the Underwater Cultural Heritage   | 2 November 2001   | 2 January 2009          | Not ratified  | -                           |
| Convention For the Safeguarding of the Intangible Cultural Heritage  | 17 October 2003   | 20 April 2006           | Ratification  | 6 January 2010              |
| Convention on the Protection and Promotion of the Diversity of Cultural Expressions  | 20 October 2005   | 18 March 2007           | Not ratified  | -                           |
| UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects   | 24 June 1995      | 1 July 1998             | Not ratified  | -                           |

Source: UN websites, etc (<http://treaties.un.org/Home.aspx?lang=en>), May 2011 accessed

#### 4.3.5 Other Effort

International Coordination Committee for the Safeguarding of Iraqi Cultural Heritage was organized noting the outcomes of the third UNESCO Experts' Meeting on the Safeguarding of Iraqi Cultural Heritage jointly organized by UNESCO and the Agency for Cultural Affairs of Japan (BUNKACHO) in Tokyo in 2003 (167 EX/Decisions, 9.2), which facilitates the integrated operation of 3 international convention, namely the 1954 Hague Convention, the 1970 Convention, and the 1972 World Heritage Convention and practical projects under the international coordination mechanism. (Takahashi, 2009)<sup>31</sup>

#### 4.4 Analysis of Gaps between Current Relevant Regulations in Iraq and JICA Guidelines for Environmental and Social Considerations (April, 2010) as well as Safeguard Policies in the World Bank

The gaps between current relevant regulations in Iraq and JICA Guidelines for Environmental and Social Considerations (April, 2010) as well as Safeguard Policies in the World Bank are shown in the annexure.

With regard to the cultural heritage conservation, there is no major gap between the JICA guidelines for environmental and social considerations and World Bank safeguard policy and Iraqi laws and regulations.

<sup>31</sup> Takahashi Akira(2009)"STUDY ON CULTURAL HERITAGE RISK MANAGEMENT AND INTEGRATED APPLICATION OF UNESCO'S INTERNATIONAL CONVENTIONS: The 1954 Hague Convention, the 1970 Convention, and the 1972 World Heritage Convention"Journal of Architecture and Planning, Series74, Volume642, 1945-1950, August 2009, in Japanese



## Chapter 5

### Climate Change





## Chapter5 Climate Change

### 5.1 Impact of Climate Change

The desertification and drought are believed to be caused by the climate change. Drought is also caused by the water use in the other countries (Turkey, Syria and Iran) and the impact is seen as follows.

- 50% of the arable land is not cultivated
- Reduction of southern marshland area
- Desertification with more and bigger sand storms
- Degradation of biodiversity
- Salination in the river mouth area
- Water-borne-disease caused by water shortage problem

Recently, Iraq joined several international agreements on climate change, and prioritize the countermeasure in the national development plan. However, national report for the convention on combating desertification and drought has not been published and the concrete figures on this issue are identified. The Iraqi Government and UN agencies state that the lack of related data and figures prevent the people from taking appropriate actions.

### 5.2 Relevant laws

Recently, Iraq signed/joined the following international conventions

**Table5.2-1 Major International Treaties/Conventions on Climate Change of which Iraq is Signatory**

| Treaties/Conventions                                  | Adoption    | Entry into Force | Status    | Year        |
|---|-------------|------------------|-----------|-------------|
| United Nations Framework Convention on Climate Change | 9 May 1992  | 21 Mar 1994      | accession | 28 Jul 2009 |
| Kyoto Protocol  | 11 Dec 1997 | 16 Feb 2005      | accession | 28 Jul 2009 |
| United Nations Convention to Combat Desertification   | 17 Jun 1994 | 25 Dec 1996      | accession | 26 Aug 2010 |

There are no national laws regarding climate change, but Millennium Development Goal (3.2.1) states that the national plan on climate change and clean energy shall be developed by 2014.

### 5.3 Approach to Climate Change

Within Iraq Government, the State Board of Combating Desertification under the ministry of environment, Department of Western Desert and Desertification Control under the ministry of

agriculture and irrigation (as of 1999<sup>32</sup>) are responsible for desertification. Climate change section is established in the ministry of environment.

There is no on-going Clean Development Mechanism (CDM) and Joint Implementation (JI) projects.(Source : UNFCCC database, March 2011)

JICA and UNDP are supporting capacity development and institutional development of climate change, and practice of CDM in some projects.<sup>33</sup>

([http://www.jica.go.jp/topics/2010/20101019\\_01.html](http://www.jica.go.jp/topics/2010/20101019_01.html)) (in Japanese, May 2011 accessed)

### 5.3.1 Mitigation

In the national development plan (2010-2014), the government of Iraq raises the target of solving desertification. UNDP will support the reduction of gas flaring and promotion of renewable energy.

### 5.3.2 Adaptation

In the national development plan (2010-2014), the government of Iraq declares to develop institutional system for climate change to meet the international standard.

UNP supported the launch of the Middle East and neighboring countries initiative to achieve the adaptation for water resource management and climate change.

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<sup>32</sup> WANA NARS Study (1999) THE NATIONAL AGRICULTURAL RESEARCH SYSTEM OF IRAQ

<sup>33</sup> UNDP(2009)Tackling Climate Change in Iraq

## **Chapter 6**

# **Regulations and Procedures for Environmental and Social Considerations**



## Chapter6 Regulations and Procedures for Environmental and Social Considerations

### 6.1 Relavant regulations

Iraq conducts the environmental and social considerations based on Law No. (27) Of 2009 “Protection and Improvement of the Environment”. Draft EIA law was prepared in January 2011 with the support from World Bank, and it is under review by the Government. The contents of the draft EIA law were not available.

In the 2009 Law of Protection and Improvement of the Environment, Item 17 of Article 2 defines the Evaluation of the environmental impact and Article 10 stipulates 6 points to be discussed in EIA report prepared by the owner of the project before its commencement.

**Table6.1-1 Excerpt from Law of Protection and Improvement of the Environment of 2009 with regard to EIA**

#### Article 2

Item 17: Evaluation of the environmental impact: Study and analysis of the environmental feasibility of the proposed projects which may affect, if set up or carried out, human health and the safety of the environment in the present time and in the future in order to protect the environment.

#### Article 10

First: The owner of any project should submit a report that estimates the environmental impact before building the project, it shall include the following:

- a) Estimation of the positive and negative impacts of the project on the environment and the impact of the surrounded environment on it.
- b) The proposed means to avoid and treat the causes of the pollution to comply with regulations and instructions of the environment.
- c) Incidental and probable cases of pollution and the precautions which should be taken to avoid them.
- d) The possible alternatives to use a less harmful technology to the environment and to reduce the utilization of resources.
- e) Reduce and recycle wastes or re-use them whenever it's possible.
- f) Estimate the environmental feasibility study of the project and estimating the cost of the pollution to the production.

Second: The technical and economic feasibility study of any project shall contain the report stipulated in Item (first) of this Article.

### 6.2 Procedure of Strategic Environmental Assessment (SEA)

There was no information available regarding the regulation of SEA.

In Article 8 of Law of Protection and Improvement of the Environment (2009), it says “The planning authorities in the State shall undertake to include the considerations of environmental protection, pollution fighting, optimal utilization of the natural resources and sustainable development in the development projects plans.”

### 6.3 Implementation of EIA and Procedure of Environmental Permissions

#### 6.3.1 Projects needs to be assessed

There is no detail regulation, while Law of Protection and Improvement of the Environment (2009) stipulates that it is necessary to conduct study and analysis of the environmental feasibility of the proposed projects which may affect, if set up or carried out, human health and the safety of the environment in the present time and in the future in order to protect the environment. Generally speaking, it is estimated that the Ministry of Environment obligates the developer to conduct screening for all kinds of projects, and to conduct further environmental study on Category A and B projects.

The categorization through screening is stipulated in Environmental Instructions for Industrial, Agricultural and Services Projects (1990). The provincial branch of the Ministry of Environment will categorize the projects into three, or A, B and C considering the pollution risk for the surrounding environment. For the categorization, the type of the project, project area, distance from city and water source, land use and etc. will be considered.

Category in the Environmental Instruction (1990) are, as is in the table Table6.3-1, A: severe environmentally polluting activities and includes large industrial and agricultural projects, B: locational pollution and may be controlled, and C: simple pollution which may be treated in industrial plants which does not produce any noticeable pollution.

Environmental Instruction (1990) sets the category for 52 project types. This instruction stipulates 1) items to be considered in accordance with its location, 2) items to be considered based on the activity type, and 3) items to be considered for assessing the project in line with city/regional development plan.

In accordance with the presentation material in an international conference by the staff of Iraqi Ministry of Environment<sup>34</sup>, the draft EIA law also has a categorization concept. Table6.3-2 is the summary of the categorizations based on the presentation material. After the enactment of EIA law, Categorization in Table6.3-2 shall be used instead of Environmental Instruction (1990).

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<sup>34</sup> [http://www.unece.org/env/eia/documents/WG14\\_MOS3\\_nov2010/Presentation\\_EIA\\_in\\_Iraq.pdf](http://www.unece.org/env/eia/documents/WG14_MOS3_nov2010/Presentation_EIA_in_Iraq.pdf)

**Table6.3-1 Definition of Category and Related Regulations**

| Category | Definition   | Regulation   | Certification Authority                      |
|----------|--|--|--|
| A        | Severe environmentally polluting activities and includes large industrial and agricultural projects which has several affects upon the quality of the environment and vast areas   | 1) It should be greatly distanced from cities fundamental plans, towns and villages subject to development in terms of countryside settlements<br>2) The provision of all the treatment sufficient for the protection to the environment.                | Ministry of Environment                      |
| B        | Category B includes industrial and agricultural and other sources which results in locational pollution and may be controlled  | 1) In case of no-availability to control all the polluting sources (such as foul odour) the location shall be defined outside the cities fundamental planning<br>2) The provision of all the treatment sufficient for the protection to the environment. | Provincial Office of Ministry of Environment |
| C        | The remainder pf human activity which causes simple pollution which may be treated in industrial plants which does not produce any noticeable pollution as well as small agricultural projects and residential concentration , hotels and hospitals which primarily produce biological pollution and may be treated with ease within treatment units | It is necessary to follow instructions and regulations issued by the technical committee formed by order of ministry of industry and military fabrication number 27541 dated 7/12/1988 in compliance with the order the president the leader             | Provincial Office of Ministry of Environment |

Source: Environmental Instructions for Industrial, Agricultural and Services Projects (1990)

**Table6.3-2 Category List with Project Type**

| Category A   | Category B                                       |
|--|--|
| (1) Chemical, petrochemical and petroleum industries | (1) Food industries                              |
| (2) Synthetic fiber industry                         | (2) Slaughtering houses                          |
| (3) Protein plants                                   | (3) Gas power stations                           |
| (4) Pharmaceutical industries                        | (4) Solid waste landfills                        |
| (5) Tannery plants                                   | (5) Fish breeding lakes                          |
| (6) Cement plants                                    | (6) Textile industries                           |
| (7) Gypsum plants                                    | (7) Chemical industries ,low production capacity |
| (8) Bricks plants                                    | (8) Construction products industries             |
| (9) Asbestos products plants                         | (9) Metal Melting plants                         |
| (10) Mines   | (10) Electronic and electrical industries.       |
| (11) Glass and ceramic industries                    | (11) Fertilizer storage building                 |
| (12) Thermal power station                           | (12) Pesticides storage building                 |
| (13) Hazardous waste dumping sites                   | (13) Soap industries                             |
| (14) Asphalt plants                                  | (14) Ice production plant                        |

|   |                                     |
|---|-------------------------------------|
| (15) Iron , steel and aluminum industries | (15) Sand and rocks serving sites   |
| (16) Waste water treatment plants         | (16) Tobacco industries             |
| (17) Rocks grinding plants                | (17) Reuse waste oil plants         |
| -   | (18) Electro power transfer station |

Source: Presentation of the staff of the Ministry of Environment

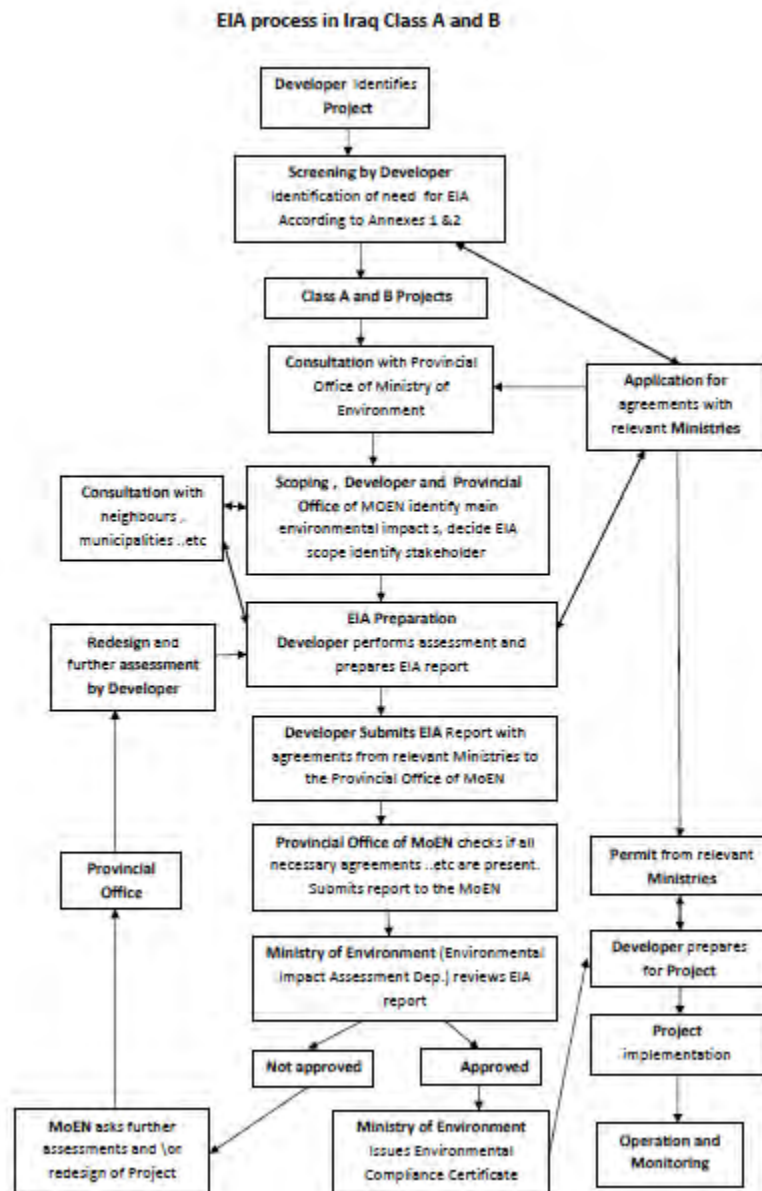
### 6.3.2 Procedure to conduct EIA

According to the presentation in an international conference by the staff of Iraqi Ministry of Environment<sup>35</sup>, EIA flow currently applied in Iraq is in the figure below. Category A and B projects require EIA implementation, and the branch office of the Ministry of Environment will issue Environmental Compliance Certificate for Category C projects.

For Category A and B projects, developer will prepare EIA report through consultation with the provincial office of the Ministry of Environment and relevant municipalities. After the approval by the provincial office of the Ministry of Environment, the EIA report will be submitted to the EIA department of the Ministry of Environment for the review. The EIA department will request the further analysis if the report is not sufficient, otherwise it will issue the Environmental Compliance Certificate to the developer. The Environmental Compliance Certificate will be required for all the projects which may cause impact on environment.

<sup>35</sup> [http://www.unecce.org/env/eia/meetings/wg\\_eia\\_14.htm](http://www.unecce.org/env/eia/meetings/wg_eia_14.htm), April 2011 accessed





**Figure6.3-1 EIA Flow(Category A/B)<sup>36</sup>**

The Developer will conduct screening and scoping through the consultation with the branches of the Ministry of Environment. Necessary stakeholder meeting will also be held. There is no information available regarding the range of the stakeholder, and the way of consultation.

### 6.3.3 Study Items to be included into EIA

The items stipulated in Article 10 of Law of Protection and Improvement of the Environment (2009) has to be covered in EIA, namely 1) Estimation of the positive and negative impacts of the project

<sup>36</sup> [http://www.unec.org/env/eia/documents/WG14\\_MOS3\\_nov2010/Diagram\\_EIA\\_process\\_in\\_Iraq.pdf](http://www.unec.org/env/eia/documents/WG14_MOS3_nov2010/Diagram_EIA_process_in_Iraq.pdf), April 2011 accessed

on the environment and the impact of the surrounded environment on it, 2) The proposed means to avoid and treat the causes of the pollution to comply with regulations and instructions of the environment, 3) Incidental and probable cases of pollution and the precautions which should be taken to avoid them, 4) The possible alternatives to use a less harmful technology to the environment and to reduce the utilization of resources, 5) Reduce and recycle wastes or re-use them whenever it's possible, and 6) Estimate the environmental feasibility study of the project and estimating the cost of the pollution to the production.

#### 6.3.4 Procedure for issuance of environmental permit

For Category A and B projects, the developer will submit the EIA report to the EIA department of the Ministry of Environment through its provincial branch office with the agreement from the relevant authorities. The Ministry of Environment may instruct the modification of the EIA report within 45 days. After approval, the Ministry of Environment will issue the Environmental Compliance Certificates and deliver it to the developer through its provincial branch office.

For Category C projects, provincial branch offices of the Ministry of Environment have authorities over the approval of EIA report and issuance of Environmental Compliance Certificate.

#### 6.3.5 Procedure and Actual Situation of Information Disclosure and Public Consultation/Participation

As explained in Chapter 9 later, due to the recent unstable condition, conflicts and violences against each ethnic and religious group, it is estimated that the consideration of certain people and holding mass meetings is difficult, and conducting public consultation has certain limitations.

#### 6.3.6 Information disclosure of EIA and Environmental Compliance Certificates

No information was available in Internet.

#### 6.3.7 Environmental Management Plan (EMP)

EMP has to be included in the EIA report, however, its requirements and contents are not regulated yet.<sup>37</sup>

### 6.4 Monitoring

#### 6.4.1 Regulations and Procedures for Monitoring

The monitoring is stipulated in the Chapter 5 (Article 22-25) of the Law of Protection and Improvement of the Environment (2009).

Article 22 stipulates that the entity responsible for these activities shall cooperate and provide the necessary facilitations to the environmental monitoring teams, Article 23 stipulates that the

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<sup>37</sup> there is no written information of EMP in Law of Protection and Improvement of the Environment (2009), while the presentation by the staff of the Ministry of Environment indicates the necessity of EMP. ([http://www.uncece.org/env/eia/meetings/wg\\_eia\\_14.htm](http://www.uncece.org/env/eia/meetings/wg_eia_14.htm)), April 2011 accessed

environmental monitoring shall have a record to register the effects of the activity on the environment according to instructions issued by the Minister, and Article 24 stipulates that The Minister shall name an environmental observer from the employees of the Ministry to execute the provisions of this law, to monitor the activities that affect the environment that are subject to its provisions and organize the monitoring records and submit them to the Ministry in order to take the necessary measures. The developer is responsible for monitoring following the environmental management plan and submit necessary data to the Ministry of Environment<sup>38</sup>.

#### 6.4.2 Information Disclosure

No information is available in Internet.

#### 6.4.3 Treatment Method and Procedure of Problems if they were confirmed

In pursuance to this law, an environmental police department shall be established and shall administratively report to the Ministry of Interior. Its organizational structure, duties and connections shall be determined by a bylaw issued by the Minister of Interior in coordination with Minister of Environment (Article 25, Item 5 of Law of Protection and Improvement of the Environment (2009)).

In addition to above, Law of Protection and Improvement of the Environment (2009) has regulation on compensation (Chapter 8, Article 32) and punitive provision (Chapter 9, Article 33-35).

#### 6.5 Other Problems

There is no other problems available in Internet.

#### 6.6 Analysis of Gaps between Current Relevant Regulations in the Iraq and JICA Guidelines for Environmental and Social Considerations (April, 2010) as well as Safeguard Policies in the World Bank

The gaps between current relevant regulations in Iraq and JICA Guidelines for Environmental and Social Considerations (April, 2010) as well as Safeguard Policies in the World Bank are shown in the annexure. Iraqi EIA laws are not yet finalized, and many of the procedures and regulations are not concrete enough for the comparison.

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<sup>38</sup> [http://www.unece.org/env/eia/meetings/wg\\_eia\\_14.htm](http://www.unece.org/env/eia/meetings/wg_eia_14.htm), April 2011 accessed

## **Chapter 7**

### **Relevant Regulations and Procedure of Land Acquisition and Involuntary Resettlement**



## Chapter7 Relevant Regulations and Procedure of Land Acquisition and Involuntary Resettlement

### 7.1 Relevant Regulations<sup>39</sup>

Land ownership in Iraq experienced many changes by the economic and social reform during the last century. Currently, it is estimated that 90% of the land belongs to the state (mostly in the rural area) and 10% of the land belongs to private ownership (mostly in the urban area). There is two types or national land, namely the national land owned 100 % by the ministry of finance, and the national land on which the tribes have the seasonal utilization right. In the latter case, 75% of the ownership is by Ministry of Finance, and 25% is by the tribes. There are also two types of private land ownership right. One is complete private right and the other is tribal preoccupied land, while ownership only cover the over the ground and ownership of underground space belongs to Ministry of Finance, making crude oil a national asset.

Current regulation regarding land acquisition and resettlement, there is Law No.12 of 1981 on Appropriation.

The history of land ownership system is well depicted in the USAID report<sup>40</sup>. In general, current system is still based on the Ottoman's institution, or TAPU (title deed) system. By 1974, the old TAPU system was replaced by the Real Estate Registration Law, which created an improved title issuance system and established Real Estate Registration Departments (RERDs) throughout the country. Nevertheless, the term "TAPU" remains in common use when referring to land registration.

### 7.2 Procedure of Land Acquisition and Involuntary Resettlement<sup>41</sup>

Law No.12 of 1981 on Appropriation stipulates three types of appropriation, namely 1) Consensual Appropriation, 2) Juridical Appropriation and 3) Administrative Appropriation. These three types commonly target any assets and unlike Compulsory Purchase of Land Act of Japan, there is no specific type of project to be applicable to compulsory purchase. In the current chaotic circumstances, it is noted that the confirmation of ownership has to go through long and careful process.

With regard to the land acquisition for individual project, for example, Law No 35 of year 2002 on major roads regulates the further procedures following Law No.12 of 1981. It does not have any provision regarding social considerations such as the livelihood rehabilitation for the resettlement. As such, there may be individual regulations based on Law No.12 of 1981 for each type of the project, while it was not possible to find more information in Internet.

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<sup>39</sup> Japan Bank for International Cooperation (2005) "The Study on Environment and Social Considerations in Iraq"

<sup>40</sup> USIAD (2005) 「Land Registration and Property Right in Iraq」 [http://pdf.usaid.gov/pdf\\_docs/PNADE241.pdf](http://pdf.usaid.gov/pdf_docs/PNADE241.pdf)

<sup>41</sup> Japan Bank for International Cooperation (2005) "The Study on Environment and Social Considerations in Iraq"

## 7.3 Displaced Peoples

### 7.3.1 History of Displaced People

Major land issues in current Iraq is regarding displaced people which originated from the political problems and conflicts in the country. Majority of the displaced peoples are political vulnerables and ethnic minorities, and some are Internally Displaced People (IDP) and the others are refugees in other countries. After the Ba'ath regime started, it is estimated that 4.8 million people were displaced<sup>42</sup>. Though donors and the Government of Iraq are struggling to let the displaced people return home, security problems and complex nature of this issue are major obstacles for smooth return. As of January 2010, UNHCR estimates 3,560,000 to be under the concerned situation<sup>43</sup>.

In brief, the history of displaced peoples is shown below.

**Table 7.3-1 History of Displaced Peoples in Iraq**

| Period  | Cause  | Characteristics of displaced people   |
|---|--|---|
| The Ba'ath Period<br>July 1968 - March 2003           | The "Arabization" policies aimed at strengthening the regime's control over the oil fields and vast stretches of fertile land in Kirkuk and the surrounding areas.   | Non-Arab inhabitants in Kirkuk and the surrounding areas (mostly Kurds, Turkmen, and Assyrians)   |
|   | The expulsion policy toward so-called Tabai-ya during the Iran-Iraq war  | Iraqi Shias   |
|   | The "Al-Anfal" campaign against the Kurds, which intensified after the end of the Iran-Iraq war in 1988  | Kurds   |
|   | The draining of the marshes in southern Iraq as a way of facilitating military movement during the Iran-Iraq war and, later, as a punishment to the Marsh Arabs for their support of the Shia uprising after the first Gulf War in 1991.                   | Marsh Arabs   |
| After American invasion March 2003 – February 2006    | Returning Kurds forced Arab settlers out of the homes and land that they had been occupying and using for decades, sometimes with the help of the Peshmerga (the Kurdish militia)  | Arab settlers by "Arabization" policies   |
|   | Returnees were displaced in the country since their houses were either occupied or destroyed. Throughout this period, ongoing military operations and fighting between the U.S.-led forces and insurgents caused further displacement.                     | A significant number of returnees lost their original land/houses   |
| After the bombing of the Al-Askaria Mosque in Samarra | The February 2006 bombing of the Al-Askaria Mosque in Samarra was a watershed moment for post-Saddam Iraq. Following the attack, violence, mostly on a sectarian basis, spread rapidly out of control, with suicide bombings, death squads, and abductions | According to UN estimates, 80 percent of the sectarian violence in 2006 took place within a fifty-five-kilometer radius of Baghdad. Attempts to "cleanse" mixed Sunni-Shia Arab areas and neighborhoods increased dramatically, with Christians, Turkmen, Fails |

<sup>42</sup> <http://www.usip.org/files/resources/1.pdf>, April 2011 accessed

<sup>43</sup> <http://www.unhcr.org/cgi-bin/tehis/vtx/page?page=49e486426#>, April 2011 accessed

|                                   |   |   |
|-----------------------------------|---|---|
| March 2006 – latter half of 2007  | becoming a daily occurrence.  | Kurds, Shabaks, Palestinians, and other small minorities also being targeted for persecution. |
| Current After latter half of 2007 | In late 2007, the first of the post-2006 displaced began to return. | Most of the returnee's property were destroyed, and livelihood was also seriously damaged.    |

Source : Summarizing Special Report of USIP(April 2009)

### 7.3.2 Actions for Displacement Issue

Currently, there is no organization confirmed related to the land acquisition and resettlement, while an organization to solve the land conflict because of displacement was first established in 2003 and is still working after structural reform.

**Table 7.3-2 The organizations which aims at solving the land conflict from displacement**

| Year of Establishment | Name  | Founder  |
|-----------------------|---|--|
| 2003                  | IPCC : Iraq Property Claim Commission                       | Coalition Provisional Authority(CPA)Order No12 |
| 2006                  | CRRPD : Commission for Resolution of Real Property Disputes | Iraqi Transitional Government                  |

There was no detail information regarding CRRPD, while it is basically succeeded the function of IPCC. IPCC was an organization to examine and approve the recovery of ownership or compensation over the assets inappropriately confiscated by Husein's regime. Especially, Kirkuk issues are targeted by IPCC where the claim on land ownership by Arabs, Kurds and Turkmen became conflicts. In case of large scale infrastructure development, it is important to confirm that whether IPCC is dealing with any controversial area.

USIP special report<sup>44</sup> reported that as of January 2009, approximately 153,000 claims had been filed with the CRRPD, and the CRRPD had made final and enforceable decisions on roughly 30,000 of those claims. Compensation has been paid in only about 1,000 cases. Further, the enforcement of restitution decisions has been difficult due to the unstable security situation. To solve the conflicts on land and assets, more effort and time will be required.

### 7.3.3 Actions by Other Donor

As of April 2011, there is no information of the project which requires the resettlement, as it is written in Chapter 9.

When resettlement will be required, it is obligatory by World Bank to prepare EIA and RAP in accordance with ESSAF. In some of ESSAF documents, Guideline for Land and Asset Acquisition, Entitlements and Compensation, Land Acquisition Assessment Data Sheet are attached for considering the future necessity (Attachment 20).

<sup>44</sup> <http://www.usip.org/files/resources/1.pdf>, April 2011 accessed





**Chapter 8**

**Legal Framework and Procedure concerning**

**Considerations of Indigenous Peoples**



## Chapter8 Legal Framework and Procedure concerning Considerations of Indigenous Peoples

### 8.1 Distribution of Indigenous and Ethnic Minority Groups

#### 8.1.1 Background of Ethnic Culture in Iraq

Iraq was established through the unifying three governorates of Bagdad, Basra and Mosul of the Ottoman Empire. Especially in the rural area, many powerful tribes ruled their areas. This background made the nationalism of Iraq people rather weak.

In the Iraqi society, in addition to the “ethnic” and “religious” groups, there are strong attachments to the tribal social groups. After the fall of Hussein’s regime which ruled the Iraqi by iron fist, the power of the tribes is increasing.

Though the exact number is not identified, it is estimated that 100 tribes, 25 tribal groups and hundreds of clans. The detail is in CRS Report for Congress 「Iraq: Tribal Structure, Social, and Political Activities」 (<http://www.fas.org/sgp/crs/mideast/RS22626.pdf>, April 2011 accessed).

#### 8.1.2 The Kurd

During Hussein’s regime, Kurdistan Democratic Party (KDP) and Patriotic Union of Kurdistan (PUK) and Iraqi Government had series of armed conflicts. After 2003, once the conflict between KDP and PUK also became radical, while in 2005, Law of Administration for the State of Iraq for the Transitional Period assured the autonomous status of Kurdistan Region.<sup>45</sup>

#### 8.1.3 Displaced People

Persecution during Ba’ath Regime, war in 2003 and insecurity after the 2006 through religious conflict, there are more than 1.5 million displaced people as of 2010. Especially, by the upsurge of violence after 2006, the number of internally displaced people is sharply increasing.

### 8.2 Social and Economic Condition of Indigenous and Ethnic Minority Groups

It is characterized in Iraq that the relationship between the tribes and religions are so close that religious “cleansing” and discrimination led by the Islamic majority has a linkage with the ethnic conflict. The situation of the minorities is not very clear, but they are supposed to be forced to exile from Iraq or to be displaced within the country.

MRG(2010) summarizes the conditions of the ethnic minorities as follows.

| Ethnic/Religion | Estimated population | Characteristic / Conditions |
|-----------------|----------------------|-----------------------------|
|-----------------|----------------------|-----------------------------|

<sup>45</sup> About Kurdistan Regional Government  
([http://www.krg.org/uploads/documents/Fact\\_Sheet\\_About\\_Kurdistan\\_Regional\\_Government\\_KRG\\_\\_2010\\_05\\_15\\_h13m42s9.pdf](http://www.krg.org/uploads/documents/Fact_Sheet_About_Kurdistan_Regional_Government_KRG__2010_05_15_h13m42s9.pdf)) March 2011 accessed

| Ethnic/Religion | Estimated population                                | Characteristic / Conditions   |
|-----------------|---|---|
| Bahá'ís         | n.a.  | <p>The Bahá'í faith is described by adherents as the youngest of the world's independent religions. Its founder, Bahá'u'lláh (1817–92), is regarded by Bahá'ís as the most recent in the line of Messengers of God. Many Muslims consider Bahá'ís as apostates or heretics due to their belief in a post-Islamic religion. Their situation in Iraqi society has, therefore, always been difficult. For example, many Bahá'ís born in the last 30 years have no citizenship documents, including passports, and therefore cannot leave the country. According to the US Commission on International Religious Freedom (USCIRF), 'Without this official citizenship card, the approximately 1,000 Bahá'ís experience difficulty registering their children in school, receiving passports to travel out of the country, and proving their citizenship.' In April 2008, the Iraqi Ministry of Interior (MoI) revoked its regulation prohibiting the provision of a national identity card to those claiming the Bahá'í faith. Four Bahá'ís were subsequently issued identity cards the following month, according to a report by USCIRF. However, problems persist: the report noted that: 'Despite the cancellation, Bahá'ís whose identity records were changed to "Muslim" after Regulation 358 as instituted in 1975 still could not change their identity cards to indicate their faith.'</p>   |
| Black Iraqis    | 2 million   | <p>Black Iraqis are believed to have first migrated from East Africa to Iraq after the birth of Islam. Others have steadily come in the centuries since, some trafficked as slaves or lured by broken promises of riches. Another wave arrived in the 1980s, mainly recruited into the army. They protest against prejudicial treatment, such as being referred to as 'abd', or slave. They suffer political and economic exclusion; many are labourers or work as domestic workers. According to recent estimates provided by the United Nations Assistance Mission for Iraq (UNAMI), about 600 families suffer poverty; the level of illiteracy is 80 per cent; while the proportion of unemployment exceeds 80 per cent. Community representatives estimate that the population may number up to 2 million, with the largest community located in Basra, although there are also significant numbers in 'Sadr City', Baghdad.</p>  |
| Christians      | <p>2003: 1-1.4 million</p> <p>2010: 0.5 million</p> | <p>Iraqi Christians include Armenians and Chaldo-Assyrians, who belong to one of four churches: Chaldean (Uniate), Jacobite or Syrian Orthodox, Nestorian and Syrian Catholic. Christians are at particular risk because of their religious ties with the West and thus, by association, with the multinational forces (MNF-I) in Iraq. The fact that Christians, along with Yazidis, were allowed to trade in alcohol in Iraq under Saddam Hussein has also made them a target in an increasingly strict Islamic environment. There was a resurgence of violence against Christians in early 2009, especially after the Christian community lobbied the Iraqi Council of Representatives to pass a law that would set aside a greater number of seats for minorities in the January 2009 provincial elections. The attacks that followed left 40 Christians dead and displaced more than 12,000 from their homes, while Christian dwellings in Mosul were bombed. Christians were subject to another wave of violence in Mosul in the run-up to the March 2010 parliamentary elections, causing further displacement. Even before the events in January 2009, Christians had been fleeing the country at much higher rates than other groups. According to the US-based research facility the Brookings Institution, Christians in Iraq numbered between 1 million and 1.4 million in 2003. Today, only an estimated 500,000 are reported to remain.</p> |

| Ethnic/Religion    | Estimated population | Characteristic / Conditions  |
|--------------------|----------------------|--|
| • Armenians        |                      | The ethnic and linguistic Armenian minority settled in Iraq before the birth of Christ. After the Armenian genocide committed by Ottoman authorities in 1915, more Armenians settled in Iraq, in areas such as Basra, Baghdad, Kirkuk, Mosul and Zakho. Since 2003, Armenians have been targeted like other Christian groups. Grassroots organizations have reported that at least 45 Armenians have been killed in the post-Saddam years, while another 32 people have been kidnapped for ransom. Armenian churches in Iraq have also been targeted and bombed.   |
| • Chaldo-Assyrians |                      | Descendants of ancient Mesopotamian peoples, Chaldo- Assyrians live mainly in major Iraqi cities, such as Baghdad and Basra, as well as in the rural areas of north- eastern Iraq where they tend to be professionals and business people or independent farmers. They speak Syriac, which is derived from Aramaic, the language of the New Testament. Since 2003, Chaldo-Assyrian churches, businesses and homes have been targeted. In February 2008, the Chaldean Archbishop of Mosul, Paulus Faraj Rahho, was abducted and killed. In April 2008, Assyrian Orthodox priest Father Adel Youssef was shot to death by unidentified militants in central Baghdad.   |
| Circassians        | 2,000                | The Circassian people have their origins in a land described as Circassia, in the north-western part of the Caucasus region. They moved to the Ottoman territories, which included Iraq, after the Russian conquest of Circassia in 1864. The Circassians are Sunni Muslims, numbering no more than 2,000 in Iraq.   |
| Faili Kurds        |                      | The Faili Kurds are Shi'a Muslims by religion (Kurds are predominantly Sunni) and have lived in Iraq since the days of the Ottoman Empire. They inhabit the land along the Iran/Iraq border in the Zagros Mountains, as well as parts of Baghdad. Faili Kurds were previously merchants and businesspeople active in politics and civil society, and founded the Baghdad Chamber of Commerce in the 1960s. Under the Ba'ath regime, they were specifically targeted and stripped of their Iraqi citizenship, and many were expelled to Iran on the charge that their Shi'a faith made them 'Iranian'. According to the United Nations High Commissioner for Refugees (UNHCR), at the beginning of 2003, Iraqi refugees in Iran numbered more than 200,000; of 1,300 living in the city of Azna in western Iran, 65 per cent were Faili Kurds. Many of those under 20 years of age were born in the camps and have known no other home. Now, their ethnicity and religion once again make their community the target of violent human rights violations in Iraq. Due to the ethnic cleansing and dispersal they have suffered, and to their lack of citizenship rights under the Ba'ath regime, it is very difficult to gather evidence regarding how many remain and the specific ongoing violations they face. For those who felt return might be an option after the fall of Saddam Hussein, current conditions make this choice highly dangerous and difficult. |

| Ethnic/Religion      | Estimated population                                  | Characteristic / Conditions   |
|----------------------|---|---|
| Jews                 | Before: 0.15 Million<br>2005: 20                      | The history of the Jewish community in Iraq goes back 2,600 years. Once numbering more than 150,000, almost all have now left voluntarily or been forced out. Traditionally, they were farmers, tailors, goldsmiths, and traders in spices and jewellery. Since the outbreak of the Second World War, they have suffered persecution as a result of Arab nationalist violence. In 1948, when the State of Israel was created, 'Zionism' was declared a criminal, and sometimes capital, offence in Iraq, with only two Muslims required to denounce one Jew, leading to a mass exodus. UNHCR reports that, since the fall of the regime in 2003, the situation for Jews in Iraq has worsened dramatically. It states, 'Given the ongoing climate of religious intolerance and extremism, these Jews in Iraq continue to be at risk of harassment, discrimination, and persecution for mainly religious reasons.' <sup>18</sup> Today, the community no longer has a rabbi in Iraq and lives in isolation, due to fear of targeted attacks. Since 2003, the population has been reduced considerably, now possibly numbering no more than 10 people in Baghdad <sup>19</sup> and some families in the Kurdistan Region.  |
| Kaka'i               |   | Kaka'i, known also as Ahl-e Haqq, are generally considered a Kurdish subgroup, <sup>20</sup> speaking a different language called Macho. <sup>21</sup> It is estimated that around 200,000 Kaka'i live in Iraq, <sup>22</sup> the most important Kaka'i area being a group of villages in the south-east of Kirkuk. It is believed that most of them have been displaced since the fall of the former regime. <sup>23</sup> Their faith, 'Kakaism', stems from the word for 'brotherhood'. As a belief, it is a combination of Zoroastrianism and Shi'ism, similar to Yazidism, although their religious beliefs and practices do not seem to have been considered as heterodox as those of the Yazidis. Kakaism arose as the result of a conflict between the Umayyad rulers of Islam and the Zoroastrianism priesthood. Since Kaka'i are forbidden from cursing Satan on religious grounds, many Muslims refer to them as devil-worshippers, hence the Muslim antagonism toward their beliefs resulting in their repression. In addition, they may be targeted on the basis of their Kurdish ethnicity. <sup>25</sup> They have been subjected to threats, kidnapping and assassinations, mainly in the Kirkuk area. <sup>26</sup> Muslim religious leaders in Kirkuk have asked people not to purchase anything from 'infidel' Kaka'i shop owners. |
| Marsh Arab (Mada'an) | Before 2003: 0.2-0.3 Million<br>2003: 0.2-0.3 Million | More than 1,000 years ago (some says before Christ), Marsh Arabs have lived in the wetland area, being dependent on the ecosystem of the wetland. Main livelihood options were fishery, buffalo husbandary, and handicraft of reeds. However, it is estimated only 10,000 people keep the traditional ways of livelihood due to water resource use started from 1950s by constructing dams, armed persecution by Baath regime against the marsh arabs claiming that they are anti-establishment and indirect effect on the livelihood area by the reclamation.  |

| Ethnic/Religion | Estimated population                  | Characteristic / Conditions   |
|-----------------|---------------------------------------|---|
| Palestinians    | 2003: 35,000                          | <p>In 2003, Iraq's Palestinian community, who are mostly Sunni Muslims, numbered approximately 35,000; now, between 10,000 and 15,000 remain.<sup>28</sup> Most arrived in the country as refugees from Palestine in 1948, after the Arab-Israeli war of 1967, or from Kuwait and other Gulf states in 1991, settling in Baghdad and Mosul. Although not granted Iraqi citizenship during Saddam Hussein's rule, their Palestinian identity and Sunni Arab status made them useful to the Ba'ath Party. They were given subsidized or rent-free housing and free utilities, and were exempt from military service. They were encouraged to take roles in Iraqi political life and allowed to travel more freely than most Iraqi citizens. According to some, resentment about their perceived special treatment during the regime is behind the violent attacks they now face on a daily basis. Since 2003, Iraqi MoI officials have arbitrarily arrested, beaten, tortured and, in a few cases, forcibly disappeared Palestinian refugees. The MoI has also imposed onerous registration requirements on Palestinian refugees, forcing them to constantly renew short-term residency requirements and subjecting them to harassment rather than affording them the treatment to which they are entitled as refugees formally recognized by the Iraqi government.</p>   |
| Roma            | 60,000                                | <p>Known as Kawliyah in Iraq, they are either Sunni or Shi'a Muslims, and are found in the Baghdad region and in the South. The Ba'ath regime encouraged Kawliyah to pursue occupations such as playing music, dancing, prostitution and selling alcohol. Nevertheless, Kawliyah were not allowed to own property and did not have access to higher positions in the government or the military. Since the fall of Saddam Hussein, they have been attacked by Islamic militias who disapprove of their different customs. Community leaders estimate their population at around 60,000.</p>   |
| Sabian Mandeans | 2003:<br>60,000-70,000<br>2009: 5,000 | <p>The Sabian Mandaean religion is one of the oldest surviving Gnostic religions in the world, dating back to the Mesopotamian civilization. John the Baptist became its central prophet, and access to naturally flowing water remains essential for the practice of the faith. It is thought that there are around 60,000-70,000 Sabian Mandeans worldwide, many of whom lived in Iraq prior to 2003. Sectarian violence and political strife have placed Sabian Mandeans in Iraq in jeopardy, forcing many of them to flee to Jordan, Syria and elsewhere. According to the Mandaean Human Rights Group (MHRG), it investigated 22 murders, 13 kidnappings and 29 attacks from March 2008 until September 2009. It was also noted that some killings were not for money or ransom but to terrorize the families. A substantial number of the victims were women and children. In many cases, the families were forced to sell everything to pay off the ransom. Many received threats to leave the country or else be killed. Despite the ransom being paid, in some cases the killings were nevertheless carried out. Many became displaced when it was too dangerous for them to flee the country. Today it is believed that there are around 5,000 Sabian Mandeans left in Iraq. Since marriage outside the community is akin to renouncing their culture, the likelihood of Sabian Mandaean eradication from Iraq seems very real.</p> |



| Ethnic/Religion | Estimated population | Characteristic / Conditions  |
|-----------------|----------------------|--|
| Shabaks         | 0.2-0.5 million      | <p>The Shabak people of Iraq have lived mainly in the Nineveh plains, on a strip of land between the Tigris and Khazir, since 1502. A small population of Shabak people also lives in Mosul. They number between 200,000 and 500,000. They are culturally distinct from Kurds and Arabs, have their own traditions, and speak a language that is a mix of Arabic, Farsi, Kurdish and Turkish. About 70 per cent are Shi'a Muslim; the rest are Sunni. They have been recognized as a distinct ethnic group in Iraq since 1952. However, Kurdish authorities have refused to recognize them as an ethnic minority, and consider them as a community of Kurdish ethnicity, an issue over which Shabak themselves are divided. Their status and lands are disputed by both Kurds and Arabs wishing to extend land claims into the Nineveh governorate. Like other minorities in this position, Shabaks are suffering targeted persecution and assimilation. Since 2004, Shabak groups have reported to the UN that more than 750 of their community members have perished in armed attacks.</p>   |
| Turkmen         | 2003: 0.6-2 million  | <p>The Iraqi Turkmen claim to be the third largest ethnic group in Iraq, residing almost exclusively in the north in an arc of towns and villages stretching from Tel Afar, west of Mosul, through Mosul, Erbil, Altun Kopru, Kirkuk, Taza Khurmatu, Kifri and Khaniqin. Before 2003, there were anything from 600,000 to 2 million Turkmen, the former figure being the conservative estimate of outside observers and the latter a Turkmen estimate. Approximately 60 per cent are Sunni, with the remainder Ithna'ashari or other Shi'a. Shi'as generally live at the southern end of the Turkmen settlement, and also tend to be more rural. Small Shi'a communities (for example, Sarliyya and Ibrahimiyah) exist in Tuz Khurmatu, Ta'uq, Qara Tapa, Taza Khurmatu, Bashir, Tisin and Tel Afar. Although some have been able to preserve their language, the Iraqi Turkmen today are being rapidly assimilated into the general population and are no longer tribally organized. Tensions between Kurds and Turkmen mounted following the toppling of Saddam Hussein, with clashes occurring in Kirkuk. Turkmen view Kirkuk as historically theirs. UN and other reports since 2006 have documented that Kurdish forces have abducted Turkmen and Arabs, subjecting them to torture. Car bombings, believed to have been carried out by Arab extremist groups, have claimed the lives of many more Turkmen. A referendum on Kirkuk was set to take place in 2007, but has not yet occurred. Beyond competition for Kirkuk, both Sunni and Shi'a Turkmen have been targeted on sectarian grounds. Turkmen women experience particular vulnerability.</p> |

| Ethnic/Religion | Estimated population                   | Characteristic / Conditions  |
|-----------------|--|--|
| Yazidis         | 2005: 0.7 million<br>2010: 0.5 million | Yazidis are an ancient religious and ethnic group concentrated in Jabal Sinjar, 115 km west of Mosul, with a smaller community in Shaikhan, in Nineveh governorate east of Mosul, where their holiest shrine of Shaykh Adi is located. The 4,000-year-old Yazidi religion is a synthesis of pre-Islamic, Zoroastrian, Manichaean, Jewish, Nestorian Christian and Muslim elements. Yazidis are dualists, believing in a Creator God, now passive, and Malak Ta'us (Peacock Angel), executive organ of divine will. During the reign of Saddam Hussein, Yazidis were sometimes forced to identify as Arabs rather than Kurds, and therefore were used to tilt the population balance in predominantly Kurdish areas toward Arab control. This politicization of their ethnicity has been detrimental to Yazidi security. Since 2003, Yazidis have also faced increased persecution. Islamist groups have declared Yazidis 'impure' and leaflets have been distributed in Mosul by Islamic extremists calling for the death of all members of the Yazidi community. Radical and even moderate Muslims consider the Yazidis as 'devil worshippers' due to a misinterpretation of their Peacock Angel figure. The Yazidi community suffered the most devastating single attack on any group in Iraq in August 2007, when four coordinated suicide truck bombings destroyed two Yazidi towns, killing at least 400 civilians, wounding 1,562 and leaving more than 1,000 families homeless. Their numbers have reportedly fallen from 700,000 in 2005 to approximately 500,000. According to USCIRF, the reduced numbers are the result of targeted attacks that have led many to flee to Syria and, to a lesser extent, to Jordan. |

Source : Minority Rights Group International (MRG)(2010) 「Still Targeted: Continued Persecution of Iraq's Minorities」 (other than Marsh Arab)  
UN-PHCI(2003) 「UN Inter-Agency Assessment of Vulnerable Groups, Lower South – Part I: Marsh Arabs」 (Marsh Arab only)

Many of these tribes possess the four characteristics of the indigenous people presented in the world bank's safeguard policy OP4.10

**Table8.2-1 Characteristic of Indigenous People in World Bank OP 4.10 (Indigenous Peoples)**

|     |  |
|-----|--|
| (a) | self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;   |
| (b) | collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; |
| (c) | customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and                                  |
| (d) | an indigenous language, often different from the official language of the country or region.   |

(a): all tribes/groups fall under this characteristic.

(b): It is difficult to evaluate the displaced people both in foreign countries and internally now, but most of the tribes/groups fall under this characteristic since they lived in certain area together in 20-30 years ago. With regard to the livelihood dependent on the natural resources, only Marsh Arab has this characteristic.

(c): Almost all tribes/groups have this characteristic (there is information that Turkmen people, as a

tribal group, is getting weaker).

(d): Almost all tribes/groups have this characteristic.

### 8.3 Relevant Regulations concerning Considerations of Indigenous Peoples

In Iraq, as of March 2011, no laws regarding the considerations for indigenous peoples are confirmed.

In 2005 Iraqi constitution, it guarantees the right of the minority to the freedom of religion, cultural practices, political rights and education.<sup>46</sup>

There is no legal definition on the indigenous peoples, while the Iraqi constitution stipulates that the official education in the languages of Turkmen, Syriac and Armenian. It also guarantees the administrative, political, cultural, and educational rights of the various nationalities, such as Turkomen, Chaldeans, Assyrians, and all other constituents.

### 8.4 Procedure concerning Consideration of Indigenous Groups at Development Projects

National legal institution for the consideration for the indigenous peoples in Iraq was confirmed.

In the World Bank's projects implemented in Iraq, among its safeguard policies, "OP/BP 4.10 Indigenous Peoples" are not applied.<sup>47</sup> The reason is that the project targeting minorities will highlight the difference among each groups, resulting in confounding the tension and conflicts. At the planning stage of the project, it is necessary to consider the culturally appropriate form of the support to each group rather than shedding light on the minorities such as indigenous peoples, small ethnic and religious groups.

### 8.5 Analysis of Gaps between Current Relevant Regulations in the Iraq and JICA Guidelines for Environmental and Social Considerations (April, 2010) as well as Safeguard Policies in the World Bank

In national laws of Iraq, there is no regulation regarding the consideration for indigenous peoples.

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<sup>46</sup> Iraqi Constitution, Article 2,4, 43 and 125 etc

<sup>47</sup> Refer to Chapter 9

## Chapter 9

### Environmental and Social Consideration under the Projects Conducted by Other Donors



## Chapter9 Environmental and Social Consideration under the Projects Conducted by Other Donors

### 9.1 World Bank

#### 9.1.1 Current Condition and Problems related to Implementation of EIA

##### (1) Environmental and Social Screening and Assessment Framework (ESSAF)

World Bank has a safeguard policy OP/BP 8.00 “Rapid Response to Crises and Emergencies” as a part of its environmental impact assessment policy OP4.01. It is said that “when compliance with any requirement of OP4.01 would prevent the effective and timely achievement of the objectives of an emergency operation, the Bank may exempt the project from such a requirement.”

Following this principle, World Bank prepares ESSAF for the emergency reconstruction activities. ESSAF is utilized for only Emergency Reconstruction Operations and prepared at the planning stage of the projects in order to fulfill both the emergency reconstruction needs and risk reduction of potential environmental and social effect. As of April 2011, the projects which completed ESSAF or environmental study are following 12. Among the published reports, 1-9 below are ESSAF, 10 is Rapid Environmental Risk Assessment, and 11 is Inspection Report.

|    | Project title  | Report No. |
|----|--|------------|
| 1  | Iraq Emergency School Construction and Rehabilitation Project            | E955       |
| 2  | Iraq Emergency Community Infrastructure Rehabilitation Project           | E996       |
| 3  | Iraq Emergency Baghdad Water Supply and Sanitation Project               | E1022      |
| 4  | Iraq Emergency Water Supply, Sanitation and Urban Reconstruction Project | E1023      |
| 5  | Iraq Emergency Health Rehabilitation Project                             | E1026      |
| 6  | Iraq Emergency Private Sector Development Project                        | E1046      |
| 7  | Iraq Third Emergency Education Project                                   | E1223      |
| 8  | Iraq Emergency Disabilities Project                                      | E1252      |
| 9  | Iraq Emergency Road Rehabilitation Project                               | E1311      |
| 10 | Iraq Proposed Emergency Electricity Reconstruction Project               | E1506*     |
| 11 | Dokan and Derbendikhan Emergency Hydropower Project                      | E1537*     |

\*E1506 : Rapid Environmental Risk Assessment

\*E1537 : Inspection Report

Above emergency projects are composed of several sub-projects. As reference, E996 is shown in the attachment 24.

##### (2) Contents of ESSAF

In general, ESSAF is composed of framework and attachments.

- 1) Basic framework : It summarizes the objective, general principals, related World Bank's Operational Policies (OP) and Bank Procedures (BP) (Operational Directive is renewed and replaced with OP and BP after 2005), operation and application for the project, responsibilities, consultation and etc.
- 2) Attachment : Following 6 documents are attached in general.
  - i) List of Negative Subproject Attributes
  - ii) Checklist of Likely Environmental and Social Impacts of Subprojects
  - iii) Guidelines for Land and Asset Acquisition, Entitlements and Compensation
  - iv) Protection of Cultural Property
  - v) Codes of Practice for Prevention and Mitigation of Environmental Impacts
  - vi) Safeguards Procedures for Inclusion in the Technical Specifications of Contracts

### **(3) Characteristic of ESSAF**

#### **(3-1) Charcterics in terms of process**

In general, characteristic for the ESSAF process are summarized as follows.

- 1) ESSAF aims at implementing the environmental considerations during implementation of each sub-project
- 2) ESSAF does not expect the implementation of Category A sub-projects in the first year of the project. Category A sub-project shall require the Environmental Assessment, which may be implemented during the implementation of the project.
- 3) Using "List of Negative Subproject Attribute", Category A sub-projects are mostly screened.
- 4) At least in the first year of the project, resettlement will not occur. In case of resettlement, preparation of Resettlement Action Plan (RAP) or Resettlement Policy Framework is necessary, which may be prepared during the implementation.
- 5) Due to lack of the information and institutions, the necessity of land acquisition and resettlement may be clarified after the detail design of the sub-project. In this case, RAP shall be prepared by the implementation agency during the detail design and World Bank shall approve it.
- 6) RAP shall be prepared if the Project Affected People (PAP) is more than 200, the same as OP.4.12. If PAP is less than 200, followings are needed (i) a land acquisition assessment, (ii) the minutes or record of consultations which assess the compensation claimed and agreement reached, and (iii) a record of the receipt of the compensation, or voluntary donation, by those affected.
- 7) In the event that a subproject involves acquisition against compensation, the implementing agency shall: (a) not approve the subproject unless satisfactory compensation has been agreed between the affected person and the local community;

and (b) not allow works to start until the compensation has been delivered in a satisfactory manner to the affected persons.

- 8) The implementing agency (Governates, the City of Baghdad, and etc) shall appoint Safeguards Focal Point (SFP) which manage and supervise ESSAF process
- 9) Public consultation is required. However, the consultation is not stipulated for the emergency reconstruction project. The implementation of public consultation is summarized in 9.1.5.

### (3-2) Information on individual sector

Regarding each sectors, Codes of Practice for Prevention and Mitigation of Environmental Impacts which ESSAF indicates are shown below.

**Table9.1-1 Irrigation and Drainage**

| Potential Impacts  | Prevention and Mitigation Measures   |
|--|--|
| Siltation and erosion.   | <ul style="list-style-type: none"> <li>Plan disposal of spoil material from cleaned canals to ensure it will not wash back into the system, and is not deposited on fields without the owners' permission.</li> <li>Re-grading and rehabilitation of borrow areas or pits.</li> </ul>  |
| Water-logging and salinization.  | Incorporation of adequate drainage to prevent water-logging and salinization.  |
| Over-exploitation of aquifers.   | Analysis of the sustainability of groundwater yield, if increased abstraction is proposed.   |
| Injury, death or loss of productive resources caused by dam failure:                                 | <ul style="list-style-type: none"> <li>Application of generic dam safety measures and rapid hydrological assessment by qualified engineers.</li> <li>For earthen dams, crushing of earth lumps, watering to near optimal moisture content, and compacting during construction.</li> <li>Design of earthen dams to prevent excessive seepage through the dam-body and piping at or near the toe or abutment of the dam.</li> <li>Design to incorporate spillway to prevent over-topping.</li> <li>Local awareness-raising for breach situations.</li> <li>Archaeological and historic sites survey to be conducted for any new dam accompanied by the of chance find procedures.</li> </ul> |
| Areas of non-contiguous waterlogged lands utilized by nomadic herders will be converted to cropland. | <ul style="list-style-type: none"> <li>Herders will be allowed access to bunds and intervening non-cropped areas for grazing; these areas will be allowed to grow up in suitable forage crops.</li> </ul>  |

Source : ESSAF E996, The World Bank

**Table9.1-2 Sanitation and Wastewater (Latrines, cesspits, Rehabilitation of wastewater treatment plants to serve less than 10,000 households)**

| Potential Impacts   | Prevention and Mitigation Measures  |
|---|---|
| Contamination of water supplies: <ul style="list-style-type: none"> <li>contamination of groundwater because of seepage.</li> <li>contamination of surface waters due to flooding or over-flowing.</li> </ul> | <ul style="list-style-type: none"> <li>Where pit latrines are used they should be located more than 10m from any water source. The base should be sealed and separated vertically by not less than 2m of sand or loamy soil from the groundwater table.</li> <li>Where nightsoil latrines or septic tanks are built they should be sealed. Outflows should drain either to a soak away located at least 10m from any water source or be connected to a working drain.</li> <li>Maintenance training to be delivered along with new latrines.</li> </ul> |



| Potential Impacts  | Prevention and Mitigation Measures   |
|--|--|
| Disease caused by poor handling practices of nightsoil.  | <ul style="list-style-type: none"> <li>• Training and health education to be provided to nightsoil handlers where affected by interventions.</li> <li>• Protective clothing and appropriate containers for nightsoil transportation to be provided.</li> </ul>   |
| Disease caused by inadequate excreta disposal or inappropriate use of latrines.  | <ul style="list-style-type: none"> <li>• Nightsoil should be handled using protective clothing to prevent any contamination of workers skin or clothes.</li> <li>• Where nightsoil is collected for agricultural use it should be stored for a sufficient period to destroy pathogens through composting. At the minimum it should be stored in direct sunlight and turned regularly for a period of at least 6 weeks.</li> <li>• Septic tanks should not be constructed nor septic waste collected unless primary and secondary treatment and safe disposal is available.</li> <li>• Health and hygiene education to be provided for all users of latrines.</li> <li>• Awareness campaign to maintain sanitary conditions.</li> </ul> |
| Potential health and environmental risks associated with use of treated wastewater effluent for irrigation: <ul style="list-style-type: none"> <li>• Socio-Economic Risk</li> <li>• Permanent loss of productive land</li> <li>• Reduction in local property values</li> <li>• Ability to pay of poorer segments of population.</li> </ul> | <ul style="list-style-type: none"> <li>• Secondary treatment of wastewater and chlorination of final effluent followed by aeration prior to restricted wastewater reuse; initial monitoring of irrigation water quality in irrigation channels in addition to effluent monitoring at treatment plant outfall.</li> <li>• Purchase of replacement land.</li> <li>• Monetary compensation.</li> <li>• Reconsideration of rate structures.</li> </ul>   |

Source : ESSAF E996, The World Bank

### 9.1.2 Current Condition and Problems related to Implementation of Land Acquisition and Involuntary Resettlement

Following projects have triggered OP4.12 Involuntary Resettlement so far.

|   | Project  | Application of OP4.12 |
|---|--|-----------------------|
| 1 | Iraq Emergency Baghdad Water Supply and Sanitation Project               | TBD                   |
| 2 | Iraq Emergency Water Supply, Sanitation and Urban Reconstruction Project | TBD                   |
| 3 | Iraq Emergency Road Rehabilitation Project                               | Yes but not expected  |
| 4 | Second Emergency Community Infrastructure Rehabilitation Project         | TBD                   |

Source: Website of World Bank (April 2011 accessed )

### 9.1.3 Current Condition and Problems related to Planning for Consideration of Indigenous Peoples

In the ESSAF, it is stated that initial discussions with anthropologists and sociologists familiar with the country found that the ethnic group concept is analytically problematic and selecting a sub-section of the society for special attention in accordance with the requirements such as separate plans for different groups would be counterproductive and could even end up escalating the conflict

within and between communities. As is in the Chapter 8, there are many social groups which falls in the Indigenous Peoples such as marsh Arabs, thus the consideration of the project activities for each social group is needed without raising misunderstanding of giving preferential treatment for minorities.

#### 9.1.4 Confirmation System for Monitoring

As is in 8) of 9.1.1 (3-1), World Bank suggest the implementation agencies to set Safeguards Focal Point (SFP) for the management ESSAF.

#### 9.1.5 Implementation of Information Disclosure during project formulation, project screening and project implementation

In World Bank website, Integrated Safeguards Data Sheet, ESSAF report, EIA report are published. Almost all are written in English and one Integrated Safeguards Data Sheet and one summary sheet of EIA report are published in Arabic at present.

Two projects which fall in the Category A have disclosed following information.

| Project                               | Public Informaiton Activities  |
|---------------------------------------|--|
| Emergency Road Rehabilitation Project | Two sub-projects below are defined as Category A in ESSAF report which requires full scale EIA.<br>- Road improvement and rehabilitation between Erbil-Altun Kopri section<br>- Replacement of pontoon bridge<br>In the course of EIA implementation, information disclosure and consultation with all affected people are required in the language which the affected people can understand.<br>In 2010, the project implementation is resumed, while the no information is published as of April 2011. |
| Emergency Electricity Project         | EIA report is published in the world bank's website. (English 400 pages, Arabic 3 Pages)<br>Due to security reasons, Public Consultation was not implemented in EIA and it is suggested to be conducted after the situation gets better. The suggestion includes the range of stakeholders and procedure of conducting public consultation.  |

## 9.2 Regional Development Bank

As of April 2011<sup>48</sup>, Asian Development Bank (ADB), African Development Bank (AfDB), or Inter-American Development Bank are not operating in Iraq.

## 9.3 Environmental and Social Consideration under the Projects Conducted by Other Major Donors

As of April 2011, USAID publishes Programmatic Environmental Assessment (PEA) report and EIA report as follows.

<sup>48</sup> Source: Web page of each regional development bank (April 2011 accessed)

**Table9.3-1 Environmental Assessment Report Published by USAID**

|   | Project  | Report Number |
|---|--|---------------|
| 1 | [PEA] consolidated fiber network project             | PN-ADJ-576    |
| 2 | [PEA] rural water supply project                     | PN-ADJ-577    |
| 3 | [PEA] Baghdad power distribution substations project | PN-ADJ-578    |
| 4 | [EIA] Basrah Children's Hospital project             | PN-ADJ-579    |

The contents of PEA, for a example for Baghdad power distribution substations project (PN-ADJ-578) is as follows.

**Table9.3-2 Contents of PEA (example)**

| Chapter | Contents  |
|---------|---|
| 1       | INTRODUCTION  |
| 2       | PEA STUDY APPROACH AND METHODOLOGY  |
| 3       | DESCRIPTION OF THE COUNTRY ENVIRONMENT  |
| 4       | ENVIRONMENTAL CONSEQUENCES OF BAGHDAD POWER DISTRIBUTION SUBSTATION PROJECT                                 |
| 5       | RECOMMENDED ADVERSE ENVIRONMENTAL IMPACT MITIGATION AND MONITORING MEASURES                                 |
| 6       | CONCLUSION  |
| 7       | REFERENCES CITED  |
| 8       | LIST OF PEA REPORT PREPARERS  |
| 9       | LIST OF PEA REPORT REVIEWERS  |
| 10      | APPENDIX 1: STUDY SCOPING STATEMENT   |
| 11      | APPENDIX 2: COMMENTS FROM MINISTRY OF THE ENVIRONMENT AFTER REVIEW OF DRAFT ENVIRONMENTAL ASSESSMENT REPORT |

The common items specified in three PEA report above are following 1-10. Item A and B are indicated in one report only.

**Table9.3-3 Environmental and Social Considerations Items in PEA Report Prepared by  
USAID**

| No | Impacts                                   |
|----|---|
| 1  | Soil Erosion                              |
| 2  | Soil Pollution                            |
| 3  | Hydrology and Water Pollution             |
| 4  | Biodiversity                              |
| 5  | Socio-Economic                            |
| 6  | Traffic Obstruction                       |
| 7  | Air Pollution                             |
| 8  | Noise Pollution                           |
| 9  | Worker Health and Safety                  |
| 10 | Historical and Cultural Resource          |
| A  | Agricultural (only PN-ADJ-576)            |
| B  | Electro-magnetic fields (only PN-ADJ-578) |

With regard to Public Consultation, review was made for draft scoping plan and draft PEA report. The Ministry of Environment submitted the comments for Report 576, 578, and 579 and they are attached in the report.

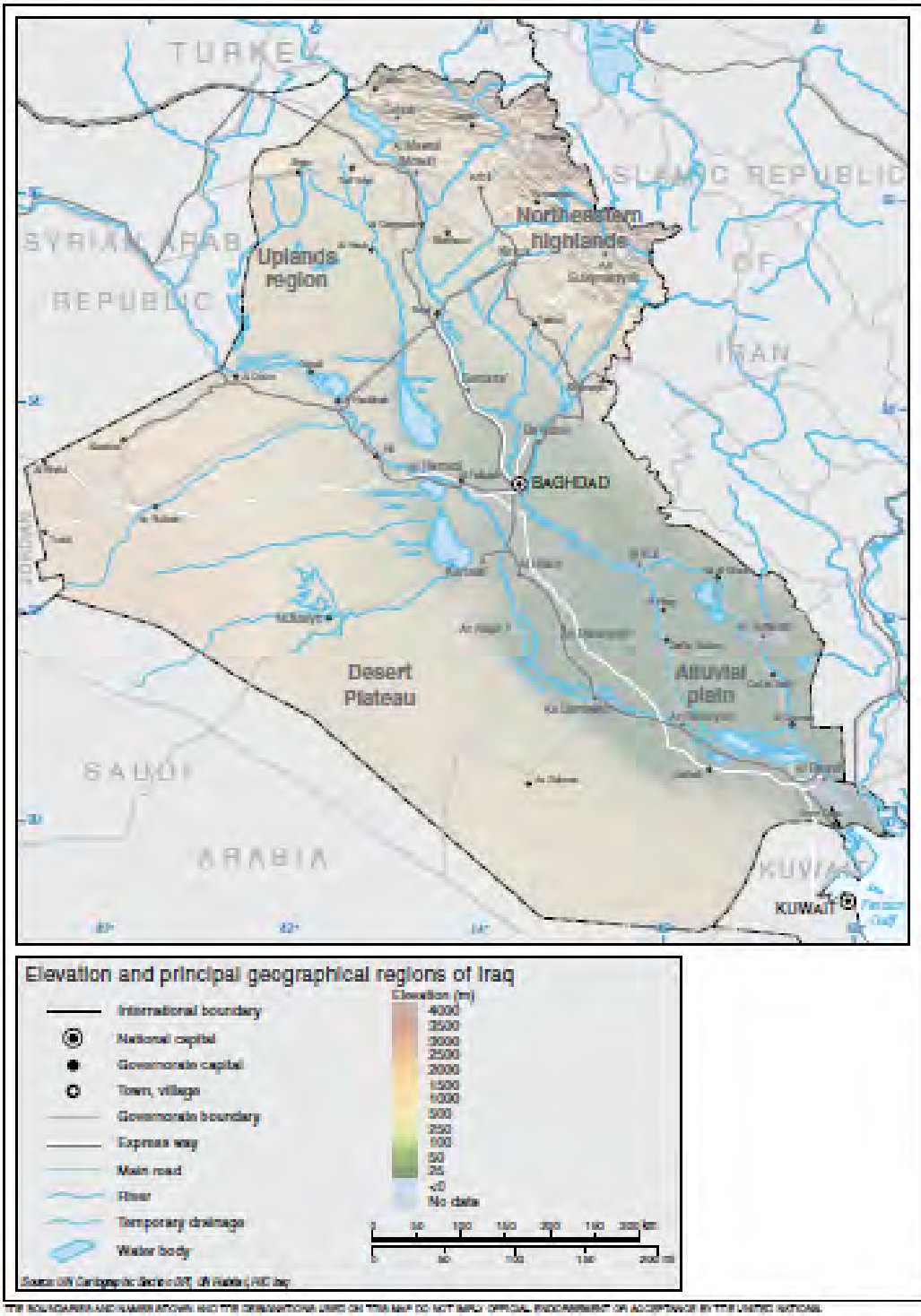
#### 9.4 Issues and Problems in Project Implemented by Donors

Bilateral donors working in Iraq are a few, such as USAID and Italy, and the issues related to the environmental and social considerations were not found in the available documents/website information.

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Attachment 1 Iraqi Geographical Topography and Zones



Source : UNEP (2007) UNEP in Iraq

## Attachment 2 International Treaties and Conventions (IRAQ related)

### Ratification and Accession,

|    | Treaties/Conventions   |
|----|--|
| 1  | 1 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (Geneva, 1925, acceded 1931)   |
| 2  | Procès-verbal relating to the Rules of Submarine Warfare set forth in Part IV of the Treaty of London of 22 April 1930 (London, 1936)  |
| 3  | Constitution of the World Health Organization (New York, 1946, accepted 1947); Amendments to articles 24 and 25 (accepted 1970); Amendment to article 74 of the Constitution of the World Health Organisation (accepted 1984)                  |
| 4  | Convention on the Prevention and Punishment of the Crime of Genocide (UN General Assembly, 1948) (acceded 1959)  |
| 5  | Universal Declaration of Human Rights (UN General Assembly, 1948)  |
| 6  | Single Convention on Narcotic Drugs (UN General Assembly 1961, superseding the previous "Lake Success Protocol" of 1946, which superseded previous Protocols on Narcotic Drugs dated 1912, 1925, 1931 and 1936 (signed 1946 and accepted 1950) |
| 7  | Slavery Convention (Geneva, 1926 and amended by Protocol, 1955) (accepted 1955)  |
| 8  | Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others (UN General Assembly, 1949) (acceded 1955)  |
| 9  | United Nations 1956 Supplementary Convention on the Abolition of Slavery, the Slave Trade, and Institutions and Practices Similar to Slavery (Geneva, 1956, ratified 1963)   |
| 10 | Geneva Conventions of 12 August 1949 (State Party, 14 February 1956)   |
| 11 | Convention for the Protection of Cultural Property in the Event of Armed Conflict (The Hague, 1954, ratified 1967) and First Protocol (1954, ratified 1967); Second protocol (1999) not ratified   |
| 12 | Vienna Convention on Diplomatic Relations (Vienna, 1961, ratified 1963)  |
| 13 | Optional Protocol to the Vienna Convention on Diplomatic Relations concerning Acquisition of Nationality (Vienna, 1961, ratified 1963)   |
| 14 | International Covenant on Economic, Social and Cultural Rights (UN General Assembly, 1969, ratified 1971)  |
| 15 | International Covenant on Civil and Political Rights (UN General Assembly, 1969, ratified 1971; Iraq did not sign the First and Second Protocols)  |
| 16 | International Convention on the Elimination of All Forms of Racial Discrimination (UN General Assembly, 1969, ratified 1970)   |
| 17 | Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (Paris, 1970, accepted 1973)   |
| 18 | Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972, accepted 1974)   |
| 19 | Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (London, Moscow, Washington, 1972, ratified 1991)                                      |
| 20 | Convention on Psychotropic Substances (Vienna, 1971, acceded 1976)   |
| 21 | Protocol to the Agreement on the Importation of Educational, Scientific and Cultural Materials (Nairobi, 1976, acceded 1978)   |
| 22 | International Convention on the Suppression and Punishment of the Crime of Apartheid (UN General Assembly 1973, acceded 1976)  |
| 23 | Convention on the Elimination of All Forms of Discrimination against Women (UN General Assembly, 1981, acceded 1986)   |
| 24 | International Convention against Apartheid in Sports (UN General Assembly, 1985, acceded 1989)   |
| 25 | Convention on the Rights of the Child (1989, acceded 1994); Amendment to article 43(2) (1985, accepted 2001)   |
| 26 | Food Aid Convention (London, 1999)   |
| 27 | Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (Paris and New York, 1993, acceded 2009)  |

|    | Treaties/Conventions   |
|----|--|
| 28 | Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (Oslo, 1997)   |
| 29 | United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (Vienna, 1998, acceded 1998)   |
| 30 | Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict (2000, acceded 2008)   |
| 31 | Agreement on International Roads in the Arab Mashreq (Beirut, 2001; signed 2002, ratified 2008)  |
| 32 | International Health Regulations (2005)  |
| 33 | United Nations Convention against Corruption (UN General Assembly, 2003, acceded 2008)   |
| 34 | Core Conventions of the ILO: C29 (Forced Labour) (ratified 1962), C98 (Right to Organize and Collective Bargaining) (ratified 1962), C100 (Equal Remuneration) (ratified 1963), C111 (Discrimination, Employment and Occupation) (ratified 1959), C138 (Minimum Age Convention) (ratified 1985), C182 (Elimination of the Worst forms of Child Labour) (ratified 2001) |
| 35 | WHO Framework Convention on Tobacco Control (Geneva, 2003, acceded 2008)   |
| 36 | Vienna Convention for the Protection of the Ozone Layer (Vienna, 1995, acceded 2008)   |
| 37 | Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography (acceded 2008)  |
| 38 | Convention on Wetlands of International Importance, called the Ramsar Convention (acceded 2008)  |
| 39 | United Nations Framework Convention on Climate Change (Rio de Janeiro, 1992, acceded 2009) and Kyoto Protocol to the UN Framework Convention on Climate Change (2009)  |
| 40 | Convention on Biological Diversity (Rio de Janeiro, 1992, acceded 2009)  |
| 41 | Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the UN Convention against Transnational Organized Crime (Palermo, 2000, acceded 2009)   |
| 42 | Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, plus Supplement (Palermo, 2000, acceded 2009)  |

Source : UNDAF(2011-2014) (ramsar convention (no.38) was added)

## Signatory

|   | Treaties/Conventions  |
|---|---|
| 1 | Protocol amending the International Agreement for the Suppression of the White Slave Traffic, signed at Paris in 18 May 1904, amended by the Protocol signed at Lake Success, New York, 4 May 1949, signed 1949, and the International Convention for the Suppression of the White Slave Traffic, signed at Paris on 4 May 1910. Definitive signature 1949. |
| 2 | Final Act of the Intergovernmental Conference on the Protection of Cultural Property in the Event of Armed Conflict (The Hague, 1954)   |
| 3 | Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (1977)  |
| 4 | Final Act of the Diplomatic Conference of Geneva of 1974-1977 (1977)  |
| 5 | Cairo Declaration of Human Rights in Islam (1990)   |
| 6 | International Conference on Population and Development – Programme of Action (1994)   |
| 7 | Convention on Cluster Munitions (2008)  |
| 8 | Comprehensive Nuclear Test Ban Treaty (2008)  |

Source : UNDAF(2011-2014)



## Attachment 3 NCCI Member List

([http://www.ncciraq.org/index.php?option=com\\_content&view=article&id=57&Itemid=74&lang=en](http://www.ncciraq.org/index.php?option=com_content&view=article&id=57&Itemid=74&lang=en), April 2011 access)

|    | Organisations   |
|----|---|
| 1  | <u>Acted</u>  |
| 2  | Al Erada Organization for Relief And Development                |
| 3  | Afkar Society for Development and Relief                        |
| 4  | <u>Alhaq organization for Human Rights Culture</u>              |
| 5  | <u>Association of Experts in the Field of Migration</u> (AGEF)  |
| 6  | Al-Noor Organization  |
| 7  | Al Nahrain Foundation for Relief & Development                  |
| 8  | Al Tahreer Society  |
| 9  | <u>Antares Foundation</u>                                       |
| 10 | <u>Asuda</u>  |
| 11 | Association of Teaching Qualifying Children in Iraq (ATQCI)     |
| 12 | <u>CARITAS</u>  |
| 13 | <u>Centre for Humanitarian Dialogue</u> (HDC)                   |
| 14 | <u>Christian Aid</u>  |
| 15 | Charitable Association for Widows and Orphans Care              |
| 16 | <u>Danish Refugee Council</u> (DRC)                             |
| 17 | <u>Generation I</u>   |
| 18 | <u>HARIKAR</u>  |
| 19 | <u>Handicap International</u>                                   |
| 20 | <u>Heartland Alliance</u>                                       |
| 21 | <u>Human Relief Foundation</u>                                  |
| 22 | International Consortium of Solidarity (ICS)                    |
| 23 | <u>Internal Displacement Monitoring Center</u> (IDMC)           |
| 24 | Iraqi Health and Social Care Organization (IHSCO)               |
| 25 | <u>Intersos</u>   |
| 26 | <u>Iraqi Al Amal</u>  |
| 27 | Iraqi Association for Human Right in Basra                      |
| 28 | Iraqi Foundation  |
| 29 | Iraqi Institution for Development                               |
| 30 | Iraqi Youth League  |
| 31 | <u>International Rescue Committee</u> (IRC)                     |
| 32 | <u>Islamic Relief Worldwide</u> (IRW)                           |
| 33 | <u>IKV Pax Christi</u>  |
| 34 | <u>Japan International Volunteer Center</u> (JVC)               |
| 35 | <u>Japanese Emergency NGOs</u> (JEN)                            |
| 36 | <u>Knowledge for Iraqi Women Society</u> (K4WS)                 |
| 37 | <u>Kurdistan Civil Rights Organization</u> (KCRO)               |
| 38 | <u>Kurdistan Reconstruction and Development Society</u> (KURDS) |
| 39 | <u>Life for Relief and Development</u> (LIFE)                   |

|    |   |
|----|---|
| 40 | Ma'moura Humanitarian Establishment                           |
| 41 | <u>Mennonite Central Committee (MCC)</u>                      |
| 42 | <u>Medecins Du Monde (MDM)</u>                                |
| 43 | <u>Mercy Corps</u>  |
| 44 | <u>Mercy Hands for Humanitarian Aid</u>                       |
| 45 | <u>Muslim Aid</u>   |
| 46 | <u>Muslim Hands</u>   |
| 47 | <u>Nature Iraq</u>  |
| 48 | <u>Norwegian Church Aid (NCA)</u>                             |
| 49 | <u>Norwegian People's Aid (NPA)</u>                           |
| 50 | NOVA  |
| 51 | <u>Norwegian Refugee Council (NRC)</u>                        |
| 52 | <u>Oxfam</u>  |
| 53 | <u>People in Need (PIN)</u>                                   |
| 54 | <u>Premiere Urgence (PU)</u>                                  |
| 55 | <u>Qandil</u>   |
| 56 | REACH   |
| 57 | <u>Relief International (RI)</u>                              |
| 58 | Salam Al Rafidain   |
| 59 | <u>Save the Children (UK)</u>                                 |
| 60 | <u>Seeking to Equip People (STEP)</u>                         |
| 61 | Social Solidarity Organization                                |
| 62 | United Iraqi Medical Society (UIMS)                           |
| 63 | <u>Un Ponte Per (UPP)</u>                                     |
| 64 | <u>United Foundation for Relief &amp; Abiding Development</u> |
| 65 | <u>War Child</u>  |
| 66 | <u>Women for Women International (US)</u>                     |
| 67 | <u>World Vision International</u>                             |

|   | NCCI OBSERVERS                                  |
|---|---|
| 1 | Médecins Sans Frontières - MSF Belgium          |
| 2 | Médecins Sans Frontières - MSF France           |
| 3 | Médecins Sans Frontières - MSF Swiss            |
| 4 | Médecins Sans Frontières - MSF Holland          |
| 5 | Médecins Sans Frontières - MSF Spain            |
| 6 | International Committee of the Red Cross – ICRC |

### Members are expected to:

1. Accept and comply with the principles stated in the NCCI Charter, including the Code of Conduct for the international Red Cross and Red Crescent Movement and NGOs in disaster.
2. Actively participate in relevant coordination meetings and other fora such as the General Assembly meetings, the sectoral meetings and ad hoc working groups.
3. Provide regular updated information on their projects and activities as requested by the Executive Coordinator of NCCI.
4. Pay fees quarterly in advance. The NGOs will be removed from the mailing list after a month of non-payment.
5. A special observer status is granted to the Red Crescent and Red Cross movements.

#### Attachment 4 Iraqi Birds: Conservation Concern and Endemic Species

##### Conservation Concern Bird Species of Iraq (Includes Terrestrial, Freshwater & Marine Species)

| COMMON NAME                | LATIN NAME                         | CONSERVATION STATUS                                 | IRAQ STATUS  | BREEDING STATUS |
|----------------------------|------------------------------------|---|--|-----------------|
| Caspian Snowcock           | <i>Tetraogallus caspius</i>        | Conservation Concern (CC)                           | Status uncertain: Apparently Resident              |                 |
| Lesser White-fronted Goose | <i>Anser erythropus</i>            | Globally Threatened (GT), Conservation Concern (CC) | Winter visitor                                     |                 |
| Red-breasted Goose         | <i>Branta ruficollis</i>           | Globally Threatened (GT), Conservation Concern (CC) | Rare winter visitor                                |                 |
| Falcated Duck              | <i>Anas falcata</i>                | Globally Threatened (GT), Conservation Concern (CC) | Vagrant  |                 |
| Marbled Duck               | <i>Marmaronetta angustirostris</i> | Conservation Concern (CC)                           | Resident; Winter visitor                           | Confirmed       |
| Red-crested Pochard        | <i>Netta rufina</i>                | Conservation Concern (CC)                           | Resident; Winter visitor & Passage migrant         | Confirmed       |
| Ferruginous Duck           | <i>Aythya nyroca</i>               | Globally Threatened (GT), Conservation Concern (CC) | Resident; Winter visitor & passage migrant         | Confirmed       |
| White-headed Duck          | <i>Oxyura leucocephala</i>         | Globally Threatened (GT), Conservation Concern (CC) | Winter visitor                                     |                 |
| Little Grebe               | <i>Tachybaptus ruficollis</i>      | Conservation Concern (CC), Endemic Race (EndR)      | Resident (only endemic race); Winter visitor.      | Confirmed       |
| Greater Flamingo           | <i>Phoenicopterus roseus</i>       | Conservation Concern (CC)                           | Winter visitor & Passage migrant                   |                 |
| Black Stork                | <i>Ciconia nigra</i>               | Conservation Concern (CC)                           | Passage migrant                                    |                 |
| African Sacred Ibis        | <i>Threskiornis aethiopicus</i>    | Conservation Concern (CC)                           | Resident   | Confirmed       |
| Northern Bald Ibis         | <i>Geronticus eremita</i>          | Globally Threatened (GT), Conservation Concern (CC) | Former passage migrant; no records since 1920s     |                 |
| Eurasian Spoonbill         | <i>Platalea leucorodia</i>         | Conservation Concern (CC)                           | Resident; Breeding summer visitor; Passage Migrant | Confirmed       |
| Eurasian Bittern           | <i>Botaurus stellaris</i>          | Conservation Concern (CC)                           | Resident; Winter visitor & Passage migrant         | Confirmed       |
| Dalmatian Pelican          | <i>Pelecanus crispus</i>           | Globally Threatened (GT), Conservation Concern (CC) | Uncommon winter visitor                            |                 |
| Pygmy Cormorant            | <i>Phalacrocorax pygmeus</i>       | Conservation Concern (CC)                           | Resident; Winter visitor                           | Confirmed       |
| African Darter             | <i>Anhinga rufa</i>                | Conservation Concern (CC)                           | Resident   | Confirmed       |
| Red Kite                   | <i>Milvus milvus</i>               | Globally Threatened (GT), Conservation Concern (CC) | Vagrant  |                 |
| Pallas's Fish              | <i>Haliaeetus</i>                  | Globally Threatened (GT),                           | Former winter                                      |                 |

| COMMON NAME            | LATIN NAME                    | CONSERVATION STATUS                                 | IRAQ STATUS  | BREEDING STATUS |
|------------------------|-------------------------------|---|--|-----------------|
| Eagle                  | <i>leucoryphus</i>            | Conservation Concern (CC)                           | visitor, not recorded since 1940s  |                 |
| Lammergeier            | <i>Gypaetus barbatus</i>      | Conservation Concern (CC)                           | Winter visitor; may breed  | Possible        |
| Egyptian Vulture       | <i>Neophron percnopterus</i>  | Globally Threatened (GT), Conservation Concern (CC) | Resident; Breeding summer visitor; Passage migrant.                      | Confirmed       |
| Cinereous Vulture      | <i>Aegypius monachus</i>      | Globally Threatened (GT), Conservation Concern (CC) | Rare winter visitor  |                 |
| Bateleur               | <i>Terathopius ecaudatus</i>  | globally Threatened (GT), Conservation Concern (CC) | Vagrant  |                 |
| Pallid Harrier         | <i>Circus macrourus</i>       | Globally Threatened (GT), Conservation Concern (CC) | Winter visitor & Passage migrant   |                 |
| Levant Sparrowhawk     | <i>Accipiter brevipes</i>     | Conservation Concern (CC)                           | Breeding summer visitor; Passage migrant                                 | Confirmed       |
| Greater Spotted Eagle  | <i>Aquila clanga</i>          | Globally Threatened (GT), Conservation Concern (CC) | Winter visitor & Passage migrant   |                 |
| Steppe Eagle           | <i>Aquila nipalensis</i>      | Conservation Concern (CC)                           | Winter visitor & Passage migrant   |                 |
| Eastern Imperial Eagle | <i>Aquila heliaca</i>         | Globally Threatened (GT), Conservation Concern (CC) | Winter visitor & Passage migrant   |                 |
| Golden Eagle           | <i>Aquila chrysaetos</i>      | Conservation Concern (CC)                           | Resident; Winter visitor   | Confirmed       |
| Lesser Kestrel         | <i>Falco naumanni</i>         | Globally Threatened (GT), Conservation Concern (CC) | Breeding summer visitor; Passage migrant.                                | Confirmed       |
| Lanner Falcon          | <i>Falco biarmicus</i>        | Conservation Concern (CC)                           | Vagrant  |                 |
| Saker Falcon           | <i>Falco cherrug</i>          | Globally Threatened (GT), Conservation Concern (CC) | Rare resident; rare winter visitor; formerly commoner.                   |                 |
| Red-footed Falcon      | <i>Falco vespertinus</i>      | Globally Threatened (GT), Conservation Concern (CC) |  |                 |
| Lesser Spotted Eagle   | <i>Aquila pomarina</i>        | Globally Threatened (GT), Conservation Concern (CC) |  |                 |
| Great Bustard          | <i>Otis tarda</i>             | Globally Threatened (GT), Conservation Concern (CC) | Status uncertain; may be resident (old breeding records); Winter visitor |                 |
| Macqueen's Bustard     | <i>Chlamydotis macqueenii</i> | Globally Threatened (GT), Conservation Concern (CC) | Winter visitor; may breed (bred formerly)                                | Possible        |
| Little Bustard         | <i>Tetrax tetrax</i>          | Globally Threatened (GT), Conservation Concern (CC) | Status uncertain; flocks reported in 1940s but none before or since.     |                 |
| Corncrake              | <i>Crex crex</i>              | Globally Threatened (GT), Conservation Concern (CC) | Passage migrant  |                 |
| Purple Swamphen        | <i>Porphyrio porphyrio</i>    | Conservation Concern (CC)                           | Resident   | Confirmed       |
| Common Crane           | <i>Grus grus</i>              | Conservation Concern (CC)                           | Winter visitor &   |                 |

| COMMON NAME             | LATIN NAME                   | CONSERVATION STATUS                                 | IRAQ STATUS  | BREEDING STATUS |
|-------------------------|------------------------------|---|--|-----------------|
|                         |                              |   | Passage migrant  |                 |
| Crab-Plover             | <i>Dromas ardeola</i>        | Conservation Concern (CC)                           | Resident   | Confirmed       |
| Spur-winged Lapwing     | <i>Vanellus spinosus</i>     | Conservation Concern (CC)                           | Resident; Passage migrant.   | Confirmed       |
| Sociable Lapwing        | <i>Vanellus gregarius</i>    | Globally Threatened (GT), Conservation Concern (CC) | Rare passage migrant; some may winter; formerly very common          |                 |
| White-tailed Lapwing    | <i>Vanellus leucurus</i>     | Conservation Concern (CC)                           | Resident; probably winter visitor                                    | Confirmed       |
| Great Snipe             | <i>Gallinago media</i>       | Globally Threatened (GT), Conservation Concern (CC) | Rare passage migrant   |                 |
| Black-tailed Godwit     | <i>Limosa limosa</i>         | Globally Threatened (GT), Conservation Concern (CC) | Winter visitor & Passage migrant                                     |                 |
| Slender-billed Curlew   | <i>Numenius tenuirostris</i> | Globally Threatened (GT), Conservation Concern (CC) | Last recorded in 1979. May be extinct.                               |                 |
| Broad-billed Sandpiper  | <i>Limicola falcinellus</i>  | Conservation Concern (CC)                           | Winter visitor & Passage migrant                                     |                 |
| Cream-coloured Courser  | <i>Cursorius cursor</i>      | Conservation Concern (CC)                           | Resident or migrant breeder  | Confirmed       |
| Collared Pratincole     | <i>Glareola pratincola</i>   | Conservation Concern (CC)                           | Breeding summer visitor; Passage migrant                             | Confirmed       |
| Black-winged Pratincole | <i>Glareola nordmanni</i>    | Globally Threatened (GT), Conservation Concern (CC) | Status uncertain; Passage migrant but apparently has bred in 1920s.  | Possible        |
| Slender-billed Gull     | <i>Chroicocephalus genei</i> | Conservation Concern (CC)                           | Resident; Breeding summer visitor; Winter visitor & passage migrant. | Confirmed       |
| Armenian Gull           | <i>Larus armenicus</i>       | Conservation Concern (CC)                           | Winter visitor   |                 |
| Caspian Tern            | <i>Hydroprogne caspia</i>    | Conservation Concern (CC)                           | Winter visitor & Passage migrant; may breed                          |                 |
| Pin-tailed Sandgrouse   | <i>Pterocles alchata</i>     | Conservation Concern (CC)                           | Resident.  | Confirmed       |
| Spotted Sandgrouse      | <i>Pterocles senegallus</i>  | Conservation Concern (CC)                           | Resident.  | Confirmed       |
| European Turtle Dove    | <i>Streptopelia turtur</i>   | Conservation Concern (CC)                           | Breeding summer visitor; passage migrant.                            | Confirmed       |
| European Roller         | <i>Coracias garrulus</i>     | Globally Threatened (GT), Conservation Concern (CC) | Breeding summer visitor; Passage migrant                             | Confirmed       |
| Masked Shrike           | <i>Lanius nubicus</i>        | Conservation Concern (CC)                           | Breeding summer visitor; Passage migrant.                            | Confirmed       |
| Mesopotamian Crow       | <i>Corvus capellanus</i>     | Conservation Concern (CC), Endemic Race (EndR)      | Resident   | Confirmed       |

| COMMON NAME              | LATIN NAME                      | CONSERVATION STATUS  | IRAQ STATUS                               | BREEDING STATUS |
|--------------------------|---------------------------------|--|---|-----------------|
| Hypocolius               | <i>Hypocolius ampelinus</i>     | Conservation Concern (CC), Endemic (End)                     | Breeding summer visitor                   | Confirmed       |
| Sombre Tit               | <i>Poecile lugubris</i>         | Conservation Concern (CC)                                    | Resident                                  | Confirmed       |
| Temminck's Lark          | <i>Eremophila bilopha</i>       | Conservation Concern (CC)                                    | Resident                                  | Confirmed       |
| White-eared Bulbul       | <i>Pycnonotus leucotis</i>      | Conservation Concern (CC)                                    | Resident                                  | Confirmed       |
| Basra Reed Warbler       | <i>Acrocephalus griseldis</i>   | Globally Threatened (GT), Conservation Concern (CC), Endemic | Breeding summer visitor                   | Confirmed       |
| Iraq Babbler             | <i>Turdoides altirostris</i>    | Conservation Concern (CC), Endemic (End)                     | Resident                                  | Confirmed       |
| Western Rock Nuthatch    | <i>Sitta neumayer</i>           | Conservation Concern (CC)                                    | Resident                                  | Confirmed       |
| Eastern Rock Nuthatch    | <i>Sitta tephronota</i>         | Conservation Concern (CC)                                    | Resident                                  | Confirmed       |
| White-throated Robin     | <i>Irania gutturalis</i>        | Conservation Concern (CC)                                    | Breeding summer visitor; Passage migrant. | Confirmed       |
| Red-tailed Wheatear      | <i>Oenanthe chrysopygia</i>     | Conservation Concern (CC)                                    | Passage migrant; may breed                | Possible        |
| Finsch's Wheatear        | <i>Oenanthe finschii</i>        | Conservation Concern (CC)                                    | Resident; Winter visitor                  | Confirmed       |
| Hume's Wheatear          | <i>Oenanthe albonigra</i>       | Conservation Concern (CC)                                    | Rare resident; probably breeds            | Probable        |
| Semi-collared Flycatcher | <i>Ficedula semitorquata</i>    | Globally Threatened (GT), Conservation Concern (CC)          | Passage migrant; may breed.               | Possible        |
| Dead Sea Sparrow         | <i>Passer moabiticus</i>        | Conservation Concern (CC)                                    | Resident; Breeding summer visitor.        | Confirmed       |
| Pale Rockfinch           | <i>Carpospiza brachydactyla</i> | Conservation Concern (CC)                                    | Breeding summer visitor; Passage migrant  | Confirmed       |
| Yellow-throated Sparrow  | <i>Gymnoris xanthocollis</i>    | Conservation Concern (CC)                                    | Breeding summer visitor; Passage migrant. | Confirmed       |
| Radde's Accentor         | <i>Prunella ocularis</i>        | Conservation Concern (CC)                                    | Rare breeding summer visitor; may winter  | Confirmed       |
| Smyrna Bunting           | <i>Emberiza semenowi</i>        | Globally Threatened (GT), Conservation Concern (CC)          | Breeding summer visitor; Passage migrant  | Confirmed       |

#### Endemic & Endemic race bird species of Iraq (Includes Terrestrial & Freshwater Species)

| COMMON NAME       | LATIN NAME                    | CONSERVATION STATUS                            | IRAQ STATUS                                   | BREEDING STATUS |
|-------------------|-------------------------------|--|---|-----------------|
| Little Grebe      | <i>Tachybaptus ruficollis</i> | Conservation Concern (CC), Endemic Race (EndR) | Resident (only endemic race); Winter visitor. | Confirmed       |
| Mesopotamian Crow | <i>Corvus capellanus</i>      | Conservation Concern (CC), Endemic Race (EndR) | Resident                                      | Confirmed       |

|                       |                               |  |                            |           |
|-----------------------|-------------------------------|--|----------------------------|-----------|
| Hypocolius            | <i>Hypocolius ampelinus</i>   | Conservation Concern (CC),<br>Endemic (End)                        | Breeding summer<br>visitor | Confirmed |
| Basra Reed<br>Warbler | <i>Acrocephalus griseldis</i> | Globally Threatened (GT),<br>Conservation Concern (CC),<br>Endemic | Breeding summer<br>visitor | Confirmed |
| Iraq Babbler          | <i>Turdoides altirostris</i>  | Conservation Concern (CC),<br>Endemic (End)                        | Resident                   | Confirmed |

| AVAILABLE INFORMATION &/OR DATASETS:   | INFORMATION/DATA SOURCES:   |
|--|---|
| KBA Project (2005-2010) and other studies<br><br>IUCN Red List<br>Wildfinder Database<br>Flora of Iraq Project | Nature Iraq, Ministry of Environment & Iraqi Universities<br>World Conservation Union (IUCN)<br>World Wildlife Fund |

Source : 4th National Report on CBD, Ministry of Environment, Iraq

## Attachment 5 Concervation Concern Bird Species on IUCN Redlist

| Common Name  | Genus               | Species               | Redlist Status | Population Trend |
|--|---------------------|-----------------------|----------------|------------------|
| Northern Bald Ibis, Bald Ibis, Hermit Ibis, Waldrapp                                 | <i>Geronticus</i>   | <i>eremita</i>        | CR             |                  |
| Slender-billed Curlew  | <i>Numenius</i>     | <i>tenuirostris</i>   | CR             |                  |
| Sociable Lapwing, Sociable Plover  | <i>Vanellus</i>     | <i>gregarius</i>      | CR             |                  |
| Basra Reed-warbler, Basra Reed Warbler   | <i>Acrocephalus</i> | <i>griseldis</i>      | EN             | decreasing       |
| Red-breasted Goose   | <i>Branta</i>       | <i>ruficollis</i>     | EN             | decreasing       |
| Egyptian Vulture, Egyptian Eagle   | <i>Neophron</i>     | <i>percnopterus</i>   | EN             | decreasing       |
| White-headed Duck  | <i>Oxyura</i>       | <i>leucocephala</i>   | EN             | decreasing       |
| Eastern Imperial Eagle, Asian Imperial Eagle, Imperial Eagle                         | <i>Aquila</i>       | <i>heliaca</i>        | VU             | decreasing       |
| Greater Spotted Eagle, Spotted Eagle   | <i>Aquila</i>       | <i>clanga</i>         | VU             | decreasing       |
| Lesser White-fronted Goose   | <i>Anser</i>        | <i>erythropus</i>     | VU             | decreasing       |
| Houbara Bustard, Houbara   | <i>Chlamydotis</i>  | <i>undulata</i>       | VU             | decreasing       |
| Saker Falcon, Saker  | <i>Falco</i>        | <i>cherrug</i>        | VU             |                  |
| Lesser Kestrel   | <i>Falco</i>        | <i>naumanni</i>       | VU             | decreasing       |
| Pallas's Fish-eagle, Band-tailed Fish-eagle, Pallas's Fish Eagle, Pallas's Sea-eagle | <i>Haliaeetus</i>   | <i>leucoryphus</i>    | VU             | decreasing       |
| Marbled Teal, Marbled Duck   | <i>Marmaronetta</i> | <i>angustirostris</i> | VU             | decreasing       |
| Great Bustard  | <i>Otis</i>         | <i>tarda</i>          | VU             | decreasing       |
| Dalmatian Pelican  | <i>Pelecanus</i>    | <i>crispus</i>        | VU             | decreasing       |
| Syrian Serin   | <i>Serinus</i>      | <i>syriacus</i>       | VU             | decreasing       |

CR: Critically endangered, EN: Endangered, VU: Vulnerable

(Source : <http://www.iucnredlist.org/>, May 2011)



## Attachment 6 Concervation Concern Fish Species on IUCN Redlist

| Common Name  | Genus               | Species           | Redlist Status | Population Trend |
|--|---------------------|-------------------|----------------|------------------|
| Chondrichthyes   |                     |                   |                |                  |
| Pita Skate   | <i>Okamejei</i>     | <i>pita</i>       | CR             |                  |
| Scalloped Hammerhead   | <i>Sphyrna</i>      | <i>lewini</i>     | EN             |                  |
| Great Hammerhead, Hammerhead Shark, Squat-headed Hammerhead Shark  | <i>Sphyrna</i>      | <i>mokarran</i>   | EN             | decreasing       |
| Sandbar Shark  | <i>Carcharhinus</i> | <i>plumbeus</i>   | VU             | decreasing       |
| Whale Shark  | <i>Rhincodon</i>    | <i>typus</i>      | VU             | decreasing       |
| Clubnose Guitarfish  | <i>Rhinobatos</i>   | <i>thouin</i>     | VU             |                  |
| Smooth Hammerhead  | <i>Sphyrna</i>      | <i>zygaena</i>    | VU             | decreasing       |
| Black-blotched Stingray, Black-spotted Stingray, Blotched Fantail Ray, Fantail Stingray, Giant Reef Ray, Round Ribbontail Ray, Speckled Stingray | <i>Taeniura</i>     | <i>meyeni</i>     | VU             |                  |
| Porcupine Ray  | <i>Urogymnus</i>    | <i>asperrimus</i> | VU             |                  |
| Actinopterygii   |                     |                   |                |                  |
| -  | <i>Caecocypris</i>  | <i>basimi</i>     | VU             |                  |
| -  | <i>Typhlogarra</i>  | <i>widdowsoni</i> | VU             |                  |

CR: Critically endangered, EN: Endangered, VU: Vulnerable

(Source : <http://www.iucnredlist.org/>, May 2011)

## Attachment 7 Conservation Concern Mammal Species on IUCN Redlist

| Common Name   | Genus               | Species              | Redlist Status | Population Trend |
|---|---------------------|----------------------|----------------|------------------|
| Blue Whale, Pygmy Blue Whale, Siballd's Rorqual, Sulphur-bottom Whale | <i>Balaenoptera</i> | <i>musculus</i>      | EN             | increasing       |
| Persian Fallow Deer, Mesopotamian Fallow Deer                         | <i>Dama</i>         | <i>mesopotamica</i>  | EN             | increasing       |
| Asiatic Wild Ass, Asian Wild Ass, Kulan                               | <i>Equus</i>        | <i>hemionus</i>      | EN             | decreasing       |
| Bunn's Short-tailed Bandicoot Rat                                     | <i>Nesokia</i>      | <i>bunnii</i>        | EN             | decreasing       |
| Arabian Oryx, White Oryx  | <i>Oryx</i>         | <i>leucoryx</i>      | EN             | decreasing       |
| Cheetah, Hunting Leopard  | <i>Acinonyx</i>     | <i>jubatus</i>       | VU             | decreasing       |
| Goitered Gazelle  | <i>Gazella</i>      | <i>subgutturosa</i>  | VU             | decreasing       |
| Smooth-coated Otter, Indian Smooth-coated Otter                       | <i>Lutrogale</i>    | <i>perspicillata</i> | VU             | decreasing       |
| Long-fingered Bat   | <i>Myotis</i>       | <i>capaccinii</i>    | VU             | decreasing       |
| Finless Porpoise, Black Finless Porpoise, Finless Black Porpoise      | <i>Neophocaena</i>  | <i>phocaenoides</i>  | VU             | decreasing       |
| Lion, African Lion  | <i>Panthera</i>     | <i>leo</i>           | VU             | decreasing       |
| Mehely's Horseshoe Bat  | <i>Rhinolophus</i>  | <i>mehelyi</i>       | VU             | decreasing       |
| European Marbled Polecat, Marbled Polecat                             | <i>Vormela</i>      | <i>peregrusna</i>    | VU             | decreasing       |

CR: Critically endangered, EN: Endangered, VU: Vulnerable

(Source : <http://www.iucnredlist.org/>, May 2011)

### Attachment 8 Conservation Concern Amphibian Species on IUCN Redlist

| Common Name | Genus            | Species         | Redlist Status | Population Trend |
|-------------|------------------|-----------------|----------------|------------------|
| -           | <i>Neurergus</i> | <i>crocatus</i> | VU             | decreasing       |

CR: Critically endangered, EN: Endangered, VU: Vulnerable

(Source : <http://www.iucnredlist.org/>, May 2011)

## Attachment 9 Concervation Concern Reptile Species on IUCN Redlist

| Common Name  | Genus          | Species            | Redlist Status | Population Trend |
|--|----------------|--------------------|----------------|------------------|
| Euphrates Softshell Turtle   | <i>Rafetus</i> | <i>euphraticus</i> | EN             | -                |
| Common Tortoise, Greek Tortoise, Moorish Tortoise, Spur-thighed Tortoise | <i>Testudo</i> | <i>Graeca</i>      | VU             | -                |

CR: Critically endangered, EN: Endangered, VU: Vulnerable

(Source : <http://www.iucnredlist.org/>, May 2011)

### Attachment 10 Conservation Concern Insect Species on IUCN Redlist

| Common Name                               | Genus        | Species       | Redlist Status | Population Trend |
|---|--------------|---------------|----------------|------------------|
| Dark-winged groundling                    | Brachythemis | fuscopalliata | VU             | decreasing       |
| Apollo, Apollo Butterfly, Mountain Apollo | Parnassius   | Apollo        | VU             | -                |

CR: Critically endangered, EN: Endangered, VU: Vulnerable

(Source : <http://www.iucnredlist.org/>, May 2011)

## Attachment 11 Conservation Concern Cnidarian Species on IUCN Redlist

| Common Name  | Genus             | Species              | Redlist Status | Population Trend |
|--------------|-------------------|----------------------|----------------|------------------|
| -            | <i>Acropora</i>   | <i>Horrida</i>       | VU             | decreasing       |
| -            | <i>Acropora</i>   | <i>Pharaonis</i>     | VU             | decreasing       |
| -            | <i>Anomastrea</i> | <i>Irregularis</i>   | VU             | decreasing       |
| -            | <i>Fungia</i>     | <i>Curvata</i>       | VU             | -                |
| Blue Coral   | <i>Heliopora</i>  | <i>Coerulea</i>      | VU             | decreasing       |
| -            | <i>Pavona</i>     | <i>Cactus</i>        | VU             | -                |
| Cactus Coral | <i>Pavona</i>     | <i>decussata</i>     | VU             | -                |
| -            | <i>Pavona</i>     | <i>diffluens</i>     | VU             | -                |
| -            | <i>Pavona</i>     | <i>venosa</i>        | VU             | -                |
| -            | <i>Physogyra</i>  | <i>lichtensteini</i> | VU             | -                |
| -            | <i>Turbinaria</i> | <i>mesenterina</i>   | VU             | -                |
| -            | <i>Turbinaria</i> | <i>peltata</i>       | VU             | -                |
| -            | <i>Turbinaria</i> | <i>reniformis</i>    | VU             | -                |

CR: Critically endangered, EN: Endangered, VU: Vulnerable

(Source: <http://www.iucnredlist.org/>, May 2011)

## **Attachment 12 Montreux Record - Questionnaire on Hawizeh Marsh**

### **The Convention on Wetlands**

**(Ramsar, Iran, 1971)**

### **Montreux Record - Questionnaire**

**(as adopted by the Conference of the Contracting Parties in Resolution VI.1)**

#### **Section One**

#### **Information for assessing possible inclusion of a listed site in the Montreux Record**

##### **Essential items**

##### **• Name of site**

Hawizeh Marsh

##### **• Ramsar Criteria for listing the site as internationally important**

The Hawizeh Marsh, Republic of Iraq, is located east of the Tigris River between the cities of Amara and Basrah. The marshes extend over the international border into the Islamic Republic of Iran, where it is named the Haur Al Azim.

Up to the 1970s the Hawizeh Marsh and its associated marshes covered an area of approximately 300 thousand hectares (3,000 sq. km) of which 243 thousand hectares (2,430 sq. km) were inside Iraq. It was considerably reduced in area due mainly to deliberate policies by the former Iraqi regime as well as the upstream construction of dams in Iraq as well as in Turkey and Iran.

Since the 2003 fall of the previous Iraqi regime, Iraq undertook major steps to reverse the draining policies of the former regime. The local communities also breached dykes and levees to allow water to flood more area of the former marshes. As a result, refugees have been returning to the former marshes. UNEP reported in August 2005 that up to 40% of the degraded wetlands of southern Iraq have been successfully reflooded.

The Hawizeh marsh is fed by floodwaters from the River Tigris in the west through Al-Musharah and Al-Kahla's rivers as well as the Karkheh River which originates in Iran in the Zagros Mountains. It is bordered in the north by Assanaf Marsh and in the south by the Shatt al Arab. The Marsh is part seasonal and part permanent. The permanent part has extensive reed-beds alternating with open sheets of water.

These wetlands drain southeastwards into the Shatt al-Arab waterway.

The Hawizeh Marshes was designated as a Ramsar site in 2007 with an area of 137,700 hectares (1,377 sq. km.).

Criterion 1: Remnant component of a rare example of extensive freshwater marshes in the Middle East. The vast permanent and seasonal, fresh to brackish wetlands of Lower Mesopotamia were the largest area of these wetland types not only in the Middle East but also in the whole of Western Eurasia. The Hawizeh marshes are the most intact and largest remains of the original Mesopotamian marshland complex and although degraded by recent drainage actions are nevertheless a functional wetland unit. Together the newly reflooded wetlands of the Hawizeh Marshes and other parts of Lower Mesopotamia play a vital role in the maintenance of biodiversity in the Middle East, primarily because of their size, the richness of their aquatic vegetation and their isolation from other comparable systems. They are home to two endemic species and an endemic subspecies of mammal, two endemic species and two endemic subspecies of bird, and several endemic species and subspecies of fish.

Criterion 2: Support at least ten species of globally or regionally threatened species of birds as defined by IUCN. These include the Marbled Teal/Duck *Marmaronetta angustirostris* (Vu), Ferruginous Duck *Aythya nyroca* (NT), White-headed Duck *Oxyura leucocephala* (En), Iraq Babbler *Turdoides altirostris* (LC), and Basra Reed Warbler *Acrocephalus griseldis* (En). In the 1970s, Lesser White-fronted Goose *Anser erythropus* (Vu) and White-tailed Eagle *Haliaeetus albicilla* (LC) were recorded in the region but no specific records for Hawizeh Marsh were possible at that time. Regionally threatened or declining species in the 1970s also included African Darter *Anhinga rufa* (LC), Great Bittern *Botaurus stellaris* (LC), and Black Francolin *Francolinus francolinus* (LC). BirdLife International (Evans 1994) reported that the Hawizeh Marsh and regional wetlands support almost the entire world population of two species, the Basrah Reed Warbler *Acrocephalus griseldis* (EN) and Iraq Babbler *Turdoides altirostris* (LC).

The site also supports unique mammal species, especially the Smooth-coated Otter *Lutra perspicillata maxwelli* (Vu). Another vulnerable mammal species is the Long-fingered Bat *Myotis capaccinii*.

Criterion 4: The lakes and marshes of Lower Mesopotamia are one of the most important wintering areas for migratory waterfowl in western Eurasia. These support wintering habitat for majority of the global population of several endangered bird species. The site is of international importance as a staging and wintering area for at least 79 species of waterfowl



and nine species of birds of prey on their way between breeding grounds in Western Siberia and Central Asia and winter quarters in eastern and southern Africa. Further, the Mesopotamian marshes are of considerable importance for breeding waterfowl.

Ornithological surveys of the southern marshes in Iraq in February-March and June 2005 have noted particular occurrences of these important species:

- Pygmy Cormorant (*Phalacrocorax pygmaeus*)
- African Darter (*Anhinga rufa*)
- Eurasian Bittern (*Botaurus stellaris*)
- Sacred Ibis (*Threskiornis aethiopicus*)
- Marbled Teal/Duck (*Marmaronetta angustirostris*)
- Ferruginous Duck (*Aythya nyroca*)
- White-headed Duck (*Oxyura leucocephala*)
- Iraq Babbler (*Turdoides altirostris*)
- Basra Reed Warbler (*Acrocephalus griseldis*)

Criterion 6: It regularly supports 1% of the individuals in a population of one species or subspecies of waterbird. Field observations historically and in 2005 indicate the area supports at least 1% of the world population of the White-headed Duck and it is believed other species of birds as well.

Criterion 8: Is a critical nursery area for freshwater fish species and is a water source area for marine fish stocks of the Gulf used for basic human survival in the region.

Culture: The Hawizeh Marsh is also of great cultural significance, having provided a home for the Ma'dan or Marsh Arabs for at least five thousand years. The site is important as it supports more than 400,000 local inhabitants who depended on the resources of these marshes for survival. For this the Hawizeh Marsh is one of the most important sites in the Middle East.

• **Nature of the change in ecological character/potential for adverse change**

Hydrologically, the Hawizeh Marsh results from mixtures of waters that come from Iraqi as well as Iranian rivers. The major inflow from the Iraqi side comes from the Tigris River through Al-Musharah, Al-Kahla'a and Al-Machriya rivers. All these rivers form smaller but extensive networks of channels feeding into the Marsh. There is also a flood escape constructed in the 1990s, the aim of which was to divert Tigris flood waters in spring

months to Haur As-Sanaf which ultimately feeds into the Hawizeh Marsh. In July 2005, the inflow to the Hawizeh Marsh from inside Iraq was estimated at 85m<sup>3</sup>/sec. The quality of the inflow was very good.

The inflows to the marsh from the Iranian side come mainly via the Karkheh, Al-Teeb and Dwairij rivers. The Karkheh River was the biggest contributor to the Hawizeh Marsh before the construction of the Karkheh Dam. Its historical record shows that the average annual flow exceeded 200m<sup>3</sup>/s. The Al-Teeb and Dwairij discharge rates are variable and the minimum and maximum discharges vary between 1 m<sup>3</sup>/s and 1000 m<sup>3</sup>/s. Major seasonal streams also exist that provide significant flush flooding waters to the system in wet years.

The Hawizeh Marsh ultimately discharges its water into the Tigris River through the Kassara escape and into the Shatt al-Arab Waterway via As-Suwaib River. Both these rivers are located entirely within Iraqi territory and play major roles in regulating the water level and the storage of the Hawizeh Marsh. Hence nature of the change in ecological character/potential for adverse change is:

(a) Within the Ramsar site: Extensive drainage in the 1990s, warfare destruction of landscape, increased salinity of waters and soils, water pollution, over hunting and over fishing. There is also the danger of land mines along the border which represent a serious problem.

(b) In the surrounding area: Dam-building activities on the Tigris and Euphrates Rivers in recent years, both within Iraq and upstream in Turkey, Iran and Syria, have resulted in the loss of much of the former wetland habitat. The on-going construction of a dyke along the Iranian border threatens ongoing natural water flows to this wetland complex and would lead to habitat fragmentation. Numerous large dams and barrages have been installed on the Tigris and Euphrates, and an elaborate network of drainage canals was constructed.

Scott and Evans (1993) concluded that drainage of the wetlands of Lower Mesopotamia could result in the global extinction of several mammal and bird species as well as the decline in the world populations of some species of birds. The current status of many migratory populations that may use Iraqi habitats remains uncertain.

Migratory populations of waterfowl have also been affected over a very wide area from the West Siberian tundra to southern Africa, as one of the major staging and wintering areas in the West Siberian/Caspian/Nile flyway was reduced by up to 90% of its former area. In August 2005, UNEP reported that up to 40 % of the original marshes areas had been reflooded. Drainage of the Lower Mesopotamian wetlands constituted an ecological

catastrophe of unprecedented proportions in Western Eurasia that may never be fully mitigated.

The Hawizeh Marsh facing a great danger now, and is becoming hydrologically and ecologically stressed. Upstream dams constructions in Turkey as well as in Iran have caused significant decreased in water inflows to the marsh. These represent real threat to the ecological and hydrological integrity of the marsh. According to these actions, extensive physical damage to surface vegetation and soil occurred, so decreased in species numbers of plants were happened. According to Key Biodiversity Area (KBA) survey led by Nature Iraq from 2004 to 2008 in the Hawizeh Marsh has described that 23 aquatic, wetland and terrestrial plant species were confirmed to be present in the site in comparison with Hor Al-Azim on Iranian side of the border found 56 species of wetland plants, which can be considered as a good reference for the undisturbed condition of this area.

• **Reason(s) for adverse change, or potential adverse change, in ecological character**

Iraqi Wetlands had suffered generally, and the marsh area in particular (being located in the far south of Iraq) of the scarcity of water resources coming from the riparian States with Iraq in 2008, with continued water shortages during the year 2009, had cut off the water resources of the marsh area in full. Thus, the region of the Iraqi Marshlands, including AL Hawizeh marsh had faced humanitarian and environmental disaster, led to the aridity of the region by 90% of the area recovered from after 2003, amounting up to 4,000 square kilometres, including the 1,377 square kilometres of Al Hawizeh marsh. There remained only areas of shallow water covered by submerged plants grown in natural light. Marsh plants disappeared, resulting in the migration of hundreds of Iraqi families that inhabit the region, the loss of fisheries and livestock that turned the area into desert, dusty. Among the leading causes of this disaster, were as follows:

External causes:

1. Low rainfall and snow in the last two years on the regions of the Tigris and Euphrates basins (succession seasonal drought), and the accompanying climate changes, have reduced the quantity of imports to Iraq's water rates seriously.
2. Is about the Turkish government plan to complete the Southeastern Anatolia Project (GAP) which would control the flow of the Euphrates River, in particular.
3. That the Iranian Government to establish a series of dams, reservoirs and modifications to all streams of rivers shared by Iraq and Iran, with the alteration of the course of the Karun river feeding Shatt al-Arab river. add "to create earthen embankment, up six

meters height, of eight meters width and a length of 80 kilometres to separate Al Hawizeh marsh extension at the rear of the Iranian in Al Azim marsh, which cut off all supplies of water from the river Karkheh, after in advance, "the establishment of a number of dams and reservoirs which reduce the historical flow amount of the river Karkheh which fed the shared marsh, to less than half.

4. The absence of agreements between Iraq and the riparian states with ensuring the rights of Iraq's water, and even the existing agreements have become neglected and are not working.

Internal:

1. Waste and losses in the water due to the traditional methods of agriculture, with losses in water distribution networks, as well as "to the various abuses.
2. The absence of any national strategy is able to simulate the changes, forecasting, advance preparation and coordination, prepare to manage and confront the dangers of drought, in order to reduce losses to a minimum.
3. Oppose the people of the marshes to the implementation of a number of projects which could provide water needed to feed some areas of the marshes.

**Additional items which may be included**

**• Date Information Sheet on Ramsar Wetlands submitted**

The initial Ramsar Information Sheet was submitted in 2007, update has been made in 2008.

**• Date and source of Information Sheet updates (e.g. National Reports, national wetland inventory, specific survey)**

- Iraq Ministry of Environment, Iraq Ministry of Water Resources and Iraq Ministry of Municipalities and Public Works 2006. The New Eden Master Plan for Integrated Water Resources Management in the Marshlands Area. Four volumes and Roster of Experts: Volume 0: Main Report. Volume 1: Overview of Present Conditions and Current Use of the Water in the Marshlands Area. Volume 2: Future Water Resources Requirements in the Marshlands Area. Volume 3: Implementation Plans. Prepared by Nature Iraq in Cooperation with the Italian Ministry of the Environment and Territories. Baghdad, Iraq. Accessed at [www.natureiraq.org](http://www.natureiraq.org).
- Nature Iraq 2007. Needs Assessment Workshop, Hawizeh Marsh Management Plan. Amman, Jordan. September 7-9, 2007. Unpublished draft report.
- Nature Iraq 2008. Land Cover Analysis of Hawizeh Marsh. February 2008. Draft

report, Sulaimanih, Iraq. Unpublished.

- **Benefits and values derived from the site**

The site represent atypical ecosystem of the Middle East, which is totally rare in its geographical location, and a wetland now existing as a relatively natural area refuge to wildlife. Hawizeh Marsh supports an appreciable assemblage of rare, vulnerable and endangered species of plant and animal life, notable migratory and endemic bird species. The site provides a special area for invertebrate protection, whose fauna has not recognized, the preliminary data indicates that it contains numerous special care species, and of special interest for maintaining genetic and ecological biodiversity in the Middle East.

- **Extent to which values and benefits derived from the site have decreased or changed**

The extent of values and benefit for the protection of water quantity, water quality and biodiversity of the site as well as the improvement in the conservation condition.

- **Monitoring programme in place at the site, if any (technique(s), objectives, and nature of data and information gathered)**

- **Assessment procedures in place, if any (how is the information obtained from the monitoring programme used)**

- **Ameliorative and restoration measures in place or planned (if any) so far**

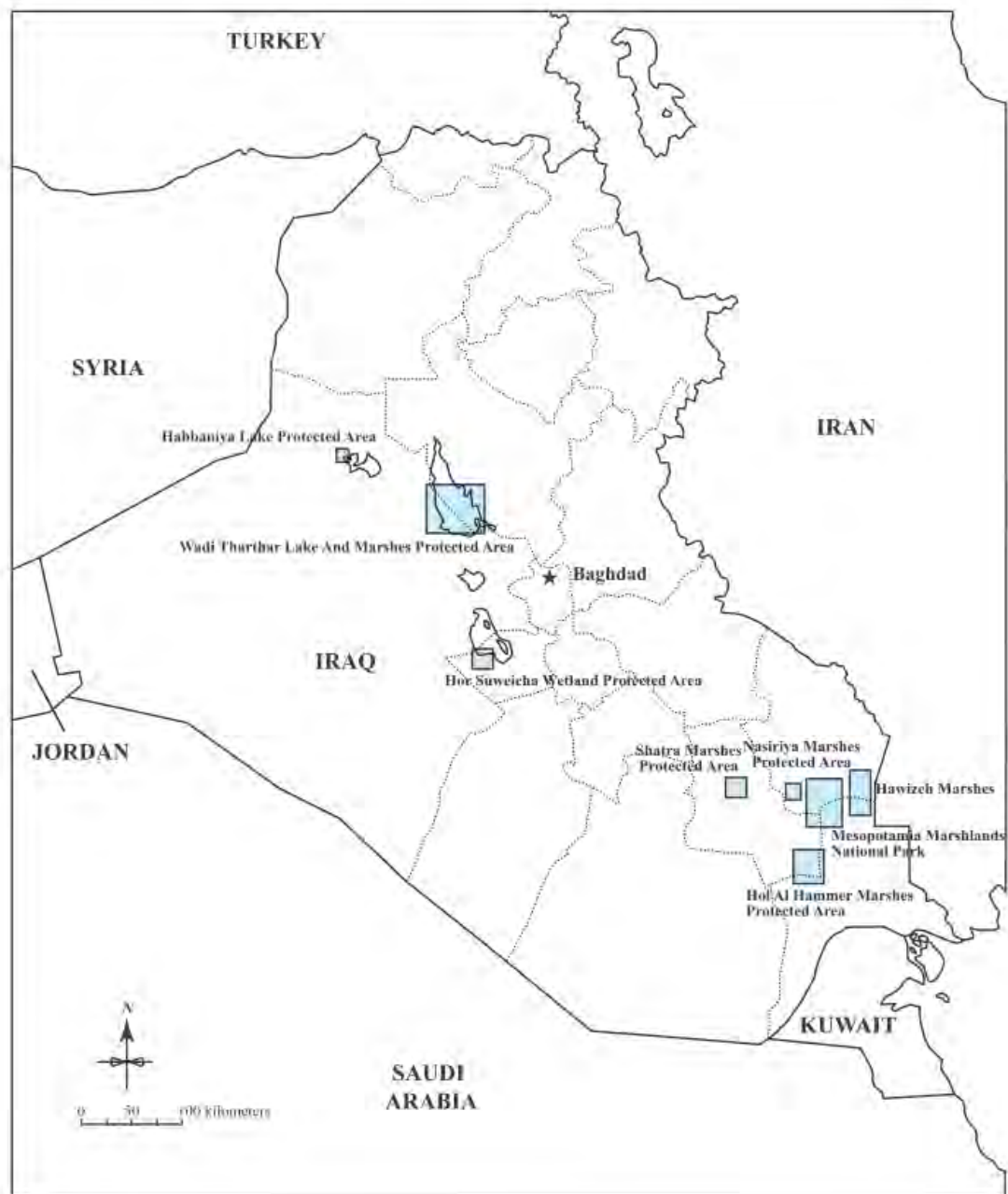
- **List of attachments provided by the Contracting Party (if applicable)**

- Karkheh River: Current and Projected Flow and Salt Growth and its Impact on Hawizeha Marsh in Iraq. Prepared by Furat AL-Faraj- WREng. Consultants.
- Managing for Change. The Present and Future State of the Marshes of Southern Iraq. Produced by the Canada – Iraq Marshland Initiative.

[http://www.iraqimarshlands.org/repository/detail/managing\\_for\\_change\\_the\\_present\\_and\\_future\\_state\\_of\\_the\\_iraqi\\_marshes/](http://www.iraqimarshlands.org/repository/detail/managing_for_change_the_present_and_future_state_of_the_iraqi_marshes/)

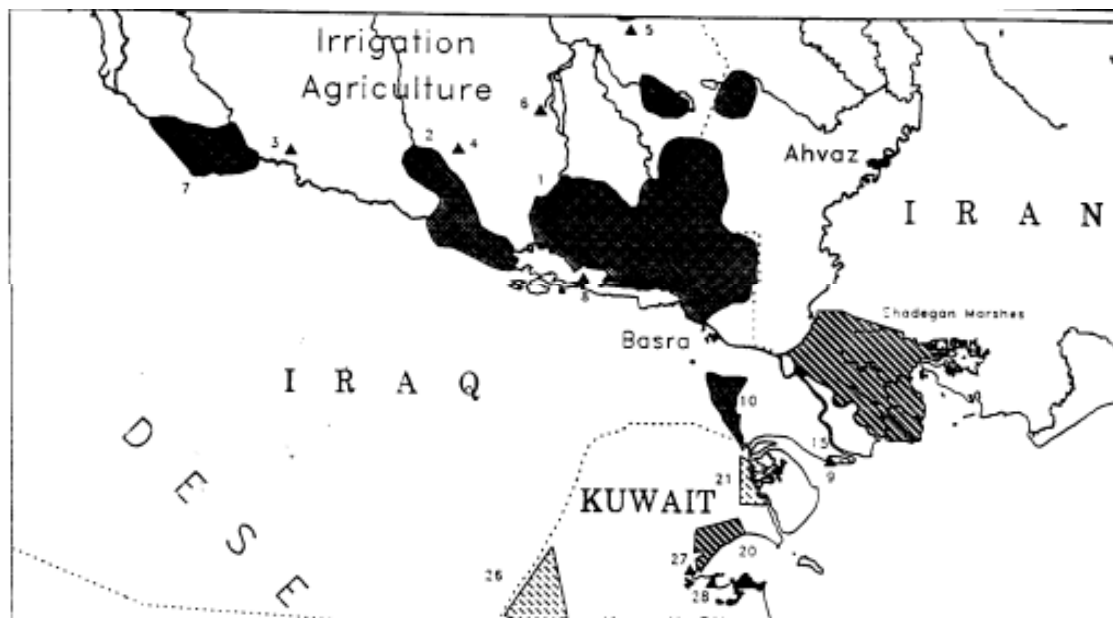
- **List of attachments provided by the Ramsar Bureau (if applicable)**

### Attachment 13 Protected Areas in Iraq



Source:protected planet(<http://www.protectedplanet.net/>). Detail location and area is not known.

## Attachment 14 Protected areas and important wetland in Iraq



Note : \* the number corresponds the number in the table below.

Source : WCMC, Gulf War Environmental Information Service Impact on the Land and Atmosphere, 1992

| Name                                 | Location  | IUCN category | Area (ha) | Year    |
|--------------------------------------|---|---------------|-----------|---------|
| <b>Breeding Station</b>              |   |               |           |         |
| Kusavbah (Kasseba)                   | No info   | IV            | 25        | No info |
| Sab al-Nisan                         | No info   | IV            | 21        | 1978    |
| Rawdat al-Maha                       | No info   | IV            | 50        | No info |
| Zawtah/Dahuk                         | Dahuk, Dahuk  | IV            | 110       | 1980    |
| Hajran/Arbil                         | Arbil   | IV            | 90        | 1980    |
| Days al Ta'mim (Karkuk)              | Tameem  | IV            | 80        | 1980    |
| Darr Bandar Bazvail /al-Sulaymaniyah | Sulaymaniyah  | IV            | 75        | 1980    |
| Sanjar/Ninwah                        | Sinjar, Ninewa  | IV            | 90        | 1981    |
| <b>Recommended Protected Area</b>    |   |               |           |         |
| Habbaniya Lake                       | South of the Euphrates between Ramadi and Felluja, 85 km west of Baghdad (33.330° N/ 43.330° E) | TBD           | n.a.      | TBD     |
| Hor Suweicha Wetland                 | 32.580° N/ 43.580° E  | TBD           | 30,000    | TBD     |
| Hor Al-Hammar Marshes                | North of Basrah, Basrah (30.670° N/ 47.000° E)  | TBD           | 270,000   | TBD     |
| Nasiriya Marshes (1)                 | 18km and 20km from Nassriyah, Thi-Qar (31.170° N/ 47.000° E)                                    | TBD           |           | TBD     |
| Shatra Marshes (2)                   | East of Shatrah, Thi-Qar (31.330° N/ 46.250° E)   | TBD           |           | TBD     |
| Wadi Tharthar Lake and Marshes       | 120 km north of Baghdad in north-central Iraq (33.920° N/ 43.250° E)                            | TBD           | 320,000   | TBD     |

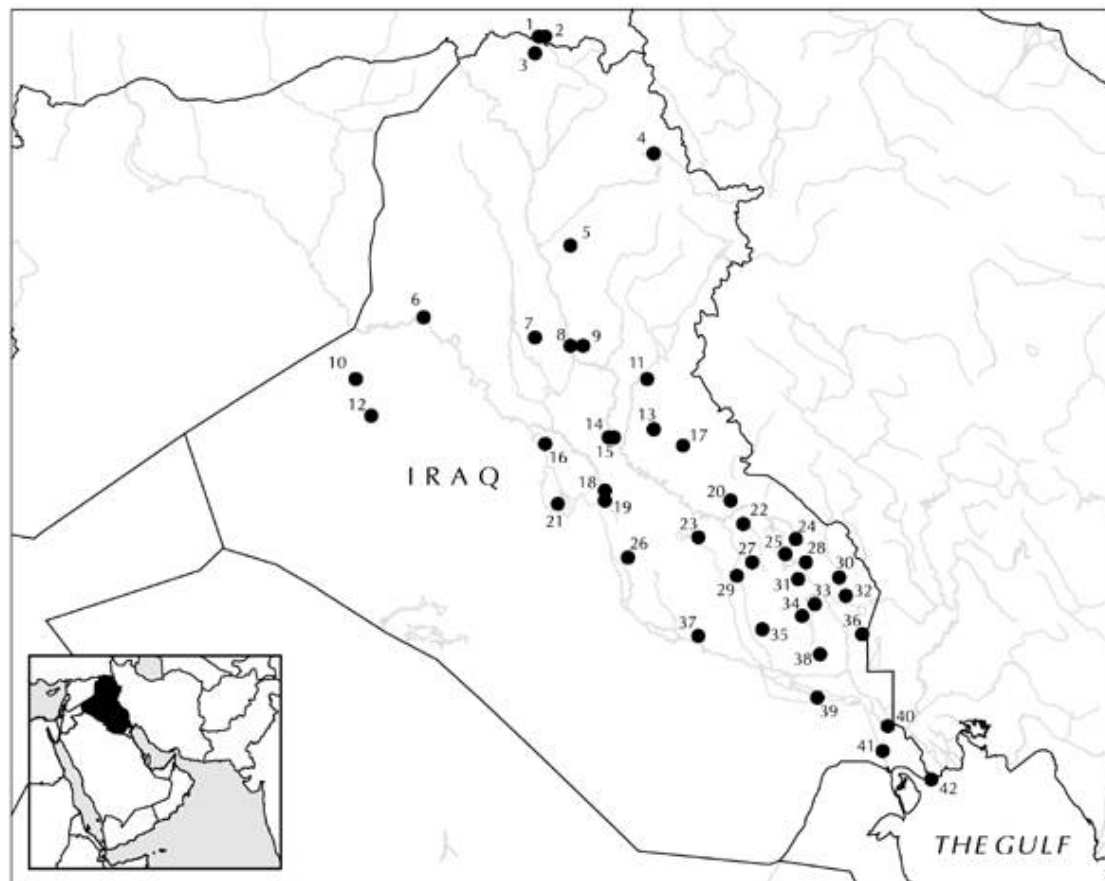
| Name   | Location   | Area(ha) |
|--|--|----------|
| <b>Tentative List of Wetland of International Importance</b> |  |          |
| <b>Flood Control and Storage Lakes</b>                       |  |          |
| Lake Rezzaza   | 10km west of Kerbala (32°31'N 43°26'E)   | 150,000  |
| <b>Marsh Complexes</b>                                       |  |          |
| Shaikh Saiyid Marshes  | -  | 2,000    |
| Hawr Ibn Najm  | 10 km east of the River Euphrates and c.130 km south of Baghdad (32°08'N 44°35'E)  | 10,000   |
| Hawr Dalmaj  | To the west of the River Tigris, about 35 km south-west of Kut town (32°20'N 45°25'E)  | 100,000  |
| Hawr As Suwayqiyah   | 20 km north-east of Kut (32°42'N 45°55'E)  | 50,000   |
| Hawr As Sadiyah  | Stretching for 120 km, 15km southwest of Ali Al Gharbi, Wassit in the north to Haur Al Hammar in the south (32°01'N 46°22'E)                       | 140,000  |
| Hawr Um Al Baram and Hawr Al Abjiya                          | Haur Umm Al Baram (32°32'N 46°07'E, 5,000 ha) is c.25 km east of Kut, whilst Haur Al Abjiya (32°25'N 46°03'E, 5,000 ha) is 20 km south-east of Kut | 10,000   |
| Al Hayy Manhes   | Hayy, Wassit   | 8,000    |
| Hawr Lafta (3)   | 20 km east of Samawa, Muthanna (31°21'N 45°31'E)   | 20,000   |
| Hawr Chamuqa (4)   | East of Shatrah, Thi-Qar   | 32,500   |
| Hawr Al Hawizah  | East of Amarah, Missan (31°00-45'N 47°25-50'E)   | 250,000  |
| Hawr Chubaisah (5)   | Chibayish, Thi-Qar (31°53'N 47°18'E)   | 27,500   |
| Hawr Al Awdah (6)  | South of Chibayish, Thi-Qar (31°33'N 46°51'E)  | 7,500    |
| Euphrates Marshes (7)  | South of Nassriyah, Thi-Qar  | 300,000  |
| Hor Al Hammar (8)  | North of Basrah, Basrah  | 520,000  |
| <b>Coastal Areas</b>   |  |          |
| Mudflats near Al Faw (9)                                     | Al Faw, Basrah (29°55'N 48°26'E)   |          |
| Khor Zubair and Khor Abd-Auah (10)                           | 40 km south-east of Basrah, Basrah (30°12'N 47°54'E)   | 20,000   |

Source: WCPA and Wetland International website (A Directory of Wetlands in the Middle East)

(<http://www.wetlands.org/inventory&/MiddleEastDir/IRAQ2.htm>), April 2011 accessed



## Attachment 15 Important Bird Areas(IBA)



Source : Bird Life International,

[http://www.birdlife.net/datazone/search/sites\\_search.html?action=SitHTMFindResults.asp&INam=&Cty=102&z=1](http://www.birdlife.net/datazone/search/sites_search.html?action=SitHTMFindResults.asp&INam=&Cty=102&z=1)

| IBA Code | International Name                  | Area(ha) | Location   | Criteria       |
|----------|-------------------------------------|----------|--|----------------|
| IQ001    | Benavi                              | 600 ha   | Lies at 1,500-1,700 m and includes the valley containing Benavi village and the adjacent mountain ridge  | A1, B2, B3     |
| IQ002    | Dori Serguza                        | 400 ha   | At 1,500-1,800 m in the eastern Taurus Mountains, running north from the village of Dori (probably now abandoned), below Jabal Shoroniya on the Turkish border | A1, B2, B3     |
| IQ003    | Ser Amadiya                         | 6500 ha  | Rising to c.2,000 m, just north-west of the town of Amadiya in Kurdistan and c.20 km south of the Turkish border   | A1, A3, B2, B3 |
| IQ004    | Bakhma, Dukan and Darbandikhan dams | 40000 ha | In the foothills of Kurdistan in north-east Iraq   | A4iii, B2, B3  |
| IQ005    | Huweija marshes                     |          | c.65 km west-south-west of Kirkuk, along the pipeline road (35°15'N 43°55'E)   | B1i, B2        |

| IBA Code | International Name                      | Area(ha)  | Location  | Criteria                |
|----------|---|-----------|---|-------------------------|
| IQ006    | Anah and Rawa                           | 400 ha    | The narrow Euphrates valley c.240 km north-west of Baghdad  | B2                      |
| IQ007    | Mahzam and Lake Tharthar                | 455000 ha | Lying between the Tigris and the Euphrates rivers, 120 km north of Baghdad in north-central Iraq  | A4iii, B1i, B2, B3      |
| IQ008    | Samara dam                              | 20000 ha  | c.8 km across and straddles the Tigris, running from the Samara Dam c.25 km north to Al Dor (34°15'N 43°50'E)   | A4i, B1i, B1iv, B2, B3  |
| IQ009    | Abu Dalaf and Shari lake                | 128000 ha | 30 km north-east of Samara (34°22'N 44°08'E)  | A4iii, B3               |
| IQ010    | Augla                                   | 500 ha    | c.30 km west-south-west of Haditha and c.200 km west-north-west of Baghdad  | B3                      |
| IQ011    | Baquba wetlands                         | 2000 ha   | In the Diyala valley between Baquba and Shahraban, c.75 km north-east of Baghdad (33°55'N 44°50'E)  | A1, A4iii, B1i, B2      |
| IQ012    | Gasr Muhaiwir                           | 10000 ha  | Lies c.80 km east-north-east of Rutbah in Wadi Hauran, the main wadi crossing the western desert of Iraq to the Euphrates   | A3                      |
| IQ013    | Attariya plains                         | 50000 ha  | c.40 km east-north-east of Baghdad (33°25'N 44°55'E)  | A1, B1i, B2             |
| IQ014    | Abu Habba                               | 400 ha    | 12 km west of Mahmudiya   | B3                      |
| IQ015    | Al Jadriyah and Umm Al Khanazeer island | 310 ha    | On the bank of the River Tigris within south-west Baghdad   | A1, B2, B3              |
| IQ016    | Haur Al Habbaniya and Ramadi marshes    | 20000 ha  | South of the Euphrates between Ramadi and Felluja, 85 km west of Baghdad (33°16'N 43°30'E)  | A1, A4iii, B2, B3       |
| IQ017    | Haur Al Shubaicha                       | 75000 ha  | Lying c. near the twon of Habbaniya and c.85 km east of Baghdad (33°00'N 45°23'E)   | A4iii                   |
| IQ018    | Al Musayyib - Haswa area                |           | North of Al Musayyib, between the Tigris and the Euphrates.   | A4iii, B1i              |
| IQ019    | Hindiya Barrage                         |           | On the River Euphrates c.5 km south of Al Musayyib and c.65 km south of Baghdad (32°42'N 44°17'E)   | A1, B1i, B2, B3         |
| IQ020    | Haur Al Suwayqiyah                      | 50000 ha  | c.10 km north of the River Tigris and c.20 km north-east of Kut (32°42'N 45°55'E)   | A1, A4i, B1i, B2        |
| IQ021    | Bahr Al Milh                            | 150100 ha | 95 km south-west of Baghdad   | A1, A4iii, B1i, B2      |
| IQ022    | Haur Al Abjiya and Umm Al Baram         | 10000 ha  | Lying south of the River Tigris: Haur Umm Al Baram (32°32'N 46°07'E, 5,000 ha) is c.25 km east of Kut, whilst Haur Al Abjiya (32°25'N 46°03'E, 5,000 ha) is 20 km south-east of Kut.  | A4iii                   |
| IQ023    | Haur Delmaj                             | 100000 ha | To the west of the River Tigris, about 35 km south-west of Kut town (32°20'N 45°25'E)   | A4iii                   |
| IQ024    | Haur Sarut                              |           | Stretching for 50 km from north to south (32°07'N-32°31'N) on the east bank of the River Tigris south-east of Ali Al Gharbi (32°07'-31°N 46°46'E)   | A1, A4i, A4iii, B1i, B2 |
| IQ025    | Haur Al Sa'adiyah                       | 140000 ha | Stretching for 120 km from near Ali Al Gharbi in the north to Haur Al Hammar in the south. The haur is a vast shallow lake of 1,400 km <sup>2</sup> bordered on the east by the River Tigris and on the west by the Dujaila Canal (32°01'-32°25'N 46°22'-46°44'E) | A4iii, B1i, B2          |
| IQ026    | Haur Ibn Najim                          | 10000 ha  | c.10 km east of the River Euphrates and c.130 km south of Baghdad (32°08'N 44°35'E)   | A4iii                   |

| IBA Code | International Name                | Area(ha)   | Location  | Criteria                        |
|----------|-----------------------------------|------------|---|---------------------------------|
| IQ027    | Haur Al Hachcham and Haur Maraiba | 8000 ha    | On the plains south-east of Al Hayy (32°05'N 46°12'E)   | A1, A2, B2                      |
| IQ028    | Haur Al Haushiya                  | 200 ha     | On the east bank of the River Tigris, north of the village of Al Kumait (32°05'N 46°54'E)   | B1i                             |
| IQ029    | Shatt Al Gharraf                  |            | Along the 125+ km of the Shatt Al Gharraf waterway between Kut and Shatra (32°30'N 45°50'E)   | A1, B1i, B2                     |
| IQ030    | Haur Chubaisah area               | 42500 ha   | To the east of the River Tigris, north of Haur Om Am Nyaj (31°53'N 47°18'E)   | A1, A2, A4i, B1i, B2, B3        |
| IQ031    | Haur Sanniya                      | 40000 ha   | In the north to Haur Al Hammar in the south (31°55'N 46°48'E)   | A4iii                           |
| IQ032    | Haur Om am Nyaj                   | 15000 ha   | 20 km south-east of Amara   | A1, B1i, B2                     |
| IQ033    | Haur Al Rayan and Umm Osbah       | 25000 ha   | About 20 km south-west of Amara. The southern end of these marshes lies a few kilometres to the north of the Feraigat Marshes at the extreme northern end of the main Haur Al Hammar marshes. | A1, B1i, B2                     |
| IQ034    | Haur Auda                         | 7500 ha    | Situated about 40 km south-west of Amara town (31°33'N 46°51'E)   | A4iii                           |
| IQ035    | Haur Uwainah                      | 32500 ha   | To the east of the Shatt Al Gharraf waterway, east and south-east of the village of Shatra (31°22'N 46°25'E)  | A1, A4i, A4iii, B1i, B2         |
| IQ036    | Haur Al Hawizeh                   | 250000 ha  | To the east of the River Tigris (31°00'-31°45'N 47°25'-47°50'E)   | A1, A2, A3, B1i, B2, B3         |
| IQ037    | Haur Lafta                        | 20000 ha   | c.5 km north of the River Euphrates and c.20 km east of Samawa, Muthanna (31°21'N 45°31'E)  | A4iii                           |
| IQ038    | Central Marshes                   | 300000 ha  | To the west of the River Tigris and to the north of the River Euphrates (30°50'-31°30'N 46°45'-47°25'E)   | A1, A2, A4i, A4iii, B1i, B2     |
| IQ039    | Haur Al Hammar                    | 1350000 ha | It is bordered in the north by the River Euphrates, in the west by the Southern Desert and in the east by the Shatt Al Arab   | A1, A2, A4i, A4iii, B1i, B2, B3 |
| IQ040    | Shatt Al Arab marshes             |            | Along the c.165 km of the Shatt Al Arab waterway (31°00'-29°55'N 47°25'-48°30'E)  | A1, A2, B1i, B2                 |
| IQ041    | Khawr Al Zubair                   | 20000 ha   | At the head of the Arabian Gulf, c.40 km south-east of Basra (30°12'N 47°54'E)  | A4iii                           |
| IQ042    | Khawr Abdallah                    | 126000 ha  | West of the point where the Shatt Al Arab enters the Gulf, and of the town of Fao (29°55'N 48°26'-34'E)   | B1i, B2, B3                     |

Source : Bird Life International,

[http://www.birdlife.net/datazone/search/sites\\_search.html?action=SitHTMFindResults.asp&INam=&Cty=102&z=1](http://www.birdlife.net/datazone/search/sites_search.html?action=SitHTMFindResults.asp&INam=&Cty=102&z=1)

Wetland International, <http://www.wetlands.org/inventory&/MiddleEastDir/IRAQ2.ht>

**Attachment 16 Gaps between Relevant Regulations in Iraq and JICA Guidelines as well as Safeguard Policies in the World Bank – Natural Habitat**

| Aspect   | JICA Guidelines for Environmental and Social Considerations (April 2010) | World Bank OP4.04/4.36   | Harmonized Policy  | Government Laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--|--|--|--|-----------------|--|-------------------------------|
| <b>Definition</b>  |  |  |  |                 |  |                               |
| <b>Definition of critical natural habitat and critical forest area</b> |  | (i) existing protected areas and areas officially proposed by governments as protected areas, areas initially recognized as protected by traditional local communities, and sites that maintain conditions vital for the viability of these protected areas; or<br>(ii) sites identified on supplementary lists prepared by the Bank or an authoritative source determined by the Regional environment sector unit. Such sites may include areas recognized by traditional local communities; areas with known high suitability for bio-diversity conservation; and sites that are critical for rare, vulnerable, migratory, or endangered species. (OP4.04)<br>Critical forest areas are the forest areas that qualify as critical natural habitats under OP 4.04, Natural Habitats. (OP4.36) | (i) existing protected areas and areas officially proposed by governments as protected areas, areas initially recognized as protected by traditional local communities, and sites that maintain conditions vital for the viability of these protected areas; or<br>(ii) sites identified on supplementary lists prepared by JICA or an authoritative source determined by the Regional environment sector unit. Such sites may include areas recognized by traditional local communities; areas with known high suitability for bio-diversity conservation; and sites that are critical for rare, vulnerable, migratory, or endangered species.<br>Critical forest areas are the forest areas that qualify as critical natural habitats under OP 4.04, Natural Habitats. | n.a.            | n.a.   | n.a.                          |
| <b>Definition of significant conversion</b>                            |  | Significant conversion is the elimination or severe diminution of the integrity of a critical or other natural habitat caused by a major, long-term change in land or water use. Significant conversion may include, for example, land clearing; replacement of natural vegetation; permanent flooding; drainage, dredging, filling, or channelization of wetlands; or surface mining. In both terrestrial and aquatic ecosystems, conversion of natural habitats can occur as the result of severe pollution. (OP4.04)  | Significant conversion is the elimination or severe diminution of the integrity of a critical or other natural habitat caused by a major, long-term change in land or water use. Significant conversion may include, for example, land clearing; replacement of natural vegetation; permanent flooding; drainage, dredging, filling, or channelization of wetlands; or surface mining. In both terrestrial and aquatic ecosystems, conversion of natural habitats can occur as the result of severe pollution.   | n.a.            | n.a.   | n.a.                          |
| <b>Definition of degradation</b>                                       |  | Degradation is modification of a critical or other natural habitat that substantially reduces the habitat's ability to maintain viable populations of its native species. (OP4.04)   | Degradation is modification of a critical or other natural habitat that substantially reduces the habitat's ability to maintain viable populations of its native species.  | n.a.            | n.a.   | n.a.                          |
| <b>Definition of appropriate conservation and mitigation measures</b>  |  | Appropriate conservation and mitigation measures remove or reduce adverse impacts on natural habitats or their functions, keeping such impacts within socially defined limits of acceptable environmental change. Specific measures depend on the ecological characteristics of the given site. Such measures should always include provision for monitoring and evaluation to provide feedback on conservation outcomes and to provide guidance for developing or refining  | Appropriate conservation and mitigation measures remove or reduce adverse impacts on natural habitats or their functions, keeping such impacts within socially defined limits of acceptable environmental change. Specific measures depend on the ecological characteristics of the given site. Such measures should always include provision for monitoring and evaluation to provide feedback on conservation outcomes and to  | n.a.            | n.a.   | n.a.                          |

| Aspect   | JICA Guidelines for Environmental and Social Considerations (April 2010)  | World Bank OP4.04/4.36   | Harmonized Policy  | Government Laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--|---|--|--|-----------------|--|-------------------------------|
|  |   | appropriate corrective actions. (OP4.04)   | provide guidance for developing or refining appropriate corrective actions.  |                 |  |                               |
| Core principle   |   |  |  |                 |  |                               |
| <b>Impacts to be Assessed</b>                              | JICA supports and examines appropriate environmental and social considerations undertaken by project proponents etc. to avoid or minimize development projects' impacts on the environment and local communities, and to prevent the occurrence of unacceptable adverse impacts. The impacts to be assessed with regard to environmental and social considerations include impacts on the natural environment, ecosystems, fauna and flora, including trans-boundary or global scale impacts. | In accordance with OP/BP 4.01, Environmental Assessment, the environmental assessment (EA) for an investment project addresses the potential impact of the project on forests and/or the rights and welfare of local communities. (OP4.04)<br>In accordance with OP/BP 4.01, Environmental Assessment, the environmental assessment (EA) for an investment project addresses the potential impact of the project on forests and/or the rights and welfare of local communities. (OP4.36) | Impacts on the natural environment, ecosystems, fauna and flora, including trans-boundary or global scale impacts and on forests and/or the rights and welfare of local communities will be assessed.                    | n.a             |  |                               |
| <b>Compliance with relevant Laws, Standards, and Plans</b> | Projects must comply with the laws, ordinances, and standards related to environmental and social considerations established by the governments that have jurisdiction over project sites (including both national and local governments).<br><br>Illegal logging of forests must be avoided. Project proponents etc. are encouraged to obtain  | The Bank does not finance projects that contravene applicable international environmental agreements. (OP4.36)   | JICA does not support projects that contravene the laws, ordinances, standards related to environmental and social considerations established by the governments, and applicable international environmental agreements. | n.a.            | n.a.   | n.a.                          |

| Aspect  | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.04/4.36   | Harmonized Policy  | Government Laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|---|--|--|--|-----------------|--|-------------------------------|
|   | certification by forest certification systems as a way to ensure the prevention of illegal logging.                            |  |  |                 |  |                               |
| <b>Projects involving significant conversion or significant degradation of critical natural habitats and critical forests</b> | Projects must not involve significant conversion or significant degradation of critical natural habitats and critical forests. | The Bank does not support projects that, in Bank's opinion, involve the significant conversion or degradation of critical natural habitats.(OP4.04)<br>The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical natural habitats. (OP4.36)  | Projects must not involve significant conversion or degradation of critical natural habitats and critical forests.   | n.a.            | n.a.   | n.a.                          |
| <b>Projects involving significant conversion or significant degradation of natural habitats and forests (not critical)</b>    |  | The Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs. If the environmental assessment indicates that a project would significantly convert or degrade natural habitats, the project includes mitigation measures acceptable to the Bank. Such mitigation measures include, as appropriate, minimizing habitat loss (e.g., strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area. The Bank accepts other forms of mitigation measures only when they are technically justified. (OP4.04)<br><br>If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures. (OP4.36) | If a project involves the significant conversion or degradation of natural forests or related natural habitats that JICA determines are not critical, and JICA determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs, JICA may finance the project provided that it incorporates appropriate mitigation measures. Such mitigation measures include, as appropriate, minimizing habitat loss and establishing and maintaining an ecologically similar protected area. JICA accepts other forms of mitigation measures only when they are technically justified. | n.a.            | n.a.   | n.a.                          |
| <b>Site selection</b>   | Projects must, in principle, be undertaken outside of protected  | Wherever feasible, Bank-financed projects are sited on lands already converted (excluding any  | Projects must, in principle, be undertaken outside of protected areas that are specifically  | n.a.            | n.a.   | n.a.                          |

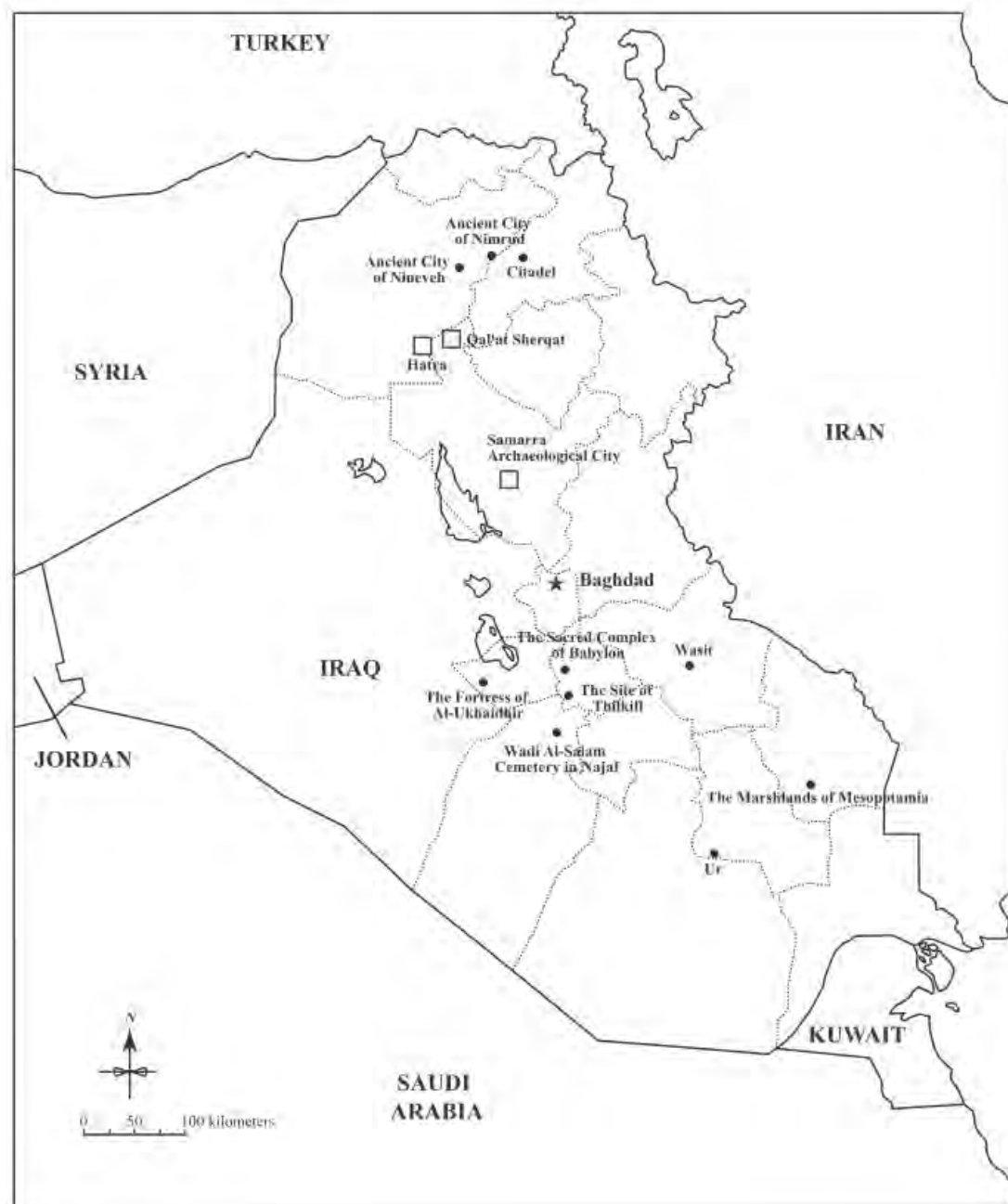
| Aspect                       | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.04/4.36   | Harmonized Policy   | Government Laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|------------------------------|--|--|---|-----------------|--|-------------------------------|
|                              | areas that are specifically designated by laws or ordinances for the conservation of nature or cultural heritage (excluding projects whose primary objectives are to promote the protection or restoration of such areas). Projects are also not to impose significant adverse impacts on designated conservation areas. (Appendix 1. 4-2) | lands that in the Bank's opinion were converted in anticipation of the project). The Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs. (OP4.04)   | designated by laws or ordinances for the conservation of nature. Projects are also not to impose significant adverse impacts on designated conservation areas.<br><br>Wherever feasible, JICA-supported projects are sited on lands already converted (excluding any lands that in the JICA's opinion were converted in anticipation of the project).   |                 |  |                               |
| Expertise                    |  | In projects with natural habitat components, project preparation, appraisal, and supervision arrangements include appropriate environmental expertise to ensure adequate design and implementation of mitigation measures. (OP4.04)  | In projects with natural habitat components, project preparation, appraisal, and supervision arrangements include appropriate environmental expertise to ensure adequate design and implementation of mitigation measures.  | n.a.            | n.a.   | n.a.                          |
| Project Environmental Review |  |  |   |                 |  |                               |
| Plantation                   |  | The Bank does not finance plantations that involve any conversion or degradation of critical natural habitats, including adjacent or downstream critical natural habitats. When the Bank finances plantations, it gives preference to siting such projects on unforested sites or lands already converted (excluding any lands that have been converted in anticipation of the project). In view of the potential for plantation projects to introduce invasive species and threaten biodiversity, such projects must be designed to prevent and mitigate these potential threats to natural habitats. (OP4.36)  | JICA does not support plantations that involve any conversion or degradation of critical natural habitats, including adjacent or downstream critical natural habitats. When JICA finances plantations, it gives preference to siting such projects on unforested sites or lands already converted (excluding any lands that have been converted in anticipation of the project). In view of the potential for plantation projects to introduce invasive species and threaten biodiversity, such projects must be designed to prevent and mitigate these potential threats to natural habitats.  | n.a.            | n.a.   | n.a.                          |
| Commercial harvesting        |  | The Bank may finance commercial harvesting operations only when the Bank has determined, on the basis of the applicable environmental assessment or other relevant information, that the areas affected by the harvesting are not critical forests or related critical natural habitats<br>To be eligible for Bank financing, industrial-scale commercial harvesting operations must also<br>a) be certified under an independent forest certification system acceptable to the Bank as meeting standards of responsible forest management and use; or<br>b) where a pre-assessment under such an independent forest certification system determines that the operation does not yet meet the requirements of subparagraph a), adhere to a time-bound phased action plan acceptable to the | JICA may support commercial harvesting operations only when JICA has determined, on the basis of the applicable environmental assessment or other relevant information, that the areas affected by the harvesting are not critical forests or related critical natural habitats<br>To be eligible for Bank financing, industrial-scale commercial harvesting operations must also<br>a) be certified under an independent forest certification system acceptable to JICA as meeting standards of responsible forest management and use; or<br>b) where a pre-assessment under such an independent forest certification system determines that the operation does not yet meet | n.a.            | n.a.   | n.a.                          |

| Aspect                                | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.04/4.36   | Harmonized Policy   | Government Laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|---------------------------------------|--|--|---|-----------------|--|-------------------------------|
|                                       |  | Bank for achieving certification to such standards.(OP4.36)  | the requirements of subparagraph a), adhere to a time-bound phased action plan acceptable to JICAfor achieving certification to such standards.   |                 |  |                               |
| Requirements for forest certificate   | Illegal logging of forests must be avoided. Project proponents etc. are encouraged to obtain certification by forest certification systems as a way to ensure the prevention of illegal logging. (Appendix 1. 6-2) | <p>To be acceptable to the Bank, a forest certification system must require:</p> <ul style="list-style-type: none"> <li>a) compliance with relevant laws;</li> <li>b) recognition of and respect for any legally documented or customary land tenure and use rights as well as the rights of indigenous peoples and workers;</li> <li>c) measures to maintain or enhance sound and effective community relations;</li> <li>d) conservation of biological diversity and ecological functions;</li> <li>e) measures to maintain or enhance environmentally sound multiple benefits accruing from the forest;</li> <li>f) prevention or minimization of the adverse environmental impacts from forest use;</li> <li>g) effective forest management planning;</li> <li>h) active monitoring and assessment of relevant forest management areas; and</li> <li>i) the maintenance of critical forest areas and other critical natural habitats affected by the operation.</li> </ul> <p>In addition to the requirements in paragraph above, a forest certification system must be independent, cost-effective, and based on objective and measurable performance standards that are defined at the national level and are compatible with internationally accepted principles and criteria of sustainable forest management. The system must require independent, third-party assessment of forest management performance. In addition, the system's standards must be developed with the meaningful participation of local people and communities; indigenous peoples; non-governmental organizations representing consumer, producer, and conservation interests; and other members of civil society, including the private sector. The decision-making procedures of the certification system must be fair, transparent, independent, and designed to avoid conflicts of interest. (OP4.36)</p> | <p>To be acceptable to JICA, a forest certification system must require:</p> <ul style="list-style-type: none"> <li>a) compliance with relevant laws;</li> <li>b) recognition of and respect for any legally documented or customary land tenure and use rights as well as the rights of indigenous peoples and workers;</li> <li>c) measures to maintain or enhance sound and effective community relations;</li> <li>d) conservation of biological diversity and ecological functions;</li> <li>e) measures to maintain or enhance environmentally sound multiple benefits accruing from the forest;</li> <li>f) prevention or minimization of the adverse environmental impacts from forest use;</li> <li>g) effective forest management planning;</li> <li>h) active monitoring and assessment of relevant forest management areas; and</li> <li>i) the maintenance of critical forest areas and other critical natural habitats affected by the operation.</li> </ul> <p>In addition to the requirements in paragraph above, a forest certification system must be independent, cost-effective, and based on objective and measurable performance standards that are defined at the national level and are compatible with internationally accepted principles and criteria of sustainable forest management. The system must require independent, third-party assessment of forest management performance. In addition, the system's standards must be developed with the meaningful participation of local people and communities; indigenous peoples; non-governmental organizations representing consumer, producer, and conservation interests; and other members of civil society, including the private sector. The decision-making procedures of the certification system must be fair, transparent, independent, and designed to avoid conflicts of interest.</p> | n.a.            | n.a.   | n.a.                          |
| Harvesting by small-scale landholders |  | The Bank may finance harvesting operations conducted by small-scale landholders,by local communities under community forest  | JICA may support harvesting operations conducted by small-scale landholders,by local communities under community forest   | n.a.            | n.a.   | n.a.                          |



| Aspect | JICA Guidelines for Environmental and Social Considerations (April 2010) | World Bank OP4.04/4.36   | Harmonized Policy  | Government Laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--------|--|--|--|-----------------|--|-------------------------------|
|        |  | <p>management, or by such entities under joint forest management arrangements, if these operations:</p> <p>(a) have achieved a standard of forest management developed with the meaningful participation of locally affected communities, consistent with the principles and criteria of responsible forest management outlined in paragraph 10; or</p> <p>(b) adhere to a time-bound phased action plan<sup>14</sup> to achieve such a standard. The action plan must be developed with the meaningful participation of locally-affected communities and be acceptable to the Bank.</p> <p>The borrower monitors all such operations with the meaningful participation of locally-affected communities.</p> | <p>management, or by such entities under joint forest management arrangements, if these operations:</p> <p>(a) have achieved a standard of forest management developed with the meaningful participation of locally affected communities, consistent with the principles and criteria of responsible forest management outlined in paragraph 10; or</p> <p>(b) adhere to a time-bound phased action plan<sup>14</sup> to achieve such a standard. The action plan must be developed with the meaningful participation of locally-affected communities and be acceptable to JICA.</p> <p>The borrower monitors all such operations with the meaningful participation of locally-affected communities.</p> |                 |  |                               |

## Attachment 17 World Heritage List and Tentative List



Source : JICA Study Team, Based on UNESCO website

(□: registered, ●: in the tentative list)

**Attachment 18 Gaps between Relevant Regulations in Iraq and JICA Guidelines as well as Safeguard Policies in the World Bank – Cultural Heritage**

| Aspect  | JICA Guidelines for Environmental and Social Considerations (April 2010)  | World Bank OP4.11   | Harmonized Policy  | Government laws covering eminent domain and resettlement  | Gaps between Harmonized Policy and Government laws   | The mechanisms to bridge gaps |
|---|---|---|--|---|--|-------------------------------|
| <b>Objective</b>  |   |   |  |   |  |                               |
| <b>Avoid or mitigate adverse impact on physical cultural resources</b>  | Projects must, in principle, be undertaken outside of protected areas that are specifically designated by laws or ordinances for the conservation of nature or cultural heritage (excluding projects whose primary objectives are to promote the protection or restoration of such areas). Projects are also not to impose significant adverse impacts on designated conservation areas. (Appendix 1. 4-2)  | The Bank assists countries to avoid or mitigate adverse impacts on physical cultural resources from development projects. (3)   | Projects must, in principle, be undertaken outside of protected areas that are specifically designated by laws or ordinances for the conservation of nature or cultural heritage (excluding projects whose primary objectives are to promote the protection or restoration of such areas). Projects are also not to impose significant adverse impacts on designated conservation areas. | LAW No.55 of 2002 For The Antiquities & Heritage of Iraq<br>Article 9<br>4. In case of an inconsistency of a specific and important project within the (Growth Plan) with an antiquity Site, the Antiquity Authority shall be committed to undertake Excavations, therein, which shall be financed by the (Executive Authority), putting a dead line that must be adequate from the scientific and project time schedule point of view. The total cost of the excavations shall be listed in the project's budget before the initiation of digging.<br>5. The building license, shall not be granted in the antiquity locations or adjacent to which with about one kilometer, except for the cases when a permission is to be granted by the Antiquity Authority within a time not exceeding 30 days from the date of handing in a license application . |  |                               |
| <b>Compliance with national legislations and international treaties</b> | JICA confirms that projects comply with the laws or standards related to the environment and local communities in the central and local governments of host countries; it also confirms that projects conform to those governments' policies and plans on the environment and local communities. JICA confirms that projects do not deviate significantly from the World Bank's Safeguard Policies, and refers as a benchmark to the standards of international financial organizations; to internationally recognized standards, or international standards, treaties, and declarations, etc.; and to the good practices etc. of developed nations including Japan, when appropriate. (Sec.2/2.6/2, 3) | The impacts on physical cultural resources resulting from project activity, may not contravene either the borrower's national legislation, or its obligations under relevant international environmental treaties and agreements, such as the Convention concerning the Protection of the World Cultural and Natural Heritage, 1972 (UNESCO World Heritage Convention). (3)<br><br>The physical cultural resources management plan is consistent with the country's overall policy framework and national legislation and takes into account institutional capabilities with regard to physical cultural resources. (9) | The impacts on physical cultural resources resulting from project activity, may not contravene either the borrower's national legislation, or its obligations under relevant international environmental treaties and agreements, such as the Convention concerning the Protection of the World Cultural and Natural Heritage, 1972 (UNESCO World Heritage Convention)                   | The Government of Iraq has committed the following national legislation and international treaties<br>- LAW No.55 of 2002 For The Antiquities & Heritage of Iraq<br>- Convention for the Protection of Cultural Property in the Event of Armed Conflicts (ratification)<br>- Convention on the Means of Prohibiting an Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property(Acceptance)<br>- Convention for the Protection of the World Cultural an Natural Heritage (ratification)<br>- Convention for the Protection of Cultural Property in the Event of Armed Conflicts (ratification)  | The Government of Iraq has NOT committed the following and international treaties<br>- Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict 1999<br>- Convention on the Protection of the Underwater Cultural Heritage<br>- UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects |                               |

| Aspect                                    | JICA Guidelines for Environmental and Social Considerations (April 2010)  | World Bank OP4.11  | Harmonized Policy  | Government laws covering eminent domain and resettlement   | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|---|---|--|--|--|--|-------------------------------|
| Definition of physical cultural resources | -   | Also known as ‘cultural heritage’, ‘cultural patrimony’, ‘cultural assets’ or ‘cultural property’ and defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. (1)  | Physical cultural resources, which are also known as ‘cultural heritage’, ‘cultural patrimony’, ‘cultural assets’ or ‘cultural property’, are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance.  | LAW No.55 of 2002 For The Antiquities & Heritage of Iraq<br>Article 4<br>7. Antiquity: The movable and immovable property which has been built, made, carved, produced, written or painted by man, those age of which is not less than 200 years, as well as the man and animal skeletons besides the plants remains.<br>8. The Heritage Material: The movable and immovable property, less than 200 years of age, possessing a historical, national, religious and artistic value.<br>9. The Historical Site: A place where a notable historical event took place, therein, regardless its age. |  |                               |
| <b>Core Principles</b>                    |   |  |  |  |  |                               |
| Categorization                            | <p>Projects that are likely to have a significant adverse impact on the environment and society, and the projects with complicated or unprecedented impacts that are difficult to assess, or projects with a wide range of impacts or irreversible impacts, are classified as Category A. Category A includes projects in sensitive sectors, projects that have characteristics that are liable to cause adverse environmental impacts, and projects located in or near sensitive areas.</p> <p><u>Sensitive Characteristics</u><br/> (1) Large-scale involuntary resettlement<br/> (2) Large-scale groundwater pumping<br/> (3) Large-scale land reclamation, land development, and land clearing<br/> (4) Large-scale logging</p> <p><u>Sensitive Areas</u><br/> Projects in the following areas or their vicinity:<br/> (1) National parks, nationally-designated protected areas (coastal areas, wetlands, areas for ethnic minorities or indigenous peoples and cultural heritage, etc. designated by national governments)<br/> (2) Areas that are thought to require</p> | <p>Following projects are classified as Category A or B, and are subject to the provisions of this policy:<br/> (a) any project involving significant excavations, demolition, movement of earth, flooding, or other environmental changes; and<br/> (b) any project located in, or in the vicinity of, a physical cultural resources site recognized by the borrower.</p> <p>Projects specifically designed to support the management or conservation of physical cultural resources are individually reviewed, and are normally classified as Category A or B. (5)</p> | <p>Projects that are likely to have a significant adverse impact on the environment and society, and the projects with complicated or unprecedented impacts that are difficult to assess, or projects with a wide range of impacts or irreversible impacts, are classified as Category A. Category A includes projects in sensitive sectors, projects that have characteristics that are liable to cause adverse environmental impacts, and projects located in or near sensitive areas.</p> <p><u>Sensitive Characteristics</u><br/> (1) Large-scale involuntary resettlement<br/> (2) Large-scale groundwater pumping<br/> (3) Large-scale land reclamation, land development, and land clearing<br/> (4) Large-scale logging</p> <p><u>Sensitive Areas</u><br/> Projects in the following areas or their vicinity:<br/> (1) National parks, nationally-designated protected areas (coastal areas, wetlands, areas for ethnic minorities or indigenous peoples and cultural heritage, etc. designated by national governments)<br/> (2) Areas that are thought to require careful consideration by the country or locality</p> <p><u>Social Environment</u><br/> a) Areas with unique archeological, historical, or cultural value<br/> b) Areas inhabited by ethnic minorities,</p> | n.a.   | n.a.   | n.a.                          |

| Aspect                          | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.11  | Harmonized Policy   | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|---------------------------------|--|--|---|--|--|-------------------------------|
|                                 | <p>careful consideration by the country or locality</p> <p><u>Social Environment</u></p> <p>a) Areas with unique archeological, historical, or cultural value</p> <p>b) Areas inhabited by ethnic minorities, indigenous peoples, or nomadic peoples with traditional ways of life, and other areas with special social value</p> <p>Projects are classified as Category B if their potential adverse impacts on the environment and society are less adverse than those of Category A projects. Generally, they are site-specific; few if any are irreversible; and in most cases, normal mitigation measures can be designed more readily.</p> <p>(Sec.2/2.2/2, Sec.2/2.2/3, Appendix 3)</p> |  | <p>indigenous peoples, or nomadic peoples with traditional ways of life, and other areas with special social value</p> <p>Projects are classified as Category B if their potential adverse impacts on the environment and society are less adverse than those of Category A projects. Generally, they are site-specific; few if any are irreversible; and in most cases, normal mitigation measures can be designed more readily.</p>   |  |  |                               |
| <b>Environmental Assessment</b> | <p>The impacts to be assessed with regard to environmental and social considerations include social impacts, such as cultural heritage. (Sec. 2. 2.3-1, Appendix 1. 3-1)</p>   | <p>The borrower addresses impacts on physical cultural resources in projects as an integral part of the environmental assessment (EA) process. (4)</p> <p>To develop the TORs for the EA, the borrower, in consultation with the Bank, relevant experts, and relevant project-affected groups, identifies the likely physical cultural resources issues, if any, to be taken into account by the EA. The TORs normally specify that physical cultural resources be included in the baseline data collection phase of the EA. (6)</p> <p>The borrower assesses the project's potential impacts on likely affected physical cultural resources as an integral part of the EA process, in accordance with the Bank's EA requirements. (7)</p> <p>The borrower identifies appropriate measures for avoiding or mitigating these impacts as part of the EA process. These measures may range from full site protection to selective mitigation, including salvage and</p> | <p>The impacts to be assessed with regard to environmental and social considerations include social impacts, such as cultural heritage.</p> <p>To develop the TORs for the environmental and social considerations, the borrower, in consultation with JICA, relevant experts, and relevant project-affected groups, identifies the likely physical cultural resources issues, if any, to be taken into account by the environmental and social considerations. The TORs normally specify that physical cultural resources be included in the baseline data collection phase of the environmental and social considerations.</p> <p>The project proponents etc. assess the project's potential impacts on likely affected physical cultural resources as an integral part of the EA process, in accordance with the Bank's EA requirements. (7)</p> <p>The project proponents etc. identify appropriate measures for avoiding or mitigating these impacts as part of the environmental and social considerations process. These measures may range from full site protection to selective mitigation,</p> | n.a.   | n.a.   | n.a.                          |

| Aspect   | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.11   | Harmonized Policy  | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--|--|---|--|--|--|-------------------------------|
|  |  | documentation, in cases where a portion or all of the physical cultural resources may be lost. (8)<br><br>The Bank reviews, and discusses with the borrower, the findings and recommendations related to the physical cultural resources aspects of the EA, and determines whether they provide an adequate basis for processing the project. (10)  | including salvage and documentation, in cases where a portion or all of the physical cultural resources may be lost.<br><br>The JICA reviews, and discusses with the project proponents etc., the findings and recommendations related to the physical cultural resources aspects of the EA, and determines whether they provide an adequate basis for processing the project. (10)  |  |  |                               |
| <b>physical cultural resources management plan</b> | <u>Illustrative Environmental Impact Assessment Report for Category A Projects</u><br><br>The EIA report should include the following items<br>- Environmental Management Plan (EMP): This describes mitigation, monitoring, and institutional measures to be taken during construction and operation in order to eliminate adverse impacts, offset them, or reduce them to acceptable levels. (Appendix 2)  | The borrower develops a physical cultural resources management plan that includes measures for avoiding or mitigating any adverse impacts on physical cultural resources, provisions for managing chance finds, any necessary measures for strengthening institutional capacity, and a monitoring system to track the progress of these activities. (9) It may be incorporated in an Environmental Management Plan. | The EIA report for category A project should include Environmental Management Plan (EMP) which describes measures for avoiding or mitigating any adverse impacts on physical cultural resources, provisions for managing chance finds, any necessary measures for strengthening institutional capacity, and a monitoring system to track the progress of these activities.   | n.a.   | n.a.   | n.a.                          |
| <b>Involvement of stakeholders (Consultations)</b> | Project proponents etc. consult with local stakeholders through means that induce broad public participation to a reasonable extent, in order to take into consideration the environmental and social factors in a way that is most suitable to local situations, and in order to reach an appropriate consensus.<br>JICA encourages project proponents etc. to publicize in advance that they plan to consult with local stakeholders, with particular attention to directly affected people, in order to have meaningful meetings.<br><br>In the case of Category A projects, JICA encourages project proponents etc. to consult with local stakeholders about their understanding of development needs, the likely adverse impacts on the environment and society, and the analysis of alternatives at an early stage of the project, and assists project proponents as needed.<br><br>In the case of Category B projects, JICA encourages project proponents etc. to consult with local stakeholders when necessary.<br>JICA encourages project proponents | The consultative process for the physical cultural resources component normally includes relevant project-affected groups, concerned government authorities, and relevant nongovernmental organizations in documenting the presence and significance of physical cultural resources, assessing potential impacts, and exploring avoidance and mitigation options. (11)  | Project proponents etc. consult with local stakeholders through means that induce broad public participation to a reasonable extent, in order to take into consideration the environmental and social factors in a way that is most suitable to local situations, and in order to reach an appropriate consensus.<br>JICA encourages project proponents etc. to publicize in advance that they plan to consult with local stakeholders, with particular attention to directly affected people, in order to have meaningful meetings.<br><br>In the case of Category A projects, JICA encourages project proponents etc. to consult with local stakeholders about their understanding of development needs, the likely adverse impacts on the environment and society, and the analysis of alternatives at an early stage of the project, and assists project proponents as needed.<br><br>In the case of Category B projects, JICA encourages project proponents etc. to consult with local stakeholders when necessary.<br>JICA encourages project proponents etc. to prepare minutes of their meetings after such consultations occur. | n.a.   | n.a.   | n.a.                          |

| Aspect                        | JICA Guidelines for Environmental and Social Considerations (April 2010)  | World Bank OP4.11  | Harmonized Policy  | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|-------------------------------|---|--|--|--|--|-------------------------------|
|                               | etc. to prepare minutes of their meetings after such consultations occur.<br>(Sec.2/2.4/1, 4, 5, 6)   |  |  |  |  |                               |
| <b>Capacity Building</b>      | JICA provides support for and examinations of the environmental and social considerations that project proponents etc. implement in accordance with Sections 2 and 3 of the guidelines, depending on the nature of cooperation projects. (Sec.1/1.5)  | When the borrower's capacity is inadequate to manage physical cultural resources that may be affected by a Bank-financed project, the project may include components to strengthen that capacity. (16)<br><br>Given that the borrower's responsibility for physical cultural resources management extends beyond individual projects, the Bank may consider broader capacity building activities as part of its overall country assistance program. (17)   | JICA provides support for and examinations of the environmental and social considerations that project proponents etc. implement in accordance with Sections 2 and 3 of the JICA guidelines, depending on the nature of cooperation projects.  | n.a.   | n.a.   | n.a.                          |
| <b>Information Disclosure</b> | For Category A project, JICA publishes the status of host countries' submission of major documents on environmental and social considerations on its website. Prior to its environmental review, JICA also discloses EIA reports and environmental permit certifications 120 days prior to concluding agreement documents. JICA discloses a translated version of EIA reports, subject to approval by project proponents etc.<br>For Category B project, JICA discloses EIA reports and environmental permit certifications, when these documents are submitted by project proponents etc.<br>(Sec.3/3.2/3.2.1/(1), (2))<br><br>In principle, project proponents etc. disclose information about the environmental and social considerations of their projects. JICA encourages project proponents etc. to disclose and present information about environmental and social considerations to local stakeholders. (Sec.2/2.1/1, 6) | The findings of the physical cultural resources component of the EA are disclosed as part of, and in the same manner as, the EA report. (12)<br><br>(For a Category A project, the borrower provides for the initial consultation a summary of the proposed project's objectives, description, and potential impacts; for consultation after the draft EA report is prepared, the borrower provides a summary of the EA's conclusions. The borrower makes the draft EA report available at a public place accessible to project-affected groups and local NGOs.<br>Any separate Category B report for a project is made available to project-affected groups and local NGOs.<br>Public availability in the borrowing country and official receipt by the Bank of Category A reports and of any Category B EA report are prerequisites to Bank appraisal of these projects. (OP4.01 16, 17) | For Category A project, JICA publishes the status of host countries' submission of major documents on environmental and social considerations on its website. Prior to its environmental review, JICA also discloses EIA reports and environmental permit certifications 120 days prior to concluding agreement documents. JICA discloses a translated version of EIA reports, subject to approval by project proponents etc.<br>For Category B project, JICA discloses EIA reports and environmental permit certifications, when these documents are submitted by project proponents etc.<br><br>In principle, project proponents etc. disclose information about the environmental and social considerations of their projects. JICA encourages project proponents etc. to disclose and present information about environmental and social considerations to local stakeholders. | n.a.   | n.a.   | n.a.                          |
| <b>Monitoring</b>             | JICA confirms with project proponents etc. the results of monitoring the items that have significant environmental impacts. This is done in order to confirm that project proponents etc. are   | -  | JICA confirms with project proponents etc. the results of monitoring the items that have significant environmental impacts. This is done in order to confirm that project proponents etc. are undertaking  | n.a.   | n.a.   | n.a.                          |

| Aspect | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.11 | Harmonized Policy  | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--------|--|-------------------|--|--|--|-------------------------------|
|        | undertaking environmental and social considerations for projects that fall under Categories A, B, and FI.<br>JICA discloses the results of monitoring conducted by project proponents etc. on its website to the extent that they are made public in project proponents etc.<br>(Sec.3/3.2/3.2.2/1, 7) |                   | environmental and social considerations for projects that fall under Categories A, B, and FI.<br>JICA discloses the results of monitoring conducted by project proponents etc. on its website to the extent that they are made public in project proponents etc. |  |  |                               |



**Attachment 19 Gaps between Relevant Regulations in Iraq and JICA Guidelines as well as Safeguard Policies in the World Bank – EIA**

| Aspect                              | JICA Guidelines for Environmental and Social Considerations (April 2010)  | World Bank OP4.01   | Harmonized Policy  | Government laws   | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|-------------------------------------|---|---|--|---|--|-------------------------------|
| <b>Objective and Basic Approach</b> |   |   |  |   |  |                               |
| <b>Objectives</b>                   | To ensure transparency, predictability, and accountability in its support for and examination of environmental and social considerations.   | Environmental Assessment (EA) of projects proposed is required for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making.  | To ensure transparency, predictability, and accountability in its support for and examination of environmental and social considerations.  | There is no EIA law, while the environmental protection law stipulates that EIA is necessary. | n.a.   | n.a.                          |
| <b>Procedure of EA</b>              | JICA supports and examines appropriate environmental and social considerations undertaken by project proponents etc. to avoid or minimize development projects' impacts on the environment and local communities, and to prevent the occurrence of unacceptable adverse impacts. (1. 4)   | EA evaluates a project's potential environmental risks and impacts for preventive measures over mitigatory or compensatory measures, whenever feasible.   | JICA supports and examines appropriate environmental and social considerations undertaken by project proponents etc. to avoid or minimize development projects' impacts on the environment and local communities, and to prevent the occurrence of unacceptable adverse impacts  | n.a.  | n.a.   | n.a.                          |
| <b>Criteria of EA</b>               | <p>“Environmental and social considerations” means considering environmental impacts including air, water, soil, ecosystem, flora, and fauna, as well as social impacts including involuntary resettlement, respect for the human rights of indigenous people, and so on.(1.3.1)</p> <p>JICA confirms that projects comply with the laws or standards related to the environment and local communities in the central and local governments of host countries; it also confirms that projects conform to those governments' policies and plans on the environment and local communities. (2.6.2)</p> <p>JICA confirms that projects do not deviate significantly from the World Bank's Safeguard Policies, and refers as a benchmark to the standards of international financial organizations; to internationally recognized standards, or international standards, treaties, and declarations, etc.; and to the good practices etc. of developed nations including Japan, when appropriate. (2.6.3)</p> | EA takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and physical cultural resources); and transboundary and global environmental aspects. EA considers natural and social aspects in an integrated way. It also takes into account environmental action plans; the country's overall policy framework, national legislation, and institutional capabilities related to the environment and social aspects; and obligations of the country, pertaining to project activities, under relevant international environmental treaties and agreements. | <p>“Environmental and social considerations” means considering environmental impacts including air, water, soil, ecosystem, flora, and fauna, as well as social impacts including involuntary resettlement, respect for the human rights of indigenous people, and so on.</p> <p>JICA confirms that projects comply with the laws or standards related to the environment and local communities in the central and local governments of host countries; it also confirms that projects conform to those governments' policies and plans on the environment and local communities. (2.6.2)</p> <p>JICA confirms that projects do not deviate significantly from the World Bank's Safeguard Policies, and refers as a benchmark to the standards of international financial organizations; to internationally recognized standards, or international standards, treaties, and declarations, etc.; and to the good practices etc. of developed nations including Japan, when appropriate.</p> | n.a.  | n.a.   | n.a.                          |
| <b>Core Principles</b>              |   |   |  |   |  |                               |
| <b>EA Instruments</b>               | JICA conducts an environmental review in accordance with the project category, and refers to the corresponding environmental  | A range of instruments can be environmental impact assessment (EIA), regional or sectoral EA, environmental audit, hazard or risk   | JICA conducts an environmental review in accordance with the project category, and refers to the corresponding environmental checklists for each sector when conducting  | n.a.  | n.a.   | n.a.                          |

| Aspect                              | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.01  | Harmonized Policy  | Government laws  | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|-------------------------------------|--|--|--|--|--|-------------------------------|
|                                     | checklists for each sector when conducting that review as appropriate.   | assessment, and environmental management plan (EMP).   | that review as appropriate.  |  |  |                               |
| <b>Environmental Screening</b>      | <p>CategoryA: Project proponents etc. must submit EIA reports. JICA publishes the status of host countries' submission of major documents on environmental and social considerations on its website. Prior to its environmental review, JICA also discloses the following: (1) EIA reports and environmental permit certifications, (2) RAPs for projects that will result in large-scale involuntary resettlement, and (3) IPPs for projects that address issues of indigenous people. Specifically, JICA discloses EIA reports 120 days prior to concluding agreement documents. JICA undertakes its environmental reviews based on the EIA and other documents submitted by project proponents etc.</p> <p>CategoryB: The scope of environmental reviews for Category B projects may vary from project to project, but it is narrower than that of Category A projects. JICA discloses the following: (1) EIA reports and environmental permit certifications, (2) RAPs for projects, and (3) IPPs for projects that will require measures for indigenous people, when these documents are submitted by project proponents etc.</p> <p>CategoryC: For projects in this category, environmental review will not proceed after categorization.</p> <p>Category FI: JICA examines the related financial intermediary or executing agency to see whether appropriate environmental and social considerations as stated in the guidelines are ensured for projects in this category.</p> | <p>Category A: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. For a Category A project, the borrower is responsible for preparing a report, normally an EIA (or suitably comprehensive regional or sectoral EA).</p> <p>Category B: A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas – including wetlands, forests, grasslands, and other national habitats – are less adverse than those of Category A projects. The findings and results of Category B EA are described in the project documentation (Project Appraisal Document and Project Information Document).</p> <p>Category C: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.</p> <p>Category FI: A proposed is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.</p> | <p>CategoryA: Project proponents etc. must submit EIA reports. JICA publishes the status of host countries' submission of major documents on environmental and social considerations on its website. Prior to its environmental review, JICA also discloses the following: (1) EIA reports and environmental permit certifications, (2) RAPs for projects that will result in large-scale involuntary resettlement, and (3) IPPs for projects that address issues of indigenous people. Specifically, JICA discloses EIA reports 120 days prior to concluding agreement documents. JICA undertakes its environmental reviews based on the EIA and other documents submitted by project proponents etc.</p> <p>CategoryB: The scope of environmental reviews for Category B projects may vary from project to project, but it is narrower than that of Category A projects. JICA discloses the following: (1) EIA reports and environmental permit certifications, (2) RAPs for projects, and (3) IPPs for projects that will require measures for indigenous people, when these documents are submitted by project proponents etc.</p> <p>CategoryC: For projects in this category, environmental review will not proceed after categorization.</p> <p>Category FI: JICA examines the related financial intermediary or executing agency to see whether appropriate environmental and social considerations as stated in the guidelines are ensured for projects in this category.</p> | The category will be stipulated in the EIA law to be issued. The latest official legal document for the categorization is the environmental instructions for industrial, agricultural and services projects in 1990. | n.a.   | n.a.                          |
| <b>EA for Special Project Types</b> | <p>Category FI projects</p> <p>JICA examines the related financial intermediary or executing agency to see whether appropriate environmental and social considerations as stated in</p>  | <p><i>Sector Investment Lending (SIL)</i></p> <p>During the preparation of each proposed subproject, the project coordinating entity or implementing institution carries out appropriate EA</p>  | <p><u>Category FI projects</u></p> <p>JICA examines the related financial intermediary or executing agency to see whether appropriate environmental and social considerations as stated in the</p>   | n.a.   | n.a.   | n.a.                          |

| Aspect                        | JICA Guidelines for Environmental and Social Considerations (April 2010)  | World Bank OP4.01   | Harmonized Policy   | Government laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|-------------------------------|---|---|---|-----------------|--|-------------------------------|
|                               | <p>the guidelines are ensured for projects in this category. JICA also examines institutional capacity in order to confirm environmental and social considerations of the financial intermediary or executing agency, and, if necessary, requires that adequate measures be taken to strengthen capacity.</p> <p>The financial intermediary or executing agency examines the potential positive and negative environmental impacts of sub-projects and takes the necessary measures to avoid, minimize, mitigate, or compensate for potential negative impacts, as well as measures to promote positive impacts if any such measures are available.</p> <p>(3.2.1(4))</p> <p>Measures Taken in an Emergency</p> <p>In an emergency—which means a case that must be dealt with immediately, such as restoration after natural disasters or post-conflict restoration—when it is clear that there is no time to follow the procedures of environmental and social considerations mentioned in the guidelines, JICA reports at an early stage to the Advisory Committee for Environmental and Social Considerations on categorization, judgment of emergency, and procedures to follow, and discloses a result. JICA asks advice from the Advisory Committee when it is necessary.</p> | <p>according to country requirements and the requirements of this policy. The Bank’s judging criteria are as follows:</p> <p>(a) screen subprojects</p> <p>(b) obtain the necessary expertise to carry out EA</p> <p>(c) review all findings and results of EA for individual subprojects</p> <p>(d) ensure implementation of mitigation measures (including, where applicable, an EMP)</p> <p>(e) monitor environmental conditions during project implementation</p> <p><i>Financial Intermediary Lending (FI)</i></p> <p>The Bank requires that each FI screen proposed subprojects and ensure that subborrowers carry out appropriate EA for each subproject.</p> <p>In appraising a proposed FI operation, the Bank reviews the adequacy of country environmental requirements relevant to the project and the proposed EA arrangements for subprojects, including the mechanisms and responsibilities for environmental screening and review of EA results.</p> <p><i>Emergency Operations under OP8.00</i></p> <p>The policy set out in OP 4.01 normally applies to emergency operations processed under OP/BP 8.00, <i>Rapid Response to Crises and Emergencies</i>. The Bank requires at a minimum that</p> <p>(a) the extent to which the emergency was precipitated or exacerbated by inappropriate environmental practices be determined as part of the preparation of such projects</p> <p>(b) any necessary corrective measures be built into either the emergency operation or a future lending</p> | <p>guidelines are ensured for projects in this category. JICA also examines institutional capacity in order to confirm environmental and social considerations of the financial intermediary or executing agency, and, if necessary, requires that adequate measures be taken to strengthen capacity.</p> <p>The financial intermediary or executing agency examines the potential positive and negative environmental impacts of sub-projects and takes the necessary measures to avoid, minimize, mitigate, or compensate for potential negative impacts, as well as measures to promote positive impacts if any such measures are available.</p> <p>Measures Taken in an Emergency</p> <p>In an emergency—which means a case that must be dealt with immediately, such as restoration after natural disasters or post-conflict restoration—when it is clear that there is no time to follow the procedures of environmental and social considerations mentioned in the guidelines, JICA reports at an early stage to the Advisory Committee for Environmental and Social Considerations on categorization, judgment of emergency, and procedures to follow, and discloses a result. JICA asks advice from the Advisory Committee when it is necessary.</p> |                 |  |                               |
| <b>Institutional Capacity</b> | JICA provides support for and examinations of the environmental and social considerations that project proponents etc. implement in accordance with Sections 2 and 3 of the guidelines, depending on the nature of cooperation projects. (1.5)  | When the borrower has inadequate legal or technical capacity to carry out key EA related functions (such as review of EA, environmental monitoring, inspections, or management of mitigatory measures) for a proposed project, the project includes components to strengthen that capacity.   | JICA provides support for and examinations of the environmental and social considerations that project proponents etc. implement in accordance with Sections 2 and 3 of the JICA guidelines, depending on the nature of cooperation projects.   | n.a.            |  |                               |

| Aspect                     | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.01  | Harmonized Policy  | Government laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|----------------------------|--|--|--|-----------------|--|-------------------------------|
| <b>Public Consultation</b> | <p>Project proponents etc. consult with local stakeholders through means that induce broad public participation to a reasonable extent, in order to take into consideration the environmental and social factors in a way that is most suitable to local situations, and in order to reach an appropriate consensus.</p> <p>JICA encourages project proponents etc. to publicize in advance that they plan to consult with local stakeholders, with particular attention to directly affected people, in order to have meaningful meetings.</p> <p>In the case of Category A projects, JICA encourages project proponents etc. to consult with local stakeholders about their understanding of development needs, the likely adverse impacts on the environment and society, and the analysis of alternatives at an early stage of the project, and assists project proponents as needed. (2.4)</p> <p>Consultations with relevant stakeholders, such as local residents, should take place if necessary throughout the preparation and implementation stages of a project. Holding consultations is highly desirable, especially when the items to be considered in the EIA are being selected, and when the draft report is being prepared. (Appendix 2)</p> <p>In the case of Category B projects, JICA encourages project proponents etc. to consult with local stakeholders when necessary. (2.4)</p> | <p>For all Category A and B projects proposed for IBRD or IDA financing, during the EA process, the borrower consults project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account.</p> <p>The borrower initiates such consultations as early as possible. For Category A projects, the borrower consults these groups at least twice: (a) shortly after environmental screening and before the terms of reference for the EA are finalized; and (b) once a draft EA report is prepared. In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them</p> | <p>Project proponents etc. consult with local stakeholders through means that induce broad public participation to a reasonable extent, in order to take into consideration the environmental and social factors in a way that is most suitable to local situations, and in order to reach an appropriate consensus.</p> <p>JICA encourages project proponents etc. to publicize in advance that they plan to consult with local stakeholders, with particular attention to directly affected people, in order to have meaningful meetings.</p> <p>In the case of Category A projects, JICA encourages project proponents etc. to consult with local stakeholders about their understanding of development needs, the likely adverse impacts on the environment and society, and the analysis of alternatives at an early stage of the project, and assists project proponents as needed. Consultations with relevant stakeholders, such as local residents, should take place if necessary throughout the preparation and implementation stages of a project. Holding consultations is highly desirable, especially when the items to be considered in the EIA are being selected, and when the draft report is being prepared.</p> <p>In the case of Category B projects, JICA encourages project proponents etc. to consult with local stakeholders when necessary.</p> | n.a.            | n.a.   | n.a.                          |
| <b>Disclosure</b>          | <p>In principle, project proponents etc. disclose information about the environmental and social considerations of their projects.</p> <p>JICA encourages project proponents etc. to disclose and present information about environmental and social considerations to local stakeholders.</p> <p>Project proponents etc. disclose information well in advance when they have meetings with local stakeholders in cooperation with JICA. On these occasions, JICA supports project proponents etc. in the preparation of</p>   | <p>For meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B projects proposed for IBRD or IDA financing, the borrower provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted.</p> <p>For a Category A project, the borrower provides for the initial consultation a summary of the proposed project's</p>   | <p>In principle, project proponents etc. disclose information about the environmental and social considerations of their projects.</p> <p>JICA encourages project proponents etc. to disclose and present information about environmental and social considerations to local stakeholders.</p> <p>Project proponents etc. disclose information well in advance when they have meetings with local stakeholders in cooperation with JICA. On these occasions, JICA supports project proponents etc. in the preparation of documents in an official or widely used language and in a form understandable by</p>  | n.a.            | n.a.   | n.a.                          |

| Aspect         | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.01   | Harmonized Policy  | Government laws | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|----------------|--|---|--|-----------------|--|-------------------------------|
|                | <p>documents in an official or widely used language and in a form understandable by local people. (2.1/1, 6,7)</p> <p>For Category A project, JICA publishes the status of host countries' submission of major documents on environmental and social considerations on its website. Prior to its environmental review, JICA also discloses EIA reports and environmental permit certifications 120 days prior to concluding agreement documents. JICA discloses a translated version of EIA reports, subject to approval by project proponents etc.</p> <p>For Category B project, JICA discloses EIA reports and environmental permit certifications, when these documents are submitted by project proponents etc.</p> <p>(Sec.3/3.2/3.2.1/(1), (2))</p> | <p>objectives, description, and potential impacts. In addition, for a Category A project, the borrower makes the draft EA report available at a public place accessible to project-affected groups and local NGOs.</p> <p>Any separate Category B report for a project proposed for IDA financing is made available to project-affected groups and local NGOs.</p>                | <p>local people.</p> <p>For Category A project, JICA publishes the status of host countries' submission of major documents on environmental and social considerations on its website. Prior to its environmental review, JICA also discloses EIA reports and environmental permit certifications 120 days prior to concluding agreement documents. JICA discloses a translated version of EIA reports, subject to approval by project proponents etc.</p> <p>For Category B project, JICA discloses EIA reports and environmental permit certifications, when these documents are submitted by project proponents etc.</p>   |                 |  |                               |
| Implementation | <p>JICA confirms with project proponents etc. the results of monitoring the items that have significant environmental impacts. This is done in order to confirm that project proponents etc. are undertaking environmental and social considerations for projects that fall under Categories A, B, and FI.</p> <p>The information necessary for monitoring confirmation by JICA must be supplied by project proponents etc. by appropriate means, including in writing. When necessary, JICA may also conduct its own investigations.</p> <p>JICA discloses the results of monitoring conducted by project proponents etc. on its website to the extent that they are made public in project proponents etc.</p> <p>(3.2.2/1,2, 7)</p>                     | <p>The borrower reports on</p> <p>(a) compliance with measures agreed with the Bank on the basis of the findings and results of the EA, including implementation of any EMP</p> <p>(b) the status of mitigatory measures</p> <p>(c) the findings of monitoring programs</p> <p>The Bank bases measures set out in the legal agreements, any EMP, and other project documents.</p> | <p>JICA confirms with project proponents etc. the results of monitoring the items that have significant environmental impacts. This is done in order to confirm that project proponents etc. are undertaking environmental and social considerations for projects that fall under Categories A, B, and FI.</p> <p>The information necessary for monitoring confirmation by JICA must be supplied by project proponents etc. by appropriate means, including in writing. When necessary, JICA may also conduct its own investigations.</p> <p>JICA discloses the results of monitoring conducted by project proponents etc. on its website to the extent that they are made public in project proponents etc.</p> | n.a.            | n.a.   | n.a.                          |

## **Attachment 20 Guidelines regarding Land Acquisition and Resettlement**

### **Guidelines for Land and Asset Acquisition, Entitlements and Compensation**

#### **I. Objectives**

1. Resettlement and land acquisition will be kept to a minimum, and will be carried out in accordance with these guidelines. Subproject proposals that would require demolishing houses or acquiring productive land should be carefully reviewed to minimize or avoid their impacts through alternative alignments. Proposals that require more than minor expansion along rights of way should be carefully reviewed. No land or asset acquisition may take place outside of these guidelines. A format for a Land Acquisition Assessment Data Sheet is attached as Attachment 3(i).
2. These guidelines provide principles and instructions to compensate negatively affected persons to ensure that they will be assisted to improve, or at least to restore, their living standards, income earning or production capacity to pre-project levels regardless of their land tenure status.

#### **II. Categorization**

3. Based on the number of persons that may be affected by the project, Project Affected People (PAPs) and the magnitude of impacts, projects will be categorized as follows:
  - (a) Projects that will affect more than 200 PAPs due to land acquisition and/or physical relocation and where a full Resettlement Action Plan (RAP) must be produced. If the RAP cannot be prepared prior to project appraisal, a waiver can be provided by the World Bank Managing Director (MD) in consultation with the Resettlement Committee. In such cases, the TT should agree with the Borrower on a timetable for preparation of the RAP.
  - (b) Projects that will affect less than 200 persons require the following documentation: (i) a land acquisition assessment, (ii) the minutes or record of consultations which assess the compensation claimed and agreement reached, and (iii) a record of the receipt of the compensation, or voluntary donation, by those affected (see below).
  - (c) Projects that are not expected to have any land acquisition or any other significant adverse social impacts; on the contrary, significant positive social impact and improved livelihoods are expected from such interventions.

#### **III. Eligibility**

4. PAPs are identified as persons whose livelihood is directly affected by the project due to acquisition of the land owned or used by them. PAPs deemed eligible for compensation are:
  - (a) those who have formal legal rights to land, water resources or structures/buildings, including recognized customary and traditional rights;
  - (b) those who do not have such formal legal rights but have a claim to usufruct rights rooted in customary law; and

- (c) those whose claim to land and water resources or building/structures do not fall within (a) and (b) above, are eligible to resettlement assistance to restore their livelihood.

#### **IV. Acquisition of Productive Assets and Compensation**

- 5. PAPs are eligible for replacement costs for lost assets as described below:
  - (a) *Voluntary contributions.* Individuals may elect to voluntarily contribute land or assets provided the persons making such contributions do so willingly and are informed that they have the right to refuse such contributions; and
  - (b) *Contributions against compensation.* A contributor/asset loser considered "affected" will be eligible for compensation and other necessary assistance.
- 6. Voluntary contribution should be clearly documented to confirm the voluntary nature of the transition. The documentation should specify that the land is free of any squatters, encroachers or other claims. A format is shown in Attachment 3(i), which includes a Schedule for assessing any compensation claimed and the agreement reached.

#### **V. Compensation Principles**

- 7. The project implementation agencies will ensure timely provision of the following means of compensation to affected peoples:
  - (a) Project affected peoples losing access to a portion of their land or other productive assets with the remaining assets being economically viable are entitled to compensation at a replacement cost for that portion of land or assets lost to them. Compensation for the lost assets will be made according to the following principles:
    - (i) replacement land with an equally productive plot, cash or other equivalent productive assets;
    - (ii) materials and assistance to fully replace solid structures that will be demolished;
    - (iii) replacement of damaged or lost crops and trees, at market value;
    - (iv) other acceptable in-kind compensation;
    - (v) in case of cash compensation, the delivery of compensation should be made in public, i.e., at the Community Meeting; and
    - (vi) in case of physical relocation, provision of civic infrastructure at the resettlement sites.
  - (b) Project affected peoples losing access to a portion of their land or other economic assets rendering the remainder economically non-viable will have the options of compensation for the entire asset by provision of alternative land, cash or equivalent productive asset, according to the principles in (a) i-iv above.

## **VI. Consultation Process**

8. The implementing agencies will ensure that all occupants of land and owners of assets located in a proposed subproject area are consulted. Community meetings will be held in each affected district and village to inform the local population of their rights to compensation and options available in accordance with these Guidelines. The Minutes of the community meetings shall reflect the discussions held, agreements reached, and include details of the agreement, based on the format provided in Attachment 3(ii).

9. The implementing agency shall provide a copy of the Minutes to affected people and confirm in discussions with each of them, their requests and preferences for compensation, agreements reached, and any eventual complaint. Copies will be recorded in the posted project documentation and be available for inspection during supervision.

### **Subproject Approval**

10. In the event that a subproject involves acquisition against compensation, the implementing agency shall:

- (a) not approve the subproject unless satisfactory compensation has been agreed between the affected person and the local community; and
- (b) not allow works to start until the compensation has been delivered in a satisfactory manner to the affected persons.

### **Complaints and Grievances**

11. Initially, all complaints should be negotiated to reach an agreement at the local community/village/district level. If this fails, complaints and grievances on these Guidelines, implementation of the agreements recorded in the Community Meeting Minutes or any alleged irregularity in carrying out the project can also be addressed by the affected peoples or their representative at the municipal or district level. If this also fails, the complaint may be submitted to the relevant implementing agency for consideration.

### **Verification**

12. The Community Meeting Minutes, including agreements of compensation and evidence of compensation made shall be provided to the Municipality/district, to the supervising engineers, who will maintain a record hereof, and to auditors and socio-economic monitors when they undertake reviews and post-project assessment. This process shall be specified in all relevant project documents, including details of the relevant authority for complaints at the municipal/district or implementing agency level.



**Land Acquisition Assessment Data Sheet**  
(To be used to record information on all land to be acquired)

1. Quantities of land/structures/other assets required:
2. Date to be acquired:
3. Locations:
4. Owners:
5. Current uses:
6. Users:
  - Number of Customary Claimants:
  - Number of Squatters:
  - Number of Encroachers:
  - Number of Owners:
  - Number of Tenants:
  - Others (specify): \_\_\_\_\_ Number: \_\_\_\_\_
7. How land/structures/other assets will be acquired (identify one):
  - Donation
  - Purchase
8. Transfer of Title:
  - Ensure these lands/structures/other assets are free of claims or encumbrances.
  - Written proof must be obtained (notarized or witnessed statements) for the voluntary donation, or acceptance of the prices paid from those affected, together with proof of title being vested in the community, or guarantee of public access, by the title-holder.
9. Describe grievance mechanisms available:

**Format to Document Contribution of Assets**

The following agreement has been made on..... day of.....  
between.....resident of .....(the Owner)  
and .....(the Recipient).

1. That the Owner holds the transferable right of .....donum of  
land/structure/asset in.....
2. That the Owner testifies that the land/structure is free of squatters or encroachers and not subject  
to other claims.
3. That the Owner hereby grants to the Recipient this asset for the construction and development of  
.....for the benefit of the villagers and the public at large.

*(Either, in case of donation:)*

4. That the Owner will not claim any compensation against the grant of this asset.

*(Or, in case of compensation:)*

4. That the Owner will receive compensation against the grant of this asset as per the attached  
Schedule.
5. That the Recipient agrees to accept this grant of asset for the purposes mentioned.
6. That the Recipient shall construct and develop the.....and take all possible  
precautions to avoid damage to adjacent land/structure/other assets.
7. That both the parties agree that the.....so constructed/developed shall be public  
premises.
8. That the provisions of this agreement will come into force from the date of signing of this deed.

\_\_\_\_\_  
Signature of the Owner

\_\_\_\_\_  
Signature of the Recipient

Witnesses:

1. \_\_\_\_\_
2. \_\_\_\_\_  
(Signature, name and address)

**Schedule of  
Compensation of Asset Requisition**

| <b>Summary of<br/>Affected Unit/Item</b>   | <b>Units to be Compensated</b> | <b>Agreed Compensation</b> |
|--|--------------------------------|----------------------------|
| a. Urban/agricultural<br>land (m <sup>2</sup> ):                                   | _____                          | _____                      |
| b. Houses/structures to be<br>demolished (units/m <sup>2</sup> ):                  | _____                          | _____                      |
| c. Type of structure to be<br>demolished (e.g. mud,<br>brick, cement block, etc.): | _____                          | Not Applicable.            |
| d. Trees or crops affected:  | _____                          | _____                      |
| e. Water sources affected:   | _____                          | _____                      |

Signatures of local community representatives, Sheikh/Head of Tribe:

Include record of any complaints raised by affected persons:

Map attached (showing affected areas and replacement areas):

**Attachment 21 Gaps between Relevant Regulations in Iraq and JICA Guidelines as well as Safeguard Policies in the World Bank – Involuntary Resettlement**

| Aspect                                   | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.12  | Harmonized Policy  | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--|--|--|--|--|--|-------------------------------|
| <b>Objective</b>                         |  |  |  |  |  |                               |
| <b>Avoid involuntary resettlement</b>    | Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.   | Involuntary resettlement should be avoided where feasible  | Avoid involuntary resettlement and adverse impacts on people and communities, wherever feasible.   | n.a.   | n.a.   | n.a.                          |
| <b>Minimize involuntary resettlement</b> | When, after such an examination, avoidance is proved unfeasible, effective measures to minimize impact and to compensate for losses must be agreed upon with the people who will be affected.          | Minimize involuntary resettlement by exploring all viable alternative project designs  | If displacement is unavoidable, minimize involuntary resettlement by:<br>(i) exploring alternative project designs;<br>(ii) Effective measures to minimize impact in consultation with the people who are affected.  | n.a.   | n.a.   | n.a.                          |
| <b>Mitigate adverse social impacts</b>   | People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported by project proponents etc. in a timely manner. | Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. | Where IR is unavoidable, effective measures to mitigate adverse social and economic impacts on affected persons by:<br>(a) providing compensation for loss of assets at replacement cost;<br>(b) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected<br>(c) improve or at least restore the livelihoods and standards of living of displaced persons, and<br>(d) improve living conditions among displaced persons through provision of adequate housing with security of tenure at resettlement sites. | n.a.   | n.a.   | n.a.                          |
| <b>Core principle</b>                    |  |  |  |  |  |                               |
| <b>Screening</b>                         | JICA classifies projects into four categories according to the extent of environmental and social impacts,   | -  | Every development intervention will be screened, as early as possible in the project cycle, to identify the people who may be  | n.a.   | n.a.   | n.a.                          |

| Aspect                   | JICA Guidelines for Environmental and Social Considerations (April 2010)  | World Bank OP4.12   | Harmonized Policy  | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--------------------------|---|---|--|--|--|-------------------------------|
|                          | taking into account an outline of project, scale, site condition, etc.<br>JICA requests that Project proponents etc.. fill in the screening form found in Appendix 4; the information in this form will be a reference for the categorization of proposed projects.   |   | beneficially and adversely affected, and to determine the scope of a social assessment to assess those affects and impacts.  |  |  |                               |
| <b>Categorization</b>    | Projects that are likely to have a significant adverse impact on the environment and society are categorized as “Category A” even if they are not included in the sectors, characteristic, or areas on the list.<br><br>Sensitive Characteristics<br>(1)Large-scale involuntary resettlement  | Project displaces fewer than 200 people & entails Minor Resettlement impacts namely –<br>a) all the DPs lose less than 10% of their land, regardless of the number of APs<br>b) the remainder of their land is economically viable;<br>c) they have no need for physical relocation<br><br>Project that displace more than 200 people and entail major impacts  | Categorize impacts by “significance” and define the scale of impacts – both direct and indirect – with particular attention to economic and livelihood impacts<br><br>Plan mitigations for all types of losses in the RP   | n.a.   | n.a.   | n.a.                          |
| <b>Resettlement Plan</b> | For projects that will result in large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. | To cover the direct social and economic impacts that that are caused by the involuntary taking of land and/or the involuntary restriction of access to legally designated parks and protected areas, the borrower will prepare a Resettlement plan or resettlement policy framework . The RP or framework will include measures to ensure that the displaced persons are provided assistance during relocation; provided with residential housing, or housing sites, or as required agricultural sites; offered | For all interventions that involve resettlement or physical or economic displacement, a resettlement plan will be prepared which will establish the entitlements of all categories of affected persons (including host communities), with particular attention paid to the needs of the poor and the vulnerable. The RP will lay down appropriate time-bound actions and budgets, and the full costs of resettlement, compensation, and rehabilitation will be included in the presentation of the costs and benefits of the development intervention. | n.a.   | n.a.   | n.a.                          |

| Aspect                             | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.12  | Harmonized Policy  | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|------------------------------------|--|--|--|--|--|-------------------------------|
|                                    |  | transitional support; provided with development assistance in addition to compensation.  |  |  |  |                               |
| <b>Alternatives</b>                | Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.   | Assess all viable alternative project designs to avoid, where feasible, or minimize involuntary resettlement.  | Multiple alternative proposals must be examined to avoid or minimize involuntary resettlement and physical, or economic displacement and to choose a better project option while balancing environmental social and financial costs and benefits.  | n.a.   | n.a.   | n.a.                          |
| <b>Social Assessment</b>           | The impacts to be assessed with regard to environmental and social considerations. These also include social impacts, including migration of population and involuntary resettlement, local economy such as employment and livelihood, utilization of land and local resources, social institutions such as social capital and local decision-making institutions, existing social infrastructures and services, vulnerable social groups such as poor and indigenous peoples, equality of benefits and losses and equality in the development process, gender, children's rights, cultural heritage, local conflicts of interest, infectious diseases such as HIV/AIDS, and working conditions including occupational safety. | Through census and socio-economic surveys of the affected population, identify, assess, and address the potential economic and social impacts of the project that are caused by involuntary taking of land (e.g. relocation or loss of shelter, loss of assets or access to assets, loss of income sources or means of livelihood, whether or not the affected person must move to another location) or involuntary restriction of access to legally designated parks and protected areas. | Assess at an early stage of the project cycle the potential social and economic impacts caused by involuntary taking of land (e.g. relocation or loss of shelter, loss of assets or access to assets, loss of income sources or means of livelihood, whether or not the affected person must move to another location) or involuntary restriction of access to legally designated parks and protected areas and to determine who will be eligible for compensation and assistance. | n.a.   | n.a.   | n.a.                          |
| <b>Involvement of stakeholders</b> | Appropriate participation by affected people and their communities must be promoted in the planning, implementation, and monitoring of resettlement action plans and measures  | Consult project-affected persons, host communities and local nongovernmental organizations, as appropriate. Provide them opportunities to participate in the   | Consult project-affected persons, host communities and local nongovernmental organizations, as appropriate. Provide them opportunities to participate in the planning, implementation, and monitoring of the   | n.a.   | n.a.   | n.a.                          |

| Aspect   | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.12   | Harmonized Policy   | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--|--|---|---|--|--|-------------------------------|
|  | to prevent the loss of their means of livelihood.  | planning, implementation, and monitoring of the resettlement program, especially in the process of developing and implementing the procedures for determining eligibility for compensation benefits and development assistance (as documented in a resettlement plan), and for establishing appropriate and accessible grievance mechanisms. Pay particular attention to the needs of vulnerable groups among those displaced, especially those below the poverty line, the landless, the elderly, women and children, Indigenous Peoples, ethnic minorities, or other displaced persons who may not be protected through national land compensation legislation. | resettlement program, especially in the process of developing and implementing the procedures for determining eligibility for compensation benefits and development assistance (as documented in a resettlement plan), and for establishing appropriate and accessible grievance mechanisms. Pay particular attention to the needs of vulnerable groups among those displaced, especially those below the poverty line, the landless, the elderly, women and children, Indigenous Peoples, ethnic minorities, or other displaced persons who may not be protected through national land compensation legislation. |  |  |                               |
| <b>Existing social and cultural institutions</b> | The impacts to be assessed with regard to environmental and social considerations. These also include social impacts, including social institutions such as social capital and local decision-making institutions, existing social infrastructures and services, vulnerable social groups such as poor and indigenous peoples. | To the extent possible, the existing social and cultural institutions of resettlers and any host communities are preserved and resettlers' preferences with respect to relocating in pre-existing communities and groups are honoured.  | Ensure that the existing social and cultural institutions of the resettlers and any host communities are supported and used to the extent possible, including legal, policy and institutional framework of the country to the extent that the intent and spirit of the IR policy is maintained.<br><br>Projects must be adequately coordinated so that they are accepted in manner that is socially appropriate to the country and locality in which the Project is planned.  |  |  |                               |
| <b>Definition of displaced persons</b>           | People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost   | 1) those who have formal legal rights to land (including customary and traditional rights   | 1) those who have formal legal rights to land (including customary and traditional rights recognized under the  | n.a.   | n.a.   | n.a.                          |

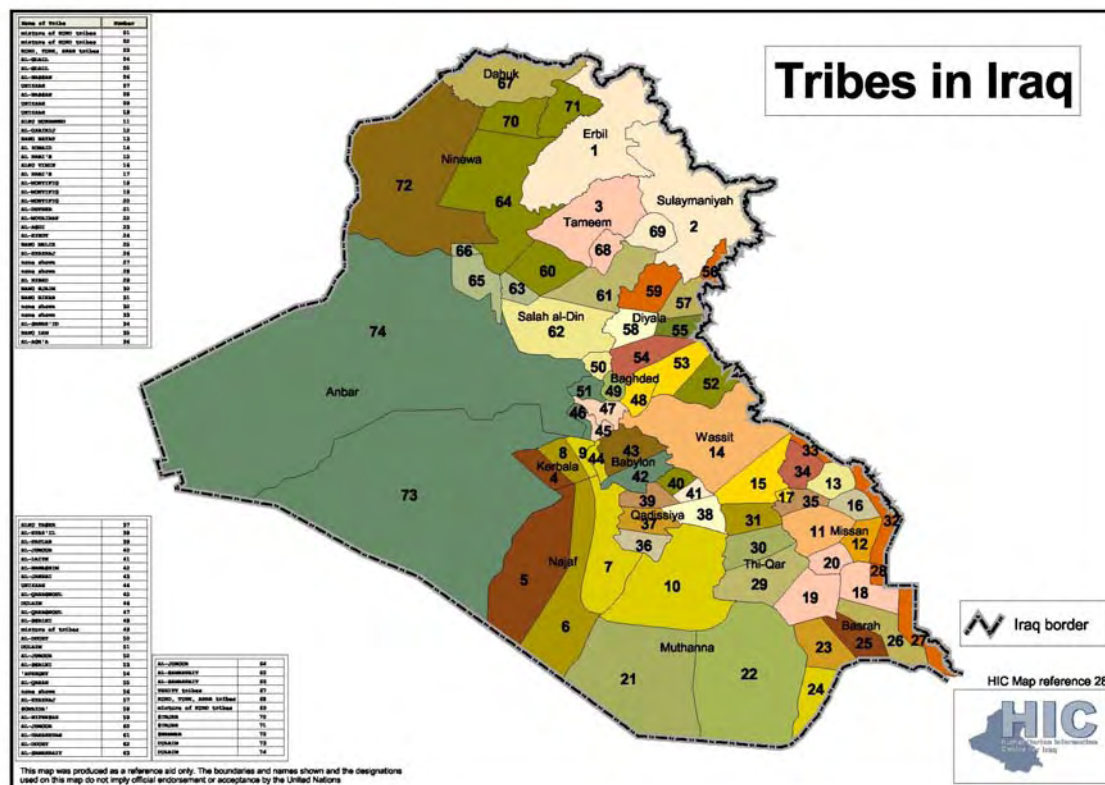
| Aspect                   | JICA Guidelines for Environmental and Social Considerations (April 2010)   | World Bank OP4.12   | Harmonized Policy  | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|--------------------------|--|---|--|--|--|-------------------------------|
|                          | must be sufficiently compensated and supported by project proponents etc. in a timely manner.  | <p>recognized under the laws of the country);</p> <p>2) those who do not have formal legal rights to land at the time the census begins but have a claim to such land or assets—provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan</p> <p>3) those who have no recognizable legal right or claim to the land they are occupying.</p> | <p>laws of the country);</p> <p>2) those who do not have formal legal rights to land at the time the census begins but have a claim to such land or assets—provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan</p> <p>3) those who have no recognizable legal right or claim to the land they are occupying.</p> |  |  |                               |
| <b>Vulnerable group</b>  | Appropriate consideration must be given to vulnerable social groups, such as women, children, the elderly, the poor, and ethnic minorities, all members of which are susceptible to environmental and social impacts and may have little access to decision-making processes within society. | Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.   | Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.  | n.a.   | n.a.   | n.a.                          |
| <b>Replacement Cost</b>  | Prior compensation, at full replacement cost, must be provided as much as possible.  | The methodology to be used in valuing losses to determine their replacement cost  | The methodology to be used in valuing losses to determine their replacement cost   | n.a.   | n.a.   | n.a.                          |
| <b>Capacity Building</b> | JICA makes efforts to enhance the comprehensive capacity of organizations and operations in order for project proponents etc., to have consideration for environmental and social factors, appropriately and effectively, at all times   | Financing of technical assistance to strengthen the capacities of agencies responsible for resettlement, or of affected people to participate more effectively in resettlement operations.  | <p>Assist in building capacity of DMCs on best practice on involuntary resettlement planning and implementation</p> <p>Financing of technical assistance to strengthen the capacities of agencies responsible for resettlement, or of affected people to participate more effectively in resettlement operations.</p>  | n.a.   | n.a.   | n.a.                          |



| Aspect                        | JICA Guidelines for Environmental and Social Considerations (April 2010)  | World Bank OP4.12   | Harmonized Policy   | Government laws covering eminent domain and resettlement | Gaps between Harmonized Policy and Government laws | The mechanisms to bridge gaps |
|-------------------------------|---|---|---|--|--|-------------------------------|
| <b>Grievance procedures</b>   | Aproprate and accessible grievance mechanisms must be established for the affected people and their communities.  | A grievance redress mechanisms for simplicity, accessibility, affordability, and accountability   | A grievance redress mechanisms for simplicity, accessibility, affordability, and accountability   | n.a.   | n.a.   | n.a.                          |
| <b>Information Disclosure</b> | For projects that will result in large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. | Disclose draft resettlement plans, including documentation of the consultation process, in a timely manner, before appraisal formally begin, in an accessible place and in a form and language that are understandable to key stakeholders. | Disclose the resettlement plan including documentation of the consultation process, in a form and language(s) accessible to key stakeholders, civil society, particularly affected groups and the general public in an accessible place for a reasonable minimum period.  | n.a.   | n.a.   | n.a.                          |
| <b>Monitoring</b>             | After projects begin, project proponents etc. monitor whether any unforeseeable situations occur and whether the performance and effectiveness of mitigation measures are consistent with the assessment's prediction. They then take appropriate measures based on the results of such monitoring.                                       | The borrower is responsible for adequate monitoring & evaluation of the activities set forth in the resettlement instrument.  | <p>The borrower is responsible for adequate monitoring &amp; evaluation of the activities set forth in the resettlement instrument.</p> <p>It is desirable that the project proponents monitor:</p> <p>(i) whether any situations that were unforeseeable before the project began have arisen;</p> <p>(ii) the implementation situation and the effectiveness of the mitigation measures prepared in advance, and that they then take appropriate measures based on the results of such monitoring</p> <p>(iii) involve independent external experts for resettlement monitoring</p> <p>(iv) monitoring reports must be made public and additional steps to be taken, if required.</p> | n.a.   | n.a.   | n.a.                          |



## Attachment 22 Tribes in Iraq



Source : Humanitarian Information Center Iraq, 2003

Note) Comparison table of number and the name of the tribe are as follows.

| Number | Name of Tribe          | Number | Name of Tribe | Number | Name of Tribe |
|--------|------------------------|--------|---------------|--------|---------------|
| 01     | Mixture of KURD tribes | 26     | AL-KHAZRAJ    | 51     | DULAIM        |
| 02     | Mixture of KURD tribes | 27     | None shown    | 52     | AL-JUBOUR     |
| 03     | KURD,TURK,ARAB tribes  | 28     | None shown    | 53     | AL-SSALHI     |
| 04     | AL-GLALL               | 29     | AL RIBAD      | 54     | 'ATEEGHY      |
| 05     | AL-GLALL               | 30     | BANO HJAIM    | 55     | AL-QARAH      |
| 6      | AL-HASSAN              | 31     | BANO RIBAD    | 56     | None shown    |
| 7      | UTIZZAH                | 32     | None shown    | 57     | AL-KHAZRAJ    |
| 8      | AL-HASSAN              | 33     | None shown    | 58     | SOMAIDA'      |
| 9      | UTIZZAH                | 34     | AL-SAWAE'ID   | 59     | AL-NIFEESAH   |
| 10     | UTIZZAH                | 35     | BANO LAM      | 60     | AL-JUBOUR     |
| 11     | ALBU MUHAMMED          | 36     | AL-AGR'A      | 61     | AL-TAKARETAH  |
| 12     | AL-OZAIIRIJ            | 37     | ALBU YASER    | 62     | AL-DDURY      |
| 13     | BANO BAYAT             | 38     | AL-KHAZ'H     | 63     | AL-SAMARRAIY  |
| 14     | AL ZOBAID              | 39     | AL-FATLAH     | 64     | AL-JUBOUR     |
| 15     | AL RABI'H              | 40     | AL-JUBOUR     | 65     | AL-SAMARRAIY  |
| 16     | ALBU TIMIN             | 41     | AL-LAITH      | 66     | AL-SAMARRAIY  |

|    |             |    |                   |    |                        |
|----|-------------|----|-------------------|----|------------------------|
| 17 | AL RABI'H   | 42 | AL-HAWASHIM       | 67 | TKRITY tribes          |
| 18 | AL-MONTIFIG | 43 | AL-JANABI         | 68 | KURD,TURK,ARAB tribes  |
| 19 | AL-MONTIFIG | 44 | UNIZZAH           | 69 | Mixture of KURD tribes |
| 20 | AL-MONTIFIG | 45 | AL-QARAGHOUL      | 70 | SINJAR                 |
| 21 | AL-DUFEER   | 46 | DULAIM            | 71 | SINJAR                 |
| 22 | AL-MOTAIRAT | 47 | AL-QARAGHOUL      | 72 | SHAMMAR                |
| 23 | AL-ASDI     | 48 | AL-SSALHI         | 73 | DULAIM                 |
| 24 | AL-KINDY    | 49 | Mixture of tribes | 74 | DULAIM                 |
| 25 | BANO MALIK  | 50 | AL-DDURY          |    |                        |

**Attachment 23 Gaps between Relevant Regulations in Iraq and JICA Guidelines as well as Safeguard Policies in the World Bank – Indigenous People**

| Aspect                                       | JICA Guidelines for Environmental and Social Consideration (April 2010)  | World Bank OP4.10   | Harmonized Policy   | Government Laws | Gaps between Harmonized Policy and Government Laws | The Mechanisms to bridge gaps |
|--|--|---|---|-----------------|--|-------------------------------|
| <b>Objective</b>                             |  |   |   |                 |  |                               |
| <b>Term</b>                                  |  | Indigenous Peoples may be referred to in different countries by such terms as "indigenous ethnic minorities," "aboriginals," "hill tribes," "minority nationalities," "scheduled tribes," or "tribal groups."   | Indigenous Peoples may be referred to in different countries by such terms as "indigenous ethnic minorities," "aboriginals," "hill tribes," "minority nationalities," "scheduled tribes," or "tribal groups."   | n.a.            | n.a.   | n.a.                          |
| <b>Characteristics of Indigenous Peoples</b> |  | <p>“Indigenous Peoples” is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees:</p> <p>(a) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;</p> <p>(b) collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories</p> <p>(c) customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and</p> <p>(d) an indigenous language, often different from the official language of the country or region.</p> | <p>“Indigenous Peoples” is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees:</p> <p>(a) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;</p> <p>(b) collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories</p> <p>(c) customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and</p> <p>(d) an indigenous language, often different from the official language of the country or region.</p> | n.a.            | n.a.   | n.a.                          |
| <b>Objective</b>                             | Any adverse impacts that a project may have on indigenous peoples are to be avoided when feasible by exploring all viable alternatives. When, after such an examination, avoidance is provided unfeasible, effective measures must be taken to minimize impacts and to compensate indigenous peoples for their losses. | To include measures to (a) avoid potentially adverse effects on the Indigenous Peoples’ communities; or (b) when avoidance is not feasible, minimize, or compensate for such effects.   | Any adverse impacts that a project may have on indigenous peoples are to be avoided when feasible by exploring all viable alternatives. When, after such an examination, avoidance is provided unfeasible, effective measures must be taken to minimize impacts and to compensate indigenous peoples for their losses.  | n.a.            | n.a.   | n.a.                          |
| <b>Project Preparation</b>                   |  |   |   |                 |  |                               |
| <b>Screening</b>                             |  | Early in project preparation, the Bank undertakes a screening to determine whether Indigenous Peoples are present in, or have collective attachment to, the project area. The Bank may follow the borrower’s framework for identification of Indigenous Peoples during project screening, when that framework is consistent with this policy.   | Early in project preparation, JICA undertakes a screening to determine whether Indigenous Peoples are present in, or have collective attachment to, the project area. JICA may follow the borrower’s framework for identification of Indigenous Peoples during project screening, when that framework is consistent with this policy.   | n.a.            | n.a.   | n.a.                          |
| <b>Categorization</b>                        | Projects that are likely to have a significant adverse impact on the   | No categorization system  | Projects that are likely to have a significant adverse impact on the  | n.a.            | n.a.   | n.a.                          |

| Aspect                         | JICA Guidelines for Environmental and Social Consideration (April 2010)  | World Bank OP4.10  | Harmonized Policy  | Government Laws | Gaps between Harmonized Policy and Government Laws | The Mechanisms to bridge gaps |
|--------------------------------|--|--|--|-----------------|--|-------------------------------|
|                                | <p>environment and society are categorized as “Category A” even if they are not included in the sectors, characteristic, or areas on the list.</p> <p>Sensitive Areas</p> <p>b) Areas inhabited by ethnic minorities, indigenous peoples, or nomadic peoples with traditional ways of life, and other areas with special social value</p> <p>Projects are classified as Category B if their potential adverse impacts on the environment and society are less adverse than those of Category A projects. Generally, they are site-specific; few if any are irreversible; and in most cases, normal mitigation measures can be designed more readily.</p>   |  | <p>environment and society are categorized as “Category A” even if they are not included in the sectors, characteristic, or areas on the list.</p> <p>Sensitive Areas</p> <p>b) Areas inhabited by ethnic minorities, indigenous peoples, or nomadic peoples with traditional ways of life, and other areas with special social value</p> <p>Projects are classified as Category B if their potential adverse impacts on the environment and society are less adverse than those of Category A projects. Generally, they are site-specific; few if any are irreversible; and in most cases, normal mitigation measures can be designed more readily.</p> |                 |  |                               |
| <b>Indigenous Peoples Plan</b> | <p>For some Category A projects that will require the measures for indigenous people, an IPP must be submitted. It is desirable that the IPP include the elements laid out in the World Bank Safeguard Policy, OP4.10, Annex B. JICA's funding of projects is provided to a financial intermediary or executing agency; the selection and appraisal of the sub-projects is substantially undertaken by such an institution only after JICA's approval of the funding. In such cases, JICA examines the related financial intermediary to see whether appropriate environmental and social considerations as stated in the guidelines are ensured for projects in this category. JICA also examines institutional capacity in order to confirm environmental and social considerations of the financial intermediary.</p> | <p>The borrower prepares an Indigenous Peoples Plan (IPP) that sets out the measures through which the borrower will ensure (a) Indigenous Peoples affected by the project receive culturally appropriate social and economic benefits; and (b) where potential adverse effects on Indigenous Peoples are identified, those adverse effects are avoided, minimized, mitigated, or compensated for.</p> <p>Some projects involve the preparation and implementation of annual investment programs or multiple subprojects. In such cases, the borrower prepares an Indigenous Peoples Planning Framework (IPPF). The IPPF provides for the screening and review of these programs or subprojects in a manner consistent with this policy.</p> | <p>For all interventions which may have potential adverse effects on Indigenous Peoples, an IPP will be prepared which will identify the potential adverse effects and avoid, minimize, mitigate, or compensate for the effects.</p> <p>IPP should include the elements laid out in the World Bank Safeguard Policy, OP4.10, Annex B.</p> <p>Some projects involve the preparation and implementation of annual investment programs or multiple subprojects. In such cases, the borrower prepares an IPPF. The IPPF provides for the screening and review of these programs or subprojects in a manner consistent with this policy.</p>                  | n.a.            | n.a.   | n.a.                          |
| <b>Social Assessment</b>       |  | <p>The borrower undertakes a social assessment to evaluate the project's potential positive and adverse effect on the Indigenous Peoples, and to examine project alternatives where adverse effects may be significant.</p> <p>To carry out the social assessment and prepare the IPP/IPPF, the borrower pays particular attention to:</p>   | <p>The borrower undertakes a social assessment to evaluate the project's potential positive and adverse effect on the Indigenous Peoples, and to examine project alternatives where adverse effects may be significant.</p> <p>To carry out the social assessment and prepare the IPP/IPPF, the borrower pays particular attention to:</p>   | n.a.            | n.a.   | n.a.                          |

| Aspect  | JICA Guidelines for Environmental and Social Consideration (April 2010)   | World Bank OP4.10  | Harmonized Policy  | Government Laws | Gaps between Harmonized Policy and Government Laws | The Mechanisms to bridge gaps |
|---|---|--|--|-----------------|--|-------------------------------|
|   |   | (a) the customary rights of the Indigenous Peoples, both individual and collective;<br>(b) the need to protect such lands and resources against illegal intrusion or encroachment;<br>(c) the cultural and spiritual values; and<br>(d) Indigenous Peoples' natural resources management practices and the long-term sustainability if such practices.   | (a) the customary rights of the Indigenous Peoples, both individual and collective;<br>(b) the need to protect such lands and resources against illegal intrusion or encroachment;<br>(c) the cultural and spiritual values; and<br>(d) Indigenous Peoples' natural resources management practices and the long-term sustainability if such practices.   |                 |  |                               |
| <b>Free, prior, and informed consultation.</b>    | When the projects may have adverse impacts on indigenous peoples, efforts must be made to obtain the consent of indigenous peoples in a process of free, prior, and informed consultation.  | Where the project affects Indigenous People, the borrower engages in free, prior, and informed consultation with them.<br>To ensure such consultation, the borrower: (a) establishes an appropriate gender and intergenerationally inclusive framework;<br>(b) uses consultation methods appropriate to the social and cultural values of the affected Indigenous Peoples' communities and their local conditions; and<br>(c) provides the affected Indigenous Peoples' communities with all relevant information about the project in a culturally appropriate manner at each stage of project preparation and implementation.<br><br>Where the affected Indigenous Peoples' communities provide their broad support to the project, the borrower prepares a detailed report. | When the projects may have adverse impacts on indigenous peoples, efforts must be made to obtain the consent of indigenous peoples in a process of free, prior, and informed consultation.<br>To ensure such consultation, the borrower: (a) establishes an appropriate gender and intergenerationally inclusive framework;<br>(b) uses consultation methods appropriate to the social and cultural values of the affected Indigenous Peoples' communities and their local conditions; and<br>(c) provides the affected Indigenous Peoples' communities with all relevant information about the project in a culturally appropriate manner at each stage of project preparation and implementation.<br><br>Where the affected Indigenous Peoples' communities provide their broad support to the project, the borrower prepares a detailed report. | n.a.            | n.a.   | n.a.                          |
| <b>Preparation of Program and Subproject IPPs</b> | In principle, JICA undertakes environmental reviews for the sub-projects prior to their implementation in a same manner as specified for Category A projects, if those sub-projects are likely to be under the cooperation projects.                  | The borrower ensures that, before the individual program or subproject is implemented, a social assessment is carried out and IPP is prepared in accordance with the requirement of this policy.   | For Category A sub-projects, end-users shall carry out a social assessment and prepare IPP prior to their implementation   | n.a.            | n.a.   | n.a.                          |
| <b>Disclosure</b>                                 | Prior to its environmental review, JICA disclose IPPs for projects that address issues of indigenous people. Measures for the affected indigenous peoples must be prepared as an IPP and must be made public in compliance with the relevant laws and | The borrower makes the social assessment report and draft IPP/IPPF available to the affected Indigenous Peoples' communities in an appropriate form, manner, and language.   | Disclose the IPPs including documentation of the consultation process, in a form and language(s) accessible to key stakeholders, civil society, particularly affected groups and the general public in an accessible place for a reasonable minimum period.  | n.a.            | n.a.   | n.a.                          |

| Aspect  | JICA Guidelines for Environmental and Social Consideration (April 2010)   | World Bank OP4.10  | Harmonized Policy  | Government Laws | Gaps between Harmonized Policy and Government Laws | The Mechanisms to bridge gaps |
|---|---|--|--|-----------------|--|-------------------------------|
|   | ordinances of the host country.   |  |  |                 |  |                               |
| <b>Grievance procedures</b>                                     | Appropriate and accessible grievance mechanisms must be established for the affected people and their communities.  | Accessible procedures appropriate to the project to address grievances by the affected Indigenous Peoples' communities arising from project implementation. When designing the grievance procedures, the borrower takes into account the availability of judicial recourse and customary dispute settlement mechanisms among the Indigenous Peoples.   | Appropriate and accessible grievance mechanisms must be established for the affected people and their communities. When designing the grievance procedures, the borrower takes into account the availability of judicial recourse and customary dispute settlement mechanisms among the Indigenous Peoples.  | n.a.            | n.a.   | n.a.                          |
| <b>Monitoring</b>   | After projects begin, project proponents etc. monitor whether any unforeseeable situations occur and whether the performance and effectiveness of mitigation measures are consistent with the assessment's prediction. They then take appropriate measures based on the results of such monitoring.   | Free, prior, and informed consultation with and participation by Indigenous Peoples' communities during monitoring is recommended.   | After projects begin, project proponents etc. monitor whether any unforeseeable situations occur and whether the performance and effectiveness of mitigation measures are consistent with the assessment's prediction. They then take appropriate measures based on the results of such monitoring. Free, prior, and informed consultation with and participation by Indigenous Peoples' communities during monitoring is recommended.   | n.a.            | n.a.   | n.a.                          |
| <b>Special Considerations</b>                                   |   |  |  |                 |  |                               |
| <b>Commercial Development of Natural and Cultural Resources</b> |   | <p>If the project involves the commercial development of natural resources, the borrower includes in the IPP arrangements to enable the Indigenous Peoples to share equitably in the benefits to be derived from such commercial development.</p> <p>The project of the commercial development of Indigenous Peoples' cultural resources and knowledge is conditional upon their prior agreement to such development.</p>  | <p>If the project involves the commercial development of natural resources, the borrower includes in the IPP arrangements to enable the Indigenous Peoples to share equitably in the benefits to be derived from such commercial development.</p> <p>The project of the commercial development of Indigenous Peoples' cultural resources and knowledge is conditional upon their prior agreement to such development.</p>  | n.a.            | n.a.   | n.a.                          |
| <b>Physical Relocation of Indigenous Peoples</b>                | Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives. When, after such an examination, avoidance is proved unfeasible, affected people must be sufficiently compensated and supported by project proponents etc. in a timely manner. Prior compensation, at full replacement cost, must be provided as much as possible. | <p>When it is not feasible to avoid relocation, the borrower prepares a resettlement plan in accordance with the requirement of OP 4.12, Involuntary Resettlement.</p> <p>Involuntary restrictions on Indigenous Peoples' access to legally designated parks and protected areas, in particular access to their sacred sites, should be avoided. Where it is not feasible to avoid restricting access, the borrower prepares a process framework in accordance with the provisions of OP 4.12.</p> | <p>When it is not feasible to avoid relocation, the borrower prepares a resettlement plan in accordance with the requirement of OP 4.12, Involuntary Resettlement.</p> <p>Involuntary restrictions on Indigenous Peoples' access to legally designated parks and protected areas, in particular access to their sacred sites, should be avoided. Where it is not feasible to avoid restricting access, the borrower prepares a process framework in accordance with the provisions of OP 4.12.</p> | n.a.            | n.a.   | n.a.                          |
| <b>Indigenous Peoples and</b>                                   | JICA makes efforts to enhance the comprehensive capacity of   | In furtherance if the project of this policy, the Bank may, at a member  | Assist in building capacity of the borrowers on best practice on   | n.a.            | n.a.   | n.a.                          |



| Aspect      | JICA Guidelines for Environmental and Social Consideration (April 2010)  | World Bank OP4.10   | Harmonized Policy   | Government Laws | Gaps between Harmonized Policy and Government Laws | The Mechanisms to bridge gaps |
|-------------|--|---|---|-----------------|--|-------------------------------|
| Development | organizations and operations in order for project proponents etc., to have consideration for environmental and social factors, appropriately and effectively, at all times | country’s request, support the country in its development planning and poverty reduction strategies by providing financial assistance for a variety if initiatives. | consideration on indigenous peoples during both planning and implementation<br>Financing of technical assistance to strengthen the capacities of agencies responsible for consideration on indigenous peoples, or of affected people to participate more effectively in project operations. |                 |  |                               |

IRAQ

E996

## **ENVIRONMENTAL AND SOCIAL SCREENING AND ASSESSMENT FRAMEWORK**

### **I. Objectives**

1. The Environmental and Social Screening and Assessment Framework (ESSAF) provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of the initial phase of World Bank-supported emergency reconstruction operations in Iraq. This Framework has been developed to ensure compliance with the World Bank's safeguard policies under the current conditions in Iraq. The objective of the ESSAF is to ensure that activities under the proposed reconstruction operations will address the following issues:

- ❖ Protect human health;
- ❖ Prevent or compensate any loss of livelihood;
- ❖ Minimize environmental degradation as a result of either individual subprojects or their cumulative effects;
- ❖ Minimize impacts on cultural property; and
- ❖ Enhance positive environmental and social outcomes.

### **II. General Principles**

2. Recognizing the emergency nature of the proposed relief and reconstruction operations and the related need for providing immediate assistance, while at the same time ensuring due diligence in managing potential environmental and social risks, the ESSAF is based on the following principles:

- ❖ The proposed operations will support multiple subprojects, the detailed designs of which may not be known at appraisal. To ensure effective application of the World Bank's safeguard policies, the ESSAF provides guidance on the approach to be taken during implementation for the selection and design of subprojects and the planning of mitigation measures;
- ❖ Environmental category 'A' subprojects are not expected in the first year's subprojects. If any do occur, EAs for specific subprojects will be prepared during implementation, instead of before appraisal. Corrective measures in the form of an Environmental Management Plan will be built into either the emergency project or a future lending operation. The above is in accordance with paragraph 13 of OP 4.01 and paragraph 5 of BP 4.01;
- ❖ No resettlement issues are expected in any of the FY04 operations for the first year's subprojects. If any do occur, Resettlement Action Plans (RAPs), and/or Resettlement Policy Frameworks for specific subprojects will be prepared. However, these RAPs can be prepared during implementation, provided a waiver on the submission of RAPs prior to appraisal is given by the MD. The waiver would also specify a timetable for the preparation of the RAPs, in accordance with the requirements of OP 4.12, during implementation;
- ❖ The proposed emergency reconstruction operations will finance feasibility and detailed design studies for these subsequent investments, which will include environmental assessments and social studies as required by World Bank safeguard policies;

- ❖ Project design and subproject selection will aim at maintaining regional balance and equity among ethnic religious groups, considering variations in population density. Employment opportunities within the projects will be available on an equal basis to all, on the basis of professional competence, irrespective of gender or ethnic or religious group. In all projects which require consultations with local communities or beneficiaries, consultations will be conducted to elicit the views of the male and female population; and
- ❖ Consultation and disclosure requirements will be simplified to meet the special needs of these operations. This ESSAF will be disclosed in the sector ministries and other public places in Iraq and in the World Bank InfoShop.

### **III. Environmental and Social Screening and Assessment Framework (ESSAF)**

3. This ESSAF has been developed specifically for these proposed operations to ensure due diligence, to avoid causing harm or exacerbating social tensions, and to ensure consistent treatment of social and environmental issues by all donors and the Governing Council of Iraq. The purpose of this Framework is also to assist the Project Implementing Agencies in screening all the subprojects for their likely social and environmental impacts, identifying documentation and preparation requirements and prioritizing the investments.

4. **P 4.01 Environmental Assessment.** Most of the proposed subprojects are likely to focus on the repair, rehabilitation, reconstruction and upgrading (where necessary) of damaged buildings, roads, railways, bridges and infrastructure of critical importance. This would include power generation and distribution, agricultural infrastructure, irrigation and drainage networks, and rehabilitation of primary and secondary schools. Support will also be provided for mitigation measures related to the rehabilitation/restoration of the Mesopotamian Marshes and Shatt El Arab. The work in these areas will be done under OP 4.01 and it is not anticipated that OP 4.04 on natural habitats will be triggered.

5. Considering the nature and magnitude of potential environmental impacts from relatively limited scale and magnitude of reconstruction works, the proposed operations are likely to be classified as category 'B'. The requirement to carry out an Environmental Analysis as part of project preparation can be waived but, for subprojects with potential adverse impacts, a limited Environmental Analysis will be done during project implementation. At the same time, prior to appraisal the implementing agency will agree to apply the following minimum standards during implementation: inclusion of standard environmental codes of practice (ECOP) in the repair and reconstruction bid documents of all subprojects; review and oversight of any major reconstruction works by specialists; implementation of environmentally and socially sound options for disposal of debris; and provisions for adequate budget and satisfactory institutional arrangements for monitoring effective implementation.

6. **OP 4.12 Involuntary Resettlement.** The need for involuntary resettlement or land acquisition in specific subproject areas will only be known during project implementation, when site-specific plans are available. Therefore subprojects will be screened for applicability of the resettlement policy and any subprojects involving involuntary resettlement or land acquisition will only be approved after preparation of a resettlement plan acceptable to the Bank. Several issues will increase the complexity of land acquisition - the lack of reliable land record systems, and the inability of people losing land to either document ownership or be physically present to make their claims for eligibility. The safeguards framework will therefore include procedures for identifying eligible project-affected people, calculating and delivering compensation, and mechanisms for land dispute grievance redress.

7. Although land disputes between private parties and refugees from war, or natural disasters are not covered by OP 4.12, the policy does cover those displaced by the project's activities. Even for those not covered by the policy, and to ensure effective poverty reduction, it is good practice for the borrower to undertake a social assessment and implement measures to minimize and mitigate adverse social impacts, particularly on poor and vulnerable groups. Well documented consultation mechanisms will be required to establish eligibility for compensation. Absent refugees who later claim compensation will require clear legal remedies to resolve or adjudicate disputes.

8. **OD 4.20 Indigenous Peoples.** Ethnicity is only one of many factors determining vulnerability in the present Iraqi context. Local circumstances vary too greatly to make generalizations. However, initial discussions with anthropologists and sociologists familiar with the country found that the presence of the five defining characteristics normally used (OD 4.20 paragraph 5) are inconclusive in Iraq's context, where the ethnic group concept is analytically problematic. According to social scientists familiar with ground realities in Iraq, selecting a sub-section of the society for special attention in accordance with the requirements of OD 4.20 (e.g., separate plans for different groups) would be counterproductive and could even end up escalating the conflict within and between communities.

9. In light of the above situation, a potential vulnerability assessment of all affected groups is planned to ensure effective consultations and culturally appropriate benefits for each group, instead of focusing only on groups defined as "indigenous peoples". As part of this analysis, subproject preparation will assess the vulnerability of different ethnic groups in particular project contexts (in terms of potential exclusion from project benefits, negative project impacts, and the need for specific culturally compatible mechanisms for participation), and will incorporate adequate measures to address such vulnerability in project design. While some specific cases may justify stand-alone Indigenous Peoples Development Plans (IPDP) such as in the case of the people in the Mesopotamian Marshlands, these cases can only be determined after social analysis of potential vulnerability and careful judgment as required by the OD 4.20.

10. **OPN 11.03 Cultural Property.** The FY04 operations may pose limited risks of damaging cultural property, assuming that they will not include large-scale excavations, movement of earth or demolition. Nevertheless, projects and subprojects will be reviewed for their potential impact on cultural property and clear procedures will be required for identification, protection of cultural property from theft, and treatment of discovered artifacts, and will be included in standard bidding documents. While not damaging cultural property, subproject preparation may later identify and include assistance for preservation of historic or archeological sites. If these opportunities occur, cultural property management plans would be prepared for those subprojects.

11. **OP 4.37 Safety of Dams.** There are about 50 dams over 15 meters high, which will trigger the policy if included in the operations. However, because of local site conditions, even restoring smaller, earthen dams and linked irrigation infrastructure (partly abandoned, damaged or destroyed by civil unrest and war) will require application of standard engineering safety codes, inspection and evaluation of their safety status, and preparation and implementation of operation and maintenance procedures. Decisions on dam safety requirements will be made with the concurrence of the Bank.

12. **OP 7.50 Projects on International Waterways.** The two major rivers in Iraq, the Tigris and Euphrates, are shared with neighboring countries. However, no water sharing agreements exist between Syria, Turkey, Iran and Iraq. Components affecting waters in riparian neighbors will trigger the policy and project components will be screened to identify riparian issues and to ensure adequate notification, as required under the policy. Decisions on actions and requirements will be made with the concurrence of the Bank.

#### **IV. Safeguard Screening and Mitigation**

13. The selection, design, contracting, monitoring and evaluation of subprojects will be consistent with the following guidelines, codes of practice and requirements. The Coalition Provisional Authority (CPA) will confirm that areas to be accessed during reconstruction and rehabilitation activities have been de-mined. The safeguard screening and mitigation process will include:

- ❖ A list of negative characteristics rendering a proposed subproject ineligible for support, Attachment 1;
- ❖ A proposed checklist of likely environment and social impacts to be filled out for each subproject or group of subprojects, Attachment 2;
- ❖ Guidelines for land and asset acquisition, entitlements and compensation, Attachment 3;

- ❖ Procedures for the protection of cultural property, including the chance discovery of archaeological artifacts, unrecorded graveyards and burial sites, Attachment 4;
- ❖ Relevant elements of the codes of practice for the prevention and mitigation of potential environmental impacts, Attachment 5; and
- ❖ A sample Environmental Safeguards procedures for Inclusion in the Technical Specifications of Contracts, Attachment 6.

## **V. Responsibilities for Safeguard Screening and Mitigation**

14. A number of Ministries will act as the implementing agencies for the proposed operations, including the Ministries of Environment, Transport, Housing and Construction, Electricity, Water Resources, Municipalities and Public Works, and the mayoralty of Baghdad. Each Ministry will be responsible for applying the safeguard screening and mitigation requirements to its own subprojects. Within each Ministry, a Safeguards Focal Point (SFP) will be identified with responsibility for overseeing the implementation of the Framework.

## **VI. Capacity-Building and Monitoring of Safeguard Framework Implementation**

15. As part of the capacity-building to be provided for implementation of the proposed operations, the Safeguards Focal Points and relevant staff of the concerned Ministries will also receive training in ESSAF's application.

16. To assist in this capacity-building, and to provide subsequent guidance and review of the ESSAF's application, the World Bank and subsequently the Governing Council of Iraq (GCI) will contract specialist services for environmental and social safeguards. During supervision of these operations, the World Bank will assess the implementation of the ESSAF, and recommend additional strengthening, if required.

## **VII. Consultation and Disclosure**

17. This ESSAF will be shared with the CPA, with the concerned nongovernmental organizations and development partners of Iraq's reconstruction. It will be disclosed in Arabic and English by the Ministry of Planning and Development Cooperation on behalf of the GCI in Baghdad, Basrah, and Mosul, and it will also be made available at the World Bank's InfoShop. Relevant subproject specific safeguard documents/mitigation plans prepared subsequently will also be disclosed.

18. The proposed operations will support a number of feasibility and detailed design studies for future infrastructure investments for which World Bank safeguard policies relating to consultation and disclosure will apply. In particular, for environmental Category A and B investments<sup>49</sup> proposed for future operations, the implementing agency will consult project-affected groups and local nongovernmental organizations on the project's environmental and social aspects, and will take their views into account. The implementing agency will initiate these consultations as early as possible, and for meaningful consultations, will provide relevant material in a timely manner prior to consultation, in a form and language(s) that are understandable and accessible to the groups being consulted.

19. For Category A projects, the implementing agency will consult these groups at least twice: (a) shortly after the environmental screening and prior to finalization of the terms of reference for the Environmental Impact Assessment (EIA); and (b) once a draft EIA report is prepared. For the initial consultation, the implementing agency will provide a summary of the proposed project's objectives, description, and potential impacts. For both Category A and B projects, the implementing agency will provide these groups with a summary of the EIA report's conclusions. In addition, the implementing agency will make the draft reports publicly available to project-affected groups and local nongovernmental organizations.

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<sup>49</sup> As defined in World Bank Operational Policy 4.01, Environmental Assessment.

### List of Negative Subproject Attributes

Subprojects with any of the attributes listed below will be ineligible for support under the proposed emergency reconstruction operations.

| Attributes of Ineligible Subprojects   |
|--|
| GENERAL CHARACTERISTICS  |
| Concerning significant conversion or degradation of critical natural habitats. Including, but not limited to, any activity within: <ul style="list-style-type: none"> <li>• Mesopotamian Marshlands;</li> <li>• Shatt El Arab Wetlands;</li> <li>• Wildlife Reserves; and</li> <li>• Parks and Sanctuaries.</li> </ul> |
| Damages cultural property, including but not limited to, any activities that affect the following sites: <ul style="list-style-type: none"> <li>• Archaeological and historical sites; and</li> <li>• Religious monuments, structures and cemeteries.</li> </ul>   |
| Requiring pesticides that fall in WHO classes IA, IB, or II.   |
| Affecting waters of riparian neighbors.  |
| <b>Drinking Water Supply</b><br>New or expanded of piped water schemes to serve 10,000 or more households.   |
| <b>Sanitation</b><br>New wastewater treatment plants to serve 10,000 or more households.   |
| <b>Solid Waste</b><br>New disposal site or significant expansion of an existing disposal site.   |
| <b>Roads</b><br>New primary roads and highways.  |
| <b>Irrigation</b><br>New irrigation and drainage schemes.  |
| <b>Dams</b><br>Construction of dams more than 5 meters high. Rehabilitation of dams more than 15 meters high.  |
| <b>Power</b><br>New power generating capacity of more than 10 MW.  |
| <b>Oil and Gas</b><br>New exploration, production or distribution.<br>Rehabilitation of production or distribution systems.  |
| <b>Income Generating Activities</b><br>Activities involving the use of fuelwood, including trees and bush.<br>Activities involving the use of hazardous substances.  |

**Checklist of Likely Environmental and Social Impacts of Subprojects**

This Form is to be used by the Safeguard Focal Point (SFP) or Project Implementation Unit (PIU) in Screening Subproject Applications.

Note: One copy of this form and accompanying documentation to be kept in the PIU office and one copy to be sent to the task team leader of the World Bank.

Name of Subproject:

Number of Subproject:

Proposing Agency:

Subproject Location:

Subproject Objective:

Infrastructure to be Rehabilitated:

Estimated Cost:

Proposed Date of Commencement of Work:

Technical Drawing/Specifications Reviewed (circle answer): Yes \_\_\_ No \_\_\_

## I. Subproject Related Issues

| S No      | ISSUES   | No | Small | Medium | Large |
|-----------|--|----|-------|--------|-------|
| <b>A.</b> | <b>Zoning and Land Use Planning</b>  |    |       |        |       |
| 1.        | Will the subproject affect land use zoning and planning or conflict with prevalent land use patterns?  |    |       |        |       |
| 2.        | Will the subproject involve significant land disturbance or site clearance?  |    |       |        |       |
| 3.        | Will the subproject land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?                         |    |       |        |       |
| <b>B.</b> | <b>Utilities and Facilities</b>  |    |       |        |       |
| 4.        | Will the subproject require the setting up of ancillary production facilities?   |    |       |        |       |
| 5.        | Will the subproject make significant demands on utilities and services?  |    |       |        |       |
| 6.        | Will the subproject require significant levels of accommodation or service amenities to support the workforce during construction (e.g., contractor will need more than 20 workers)? |    |       |        |       |
| <b>C</b>  | <b>Water and Soil Contamination</b>  |    |       |        |       |
| 7.        | Will the subproject require large amounts of raw materials or construction materials?  |    |       |        |       |
| 8.        | Will the subproject generate large amounts of residual wastes, construction material waste or cause soil erosion?  |    |       |        |       |
| 9.        | Will the subproject result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?  |    |       |        |       |
| 10.       | Will the subproject lead to contamination of ground and surface waters by herbicides for vegetation control and chemicals (e.g., calcium chloride) for dust control?                 |    |       |        |       |
| 11.       | Will the subproject lead to an increase in suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?             |    |       |        |       |
| 12.       | Will the subproject involve the use of chemicals or solvents?  |    |       |        |       |
| 13.       | Will the subproject lead to the destruction of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards?   |    |       |        |       |
| 14.       | Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors?                       |    |       |        |       |
| <b>D.</b> | <b>Noise and Air Pollution Hazardous Substances</b>  |    |       |        |       |
| 15.       | Will the subproject increase the levels of harmful air emissions?  |    |       |        |       |
| 16.       | Will the subproject increase ambient noise levels?   |    |       |        |       |
| 17.       | Will the subproject involve the storage, handling or transport of hazardous substances?  |    |       |        |       |
| <b>E.</b> | <b>Fauna and Flora</b>   |    |       |        |       |
| 18.       | Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?                              |    |       |        |       |
| 19.       | Will the subproject lead to the destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?                                 |    |       |        |       |
| 20.       | Will the subproject lead to the disruption/destruction of wildlife   |    |       |        |       |



|           |   |  |  |  |  |
|-----------|---|--|--|--|--|
|           | through interruption of migratory routes, disturbance of wildlife habitats, and noise-related problems?                             |  |  |  |  |
| <b>F.</b> | <b>Destruction/Disruption of Land and Vegetation</b>  |  |  |  |  |
| 21.       | Will the subproject lead to unplanned use of the infrastructure being developed?  |  |  |  |  |
| 22.       | Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?           |  |  |  |  |
| 23.       | Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?                |  |  |  |  |
| 24.       | Will the subproject lead to landslides, slumps, slips and other mass movements in road cuts?  |  |  |  |  |
| 25.       | Will the subproject lead to erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains?    |  |  |  |  |
| 26.       | Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?           |  |  |  |  |
| 27.       | Will the subproject lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles? |  |  |  |  |
| <b>G.</b> | <b>Cultural Property</b>  |  |  |  |  |
| 28.       | Will the subproject have an impact on archaeological or historical sites, including historic urban areas?                           |  |  |  |  |
| 29.       | Will the subproject have an impact on religious monuments, structures and/or cemeteries?  |  |  |  |  |
| 30.       | Have Chance Finds procedures been prepared for use in the subproject?   |  |  |  |  |
| <b>H.</b> | <b>Expropriation and Social Disturbance</b>   |  |  |  |  |
| 31.       | Will the subproject involve land expropriation or demolition of existing structures?  |  |  |  |  |
| 32.       | Will the subproject lead to induced settlements by workers and others causing social and economic disruption?                       |  |  |  |  |
| 33.       | Will the subproject lead to environmental and social disturbance by construction camps?   |  |  |  |  |

## II. Site Related Issues

| S.No | ISSUES   | YES | NO | DO NOT KNOW |
|------|--|-----|----|-------------|
| 1.   | Is the subproject located in an area with designated natural reserves?   |     |    |             |
| 2.   | Is the subproject located in an area with unique natural features?   |     |    |             |
| 3.   | Is the subproject located in an area with endangered or conservation-worthy ecosystems, fauna or flora?  |     |    |             |
| 4.   | Is the subproject located in an area falling within 500 meters of national forests, protected areas, wilderness areas, wetlands, biodiversity, critical habitats, or sites of historical or cultural importance? |     |    |             |
| 5.   | Is the subproject located in an area which would create a barrier for the movement of conservation-worthy wildlife or livestock?   |     |    |             |
| 6.   | Is the subproject located close to groundwater sources, surface water bodies, water courses or wetlands?   |     |    |             |
| 7.   | Is the subproject located in an area with designated cultural properties such as archaeological, historical and/or religious sites?  |     |    |             |
| 8.   | Is the subproject in an area with religious monuments, structures and/or cemeteries?   |     |    |             |
| 9.   | Is the subproject in a polluted or contaminated area?  |     |    |             |
| 10.  | Is the subproject located in an area of high visual and landscape quality?   |     |    |             |
| 11.  | Is the subproject located in an area susceptible to landslides or erosion?   |     |    |             |
| 12.  | Is the subproject located in an area of seismic faults?  |     |    |             |
| 13.  | Is the subproject located in a densely populated area?   |     |    |             |
| 14.  | Is the subproject located on prime agricultural land?  |     |    |             |
| 15.  | Is the subproject located in an area of tourist importance?  |     |    |             |
| 16.  | Is the subproject located near a waste dump?   |     |    |             |
| 17.  | Does the subproject have access to potable water?  |     |    |             |
| 18.  | Is the subproject located far (1-2 kms ) from accessible roads?  |     |    |             |
| 19.  | Is the subproject located in an area with a wastewater network?  |     |    |             |
| 20.  | Is the subproject located in the urban plan of the city?   |     |    |             |
| 21.  | Is the subproject located outside the land use plan?   |     |    |             |

Signed by Environment Specialist:      Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Signed by Project Manager:              Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## **Guidelines for Land and Asset Acquisition, Entitlements and Compensation**

### **I. Objectives**

1. Resettlement and land acquisition will be kept to a minimum, and will be carried out in accordance with these guidelines. Subproject proposals that would require demolishing houses or acquiring productive land should be carefully reviewed to minimize or avoid their impacts through alternative alignments. Proposals that require more than minor expansion along rights of way should be carefully reviewed. No land or asset acquisition may take place outside of these guidelines. A format for a Land Acquisition Assessment Data Sheet is attached as Attachment 3(i).

2. These guidelines provide principles and instructions to compensate negatively affected persons to ensure that they will be assisted to improve, or at least to restore, their living standards, income earning or production capacity to pre-project levels regardless of their land tenure status.

### **II. Categorization**

3. Based on the number of persons that may be affected by the project, Project Affected People (PAPs) and the magnitude of impacts, projects will be categorized as follows:

- (a) Projects that will affect more than 200 PAPs due to land acquisition and/or physical relocation and where a full Resettlement Action Plan (RAP) must be produced. If the RAP cannot be prepared prior to project appraisal, a waiver can be provided by the World Bank Managing Director (MD) in consultation with the Resettlement Committee. In such cases, the TT should agree with the Borrower on a timetable for preparation of the RAP.
- (b) Projects that will affect less than 200 persons require the following documentation: (i) a land acquisition assessment, (ii) the minutes or record of consultations which assess the compensation claimed and agreement reached, and (iii) a record of the receipt of the compensation, or voluntary donation, by those affected (see below).
- (c) Projects that are not expected to have any land acquisition or any other significant adverse social impacts; on the contrary, significant positive social impact and improved livelihoods are expected from such interventions.

### **III. Eligibility**

4. PAPs are identified as persons whose livelihood is directly affected by the project due to acquisition of the land owned or used by them. PAPs deemed eligible for compensation are:

- (a) those who have formal legal rights to land, water resources or structures/buildings, including recognized customary and traditional rights;
- (b) those who do not have such formal legal rights but have a claim to usufruct rights rooted in customary law; and
- (c) those whose claim to land and water resources or building/structures do not fall within (a) and (b) above, are eligible to resettlement assistance to restore their livelihood.

### **IV. Acquisition of Productive Assets and Compensation**

5. PAPs are eligible for replacement costs for lost assets as described below:

- (a) *Voluntary contributions.* Individuals may elect to voluntarily contribute land or assets provided the persons making such contributions do so willingly and are informed that they have the right to refuse such contributions; and

- (b) *Contributions against compensation.* A contributor/asset loser considered "affected" will be eligible for compensation and other necessary assistance.

6. Voluntary contribution should be clearly documented to confirm the voluntary nature of the transition. The documentation should specify that the land is free of any squatters, encroachers or other claims. A format is shown in Attachment 3(i), which includes a Schedule for assessing any compensation claimed and the agreement reached.

## **V. Compensation Principles**

7. The project implementation agencies will ensure timely provision of the following means of compensation to affected peoples:

- (a) Project affected peoples losing access to a portion of their land or other productive assets with the remaining assets being economically viable are entitled to compensation at a replacement cost for that portion of land or assets lost to them. Compensation for the lost assets will be made according to the following principles:
  - (i) replacement land with an equally productive plot, cash or other equivalent productive assets;
  - (ii) materials and assistance to fully replace solid structures that will be demolished;
  - (iii) replacement of damaged or lost crops and trees, at market value;
  - (iv) other acceptable in-kind compensation;
  - (v) in case of cash compensation, the delivery of compensation should be made in public, i.e., at the Community Meeting; and
  - (vi) in case of physical relocation, provision of civic infrastructure at the resettlement sites.
- (b) Project affected peoples losing access to a portion of their land or other economic assets rendering the remainder economically non-viable will have the options of compensation for the entire asset by provision of alternative land, cash or equivalent productive asset, according to the principles in (a) i-iv above.

## **VI. Consultation Process**

8. The implementing agencies will ensure that all occupants of land and owners of assets located in a proposed subproject area are consulted. Community meetings will be held in each affected district and village to inform the local population of their rights to compensation and options available in accordance with these Guidelines. The Minutes of the community meetings shall reflect the discussions held, agreements reached, and include details of the agreement, based on the format provided in Attachment 3(ii).

9. The implementing agency shall provide a copy of the Minutes to affected people and confirm in discussions with each of them, their requests and preferences for compensation, agreements reached, and any eventual complaint. Copies will be recorded in the posted project documentation and be available for inspection during supervision.

### **Subproject Approval**

10. In the event that a subproject involves acquisition against compensation, the implementing agency shall:

- (a) not approve the subproject unless satisfactory compensation has been agreed between the affected person and the local community; and
- (b) not allow works to start until the compensation has been delivered in a satisfactory manner to the affected persons.

### **Complaints and Grievances**

11. Initially, all complaints should be negotiated to reach an agreement at the local community/village/district level. If this fails, complaints and grievances on these Guidelines, implementation of the agreements recorded in the Community Meeting Minutes or any alleged irregularity in carrying out the project can also be addressed by the affected peoples or their representative at the municipal or district level. If this also fails, the complaint may be submitted to the relevant implementing agency for consideration.

### **Verification**

12. The Community Meeting Minutes, including agreements of compensation and evidence of compensation made shall be provided to the Municipality/district, to the supervising engineers, who will maintain a record hereof, and to auditors and socio-economic monitors when they undertake reviews and post-project assessment. This process shall be specified in all relevant project documents, including details of the relevant authority for complaints at the municipal/district or implementing agency level.

**Land Acquisition Assessment Data Sheet**  
**(To be used to record information on all land to be acquired)**

1. Quantities of land/structures/other assets required:
2. Date to be acquired:
3. Locations:
4. Owners:
5. Current uses:
6. Users:
  - Number of Customary Claimants:
  - Number of Squatters:
  - Number of Encroachers:
  - Number of Owners:
  - Number of Tenants:
  - Others (specify): \_\_\_\_\_ Number: \_\_\_\_\_
7. How land/structures/other assets will be acquired (identify one):
  - Donation
  - Purchase
8. Transfer of Title:
  - Ensure these lands/structures/other assets are free of claims or encumbrances.
  - Written proof must be obtained (notarized or witnessed statements) for the voluntary donation, or acceptance of the prices paid from those affected, together with proof of title being vested in the community, or guarantee of public access, by the title-holder.
9. Describe grievance mechanisms available:

### Format to Document Contribution of Assets

The following agreement has been made on..... day of.....  
between.....resident of .....(the Owner)  
and .....(the Recipient).

1. That the Owner holds the transferable right of .....donum of  
land/structure/asset in.....

2. That the Owner testifies that the land/structure is free of squatters or encroachers and not subject  
to other claims.

3. That the Owner hereby grants to the Recipient this asset for the construction and development  
of .....for the benefit of the villagers and the public at large.

*(Either, in case of donation:)*

4. That the Owner will not claim any compensation against the grant of this asset.

*(Or, in case of compensation:)*

4. That the Owner will receive compensation against the grant of this asset as per the attached  
Schedule.

5. That the Recipient agrees to accept this grant of asset for the purposes mentioned.

6. That the Recipient shall construct and develop the.....and take all possible  
precautions to avoid damage to adjacent land/structure/other assets.

7. That both the parties agree that the.....so constructed/developed shall be public  
premises.

8. That the provisions of this agreement will come into force from the date of signing of this deed.

\_\_\_\_\_  
Signature of the Owner

\_\_\_\_\_  
Signature of the Recipient

Witnesses:

1. \_\_\_\_\_

2. \_\_\_\_\_  
(Signature, name and address)

### Schedule of Compensation of Asset Requisition

| Summary of<br>Affected Unit/Item   | Units to be Compensated | Agreed Compensation |
|--|-------------------------|---------------------|
| a. Urban/agricultural<br>land (m <sup>2</sup> ):                                   | _____                   | _____               |
| b. Houses/structures to be<br>demolished (units/m <sup>2</sup> ):                  | _____                   | _____               |
| c. Type of structure to be<br>demolished (e.g. mud,<br>brick, cement block, etc.,) | _____                   | Not Applicable.     |
| d. Trees or crops affected:  | _____                   | _____               |
| e. Water sources affected:   | _____                   | _____               |

Signatures of local community representatives, Sheikh/Head of Tribe:

Include record of any complaints raised by affected persons:

Map attached (showing affected areas and replacement areas):



### **Protection of Cultural Property**

1. Cultural property include monuments, structures, works of art, or sites of significance points of view, and are defined as sites and structures having archaeological, historical, architectural, or religious significance, and natural sites with cultural values. This includes cemeteries, graveyards and graves.

2. The initial phase of the proposed emergency reconstruction operations pose limited risks of damaging cultural property since subprojects will largely consist of small investments in community infrastructure and income generating activities, reconstruction of existing structures, and minor public works. Further, the list of negative subproject attributes, which would make a subproject ineligible for support (Attachment 1), includes any activity that would adversely impact cultural property. Nevertheless, the following procedures for identification, protection from theft, and treatment of discovered artifacts should be followed and included in standard bidding documents as provided in Attachment 6.

#### **Chance Find Procedures**

3. Chance find procedures will be used as follows:

- (a) Stop the construction activities in the area of the chance find;
- (b) Delineate the discovered site or area;
- (c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry of Culture take over;
- (d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture immediately (within 24 hours or less);
- (e) Responsible local authorities and the Ministry of Culture would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Ministry of Culture (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
- (f) Decisions on how to handle the finding shall be taken by the responsible authorities and the Ministry of Culture. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;
- (g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Culture; and
- (h) Construction work could resume only after permission is given from the responsible local authorities and the Ministry of Culture concerning safeguard of the heritage.

4. These procedures must be referred to as standard provisions in construction contracts, when applicable, and as proposed in section 1.5 of Attachment 6. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered are observed.

5. Relevant findings will be recorded in World Bank Project Supervision Reports (PSRs), and Implementation Completion Reports (ICRs) will assess the overall effectiveness of the project's cultural property mitigation, management, and activities, as appropriate.

### Codes of Practice for Prevention and Mitigation of Environmental Impacts

| Potential Impacts  | Prevention and Mitigation Measures   |
|--|--|
| <p style="text-align: center;"><b>Water Supply</b></p> <ul style="list-style-type: none"> <li>• Repair and rehabilitation of existing piped water schemes.</li> <li>• New or expanded piped water schemes to serve fewer than 10,000 households.</li> <li>• Installation or rehabilitation of tubewells or dug wells.</li> </ul> |  |
| <p>Disease caused by poor water quality:</p> <ul style="list-style-type: none"> <li>• contamination by seepage from latrines, municipal waste or agricultural areas.</li> <li>• high mineral concentrations.</li> <li>• creation of stagnant pools of water.</li> </ul>  | <ul style="list-style-type: none"> <li>• Prioritize leak detection and repair of pipe networks.</li> <li>• Chemical and bacteriological testing of water quality from adjacent comparable sources prior to installation of new sources.</li> <li>• Redesign to prevent contamination if adjacent comparable sources are found to be contaminated.</li> <li>• Subsequent monitoring of installed or rehabilitated sources.</li> <li>• Appropriate location, apron and drainage around tubewells and dug wells to prevent formation of stagnant pools.</li> <li>• Provision of cover and hand-pump to prevent contamination of dug wells.</li> <li>• Where pit latrines are used they should be located more than 10m from any water source. The base should be sealed and separated by at least 2m of sand or loamy soil from the groundwater table.</li> <li>• Where nightsoil latrines or septic tanks are built they should be sealed. Outflows should drain either to a soak away located at least 10m from any water source or be connected to a working drain.</li> </ul> |
| <p>Depletion of water source:</p> <ul style="list-style-type: none"> <li>• over-exploitation of aquifers.</li> <li>• hazard of land subsidence.</li> </ul>   | <ul style="list-style-type: none"> <li>• Urban interventions and abstraction limits to be planned in the context of groundwater investigations.</li> <li>• Local water use planning (community and technical consultation).</li> </ul>   |

| Potential Impacts  | Prevention and Mitigation Measures   |
|--|--|
| <p>Social Risks:</p> <ul style="list-style-type: none"> <li>• Lack of clear division of rights/ responsibilities may result in maintenance problems of wells/pumps.</li> <li>• Lack of clear definition of user rights for wells and pumps may create exclusion of vulnerable groups.</li> <li>• Access to water may be captured by interest groups.</li> <li>• Use of foreign equipment/ materials may hinder maintenance of pumps/wells.</li> <li>• Potential impacts to cultural property.</li> </ul> | <ul style="list-style-type: none"> <li>• Ensure sufficient community participation and organization for effective planning and management of infrastructure.</li> <li>• Include downstream water users (e.g. water supply, irrigation, livestock watering) in planning of water storage reservoirs.</li> <li>• Identify proper mechanism of rights and responsibilities over well/pump/reservoir usage through participatory village focus groups.</li> <li>• Ensure that local accessible materials are used when developing/rehabilitating wells in order to provide maintenance.</li> <li>• For each pump/well/reservoir/ borehole establish clear guidelines of user rights through participatory focus groups; Ensure that access to water pumps/reservoirs is equitable to prevent capture by interest groups.</li> <li>• Use archaeological chance find procedures and coordinate with appropriate agencies.</li> </ul> |
| <p style="text-align: center;"><b>Sanitation and Wastewater</b></p> <ul style="list-style-type: none"> <li>• Latrines, cesspits.</li> <li>• Rehabilitation of wastewater treatment plants to serve less than 10,000 households.</li> </ul>   |  |
| <p>Contamination of water supplies:</p> <ul style="list-style-type: none"> <li>• contamination of groundwater because of seepage.</li> <li>• contamination of surface waters due to flooding or over-flowing.</li> </ul>   | <ul style="list-style-type: none"> <li>• Where pit latrines are used they should be located more than 10m from any water source. The base should be sealed and separated vertically by not less than 2m of sand or loamy soil from the groundwater table.</li> <li>• Where nightsoil latrines or septic tanks are built they should be sealed. Outflows should drain either to a soak away located at least 10m from any water source or be connected to a working drain.</li> <li>• Maintenance training to be delivered along with new latrines.</li> </ul>  |
| <p>Disease caused by poor handling practices of nightsoil.</p>   | <ul style="list-style-type: none"> <li>• Training and health education to be provided to nightsoil handlers where affected by interventions.</li> <li>• Protective clothing and appropriate containers for nightsoil transportation to be provided.</li> </ul>   |
| <p>Disease caused by inadequate excreta disposal or inappropriate use of latrines.</p>   | <ul style="list-style-type: none"> <li>• Nightsoil should be handled using protective clothing to prevent any contamination of workers skin or clothes.</li> <li>• Where nightsoil is collected for agricultural use it should be stored for a sufficient period to destroy pathogens through composting. At the minimum it should be stored in direct sunlight and turned regularly for a period of at least 6 weeks.</li> <li>• Septic tanks should not be constructed nor septic waste collected unless primary and secondary treatment and safe disposal is available.</li> <li>• Health and hygiene education to be provided for all users of latrines.</li> <li>• Awareness campaign to maintain sanitary conditions.</li> </ul>   |

| Potential Impacts   | Prevention and Mitigation Measures   |
|---|--|
| <p>Potential health and environmental risks associated with use of treated wastewater effluent for irrigation:</p> <ul style="list-style-type: none"> <li>• Socio-Economic Risk</li> <li>• Permanent loss of productive land</li> <li>• Reduction in local property values</li> <li>• Ability to pay of poorer segments of population.</li> </ul> | <ul style="list-style-type: none"> <li>• Secondary treatment of wastewater and chlorination of final effluent followed by aeration prior to restricted wastewater reuse; initial monitoring of irrigation water quality in irrigation channels in addition to effluent monitoring at treatment plant outfall.</li> <li>• Purchase of replacement land.</li> <li>• Monetary compensation.</li> <li>• Reconsideration of rate structures.</li> </ul>   |
| <p style="text-align: center;"><b>Solid Waste</b></p> <ul style="list-style-type: none"> <li>• New or rehabilitation of transfer stations.</li> <li>• Solid waste collection.</li> </ul>  |  |
| <p>Disease caused by inadequate collection and disposal, including health risks from:</p> <ul style="list-style-type: none"> <li>• insects, rats.</li> <li>• burning of waste.</li> <li>• industrial/medical waste.</li> <li>• Odors during operation.</li> </ul>   | <ul style="list-style-type: none"> <li>• Sufficient frequency of collection from transfer stations.</li> <li>• Containment of waste during collection and transfer.</li> <li>• Promote separation at source to reduce spreading by rag-pickers during recycling.</li> <li>• Minimize burning.</li> <li>• Separate collection and disposal system for medical or hazardous wastes.</li> <li>• Assess requirement for additional investment in final disposal site.</li> <li>• Provide daily soil covering.</li> </ul> |
| <p>Contamination of water supplies:</p> <ul style="list-style-type: none"> <li>• lateral seepage into surface waters.</li> <li>• seepage of contaminants into aquifers.</li> <li>• contamination from clandestine dumping.</li> </ul>   | <ul style="list-style-type: none"> <li>• Site transfer stations should have sealed base and be located at least 15m away from water sources with the base separated vertically by not less than 2m of sand or loamy soil from the groundwater table.</li> <li>• Assess requirement for additional investment in final disposal site to protect water sources.</li> <li>• Monitoring of site to prevent illegal dumping.</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Loss of livelihood for rag-picking community.</li> </ul>   | <ul style="list-style-type: none"> <li>• Incorporate series of dumping bays in design where rag-pickers can safely access waste prior to disposal.</li> </ul>  |

| Potential Impacts  | Prevention and Mitigation Measures   |
|--|--|
| <p style="text-align: center;"><b>Roads</b></p> <ul style="list-style-type: none"> <li>• Rehabilitation of secondary and tertiary roads.</li> <li>• Widening of secondary or tertiary roads.</li> </ul>  |  |
| <p>Disruption of drainage:</p> <ul style="list-style-type: none"> <li>• Hampers free drainage, causes stagnant pools of water.</li> <li>• Increased sediments into ponds, streams and rivers due to erosion from road tops and sides.</li> <li>• Increased run-off and flooding.</li> </ul>  | <ul style="list-style-type: none"> <li>• Design to provide adequate drainage and to minimize changes in flows, not limited to the road reserve.</li> <li>• Provision of energy dissipaters, cascades, steps, and check dams.</li> <li>• Provision of sufficient number of cross drains.</li> <li>• Balancing of cut and fill.</li> <li>• Revegetation to protect susceptible soil surfaces.</li> <li>• Rehabilitation of borrow areas.</li> </ul>      |
| <p>Erosion:</p> <ul style="list-style-type: none"> <li>• Erosion of land downhill from the road bed, or in borrow areas.</li> <li>• Landslides, slips or slumps.</li> <li>• Bank failure of the borrow pit.</li> </ul>   | <ul style="list-style-type: none"> <li>• Design to prevent soil erosion and maintain slope stability.</li> <li>• Construction in the dry season.</li> <li>• Protection of soil surfaces during construction.</li> <li>• Physical stabilization of erodible surfaces through turfing, planting a wide range of vegetation, and creating slope breaks.</li> <li>• Rehabilitation and re-grading of borrow pits and material collection sites.</li> </ul> |
| <p>Loss of vegetation.</p>   | <ul style="list-style-type: none"> <li>• Balancing of cut and fill.</li> <li>• Revegetation to protect susceptible soil surfaces.</li> <li>• Minimize loss of natural vegetation during construction.</li> <li>• Revegetation and replanting to compensate any loss of plant cover or tree felling.</li> </ul>   |
| <p>Loss of access.</p>   | <ul style="list-style-type: none"> <li>• Design to include accessibility to road sides in case roadbed is raised.</li> <li>• Alternative alignments to avoid bisecting villages by road widening.</li> </ul>   |
| <p>Impacts during construction:</p> <ul style="list-style-type: none"> <li>• Fuelwood collection.</li> <li>• Disease due to lack of sanitation.</li> <li>• Introduction of hazardous wastes.</li> <li>• Groundwater contamination (oil, grease).</li> <li>• Accidents during construction.</li> <li>• Potential impacts to cultural property.</li> </ul> | <ul style="list-style-type: none"> <li>• Provision of fuel at work camps to prevent cutting of firewood.</li> <li>• Provision of sanitation at work camps.</li> <li>• Removal of work camp waste, proper disposal of oil, bitumen and other hazardous wastes.</li> <li>• Management of construction period worker health and safety.</li> <li>• Use archaeological chance find procedures and coordinate with appropriate agencies.</li> </ul>         |

| Potential Impacts   | Prevention and Mitigation Measures   |
|---|--|
| <ul style="list-style-type: none"> <li>Increased migration from nearby cities.</li> </ul>   | <ul style="list-style-type: none"> <li>Provide comprehensive community participation in planning, and Migration issue to be resolved through local conflict resolution system.</li> </ul>  |
| <b>Housing and Public Buildings</b> <ul style="list-style-type: none"> <li>Rehabilitation of dwellings or public buildings.</li> </ul>  |  |
| Deforestation caused by:<br>Wood-firing of bricks.  | <ul style="list-style-type: none"> <li>Ensure fired bricks are not wood-fired.</li> </ul>  |
| Injury and death from earthquake.   | <ul style="list-style-type: none"> <li>Apply low-cost seismic structural designs.</li> </ul>   |
| Disease caused by inadequate provision of water and sanitation.   | <ul style="list-style-type: none"> <li>Ensure designs include adequate sanitary latrines and access to safe water.</li> </ul>  |
| Damage to historical buildings.   | <ul style="list-style-type: none"> <li>Ensure actions involving historical buildings are reviewed/designed by qualified specialists.</li> </ul>  |
| <b>Dams</b> <ul style="list-style-type: none"> <li>Construction of dams lower than 5 meters or rehabilitation of dams lower than 15 meters.</li> </ul>  |  |
| Injury, death or loss of productive resources caused by dam failure.  | <ul style="list-style-type: none"> <li>Application of generic dam safety measures and rapid hydrological assessment by qualified engineers.</li> <li>For earthen dams, crushing of earth lumps, watering to near optimal moisture content, and compacting during construction.</li> <li>Design of earthen dams to prevent excessive seepage through the dam-body and piping at or near the toe or abutment of the dam.</li> <li>Design to incorporate spillway to prevent over-topping.</li> <li>Local awareness-raising for breach situations.</li> <li>Archaeological and historic sites survey to be conducted for any new dam accompanied by the of chance find procedures.</li> </ul> |
| <b>Power</b> <ul style="list-style-type: none"> <li>New generating capacity of less than 10 MW.</li> <li>Rehabilitation of existing generating capacity.</li> <li>New or rehabilitation of transmission or distribution systems.</li> </ul> |  |
| Emissions to air.   | <ul style="list-style-type: none"> <li>Use of the cleanest fuel economically available (natural gas is preferable to oil).</li> <li>Emissions control to achieve a maximum level for Particulate Matter of 100 milligrams per cubic meter in urban areas, and 150 milligrams per cubic meter in rural areas.</li> </ul>  |
| Fuel and lubricant spills.  | <ul style="list-style-type: none"> <li>Improvements in maintenance and housekeeping, and spill-containment structures.</li> </ul>  |
| Noise.  | <ul style="list-style-type: none"> <li>Location or sound-proofing to achieve a maximum increase in background levels of 3 decibels, or a maximum of 55 decibels in residential areas, whichever is higher.</li> </ul>  |
| PCB disposal.   | <ul style="list-style-type: none"> <li>Waste transformer coolant oil should be stored in sealed containers, pending safe disposal.</li> </ul>  |

| Potential Impacts   | Prevention and Mitigation Measures   |
|---|--|
| <p>Erosion and deforestation caused by:</p> <ul style="list-style-type: none"> <li>• access roads.</li> </ul>   | <ul style="list-style-type: none"> <li>• Selection of access road alignments to minimize cut and fill, and tree felling.</li> <li>• See section on roads (above).</li> </ul>   |
| <p>Injury or death caused by:</p> <ul style="list-style-type: none"> <li>• risk of accidents.</li> <li>• Collapse of power lines.</li> <li>• Potential impacts to cultural property.</li> </ul> | <ul style="list-style-type: none"> <li>• Awareness campaign (regarding electrocution dangers) before construction starts.</li> <li>• Application of generic safety standards.</li> <li>• Archaeological and historic site survey to be conducted for any new power plants accompanied by use of chance find procedures.</li> </ul> |
| <p><b>Irrigation and Drainage</b></p> <ul style="list-style-type: none"> <li>• Rehabilitation of irrigation systems.</li> </ul>   |  |
| Siltation and erosion.  | <ul style="list-style-type: none"> <li>• Plan disposal of spoil material from cleaned canals to ensure it will not wash back into the system, and is not deposited on fields without the owners' permission.</li> <li>• Re-grading and rehabilitation of borrow areas or pits.</li> </ul>  |
| Water-logging and salinization.   | <ul style="list-style-type: none"> <li>• Incorporation of adequate drainage to prevent water-logging and salinization.</li> </ul>  |
| Over-exploitation of aquifers.  | <ul style="list-style-type: none"> <li>• Analysis of the sustainability of groundwater yield, if increased abstraction is proposed.</li> </ul>   |
| <p>Injury, death or loss of productive resources caused by dam failure:</p> <p>Areas of non-contiguous waterlogged lands utilized by nomadic herders will be converted to cropland.</p>         | <ul style="list-style-type: none"> <li>• See section on dams, below.</li> <li>• Herders will be allowed access to bunds and intervening non-cropped areas for grazing; these areas will be allowed to grow up in suitable forage crops.</li> </ul>   |
| <p><b>Livestock</b></p>   |  |
| Unsustainable grazing.  | <ul style="list-style-type: none"> <li>• Before livestock are purchased, grazing requirements for the new and projected herd should be estimated, and legal access to sufficient sustainable grazing ensured.</li> </ul>   |

| Potential Impacts  | Prevention and Mitigation Measures  |
|--|---|
| <b>Small Scale Agricultural Production</b>   |   |
| <p>Environment Impacts:</p> <ul style="list-style-type: none"> <li>• Loss of vegetative cover, decrease in soil fertility.</li> <li>• Possible pesticide, herbicide and fertilizer use leading to soil and water pollution.</li> <li>• Irrigation system may break down and not be repairable.</li> <li>• Potential diversion of water resources from its natural course/location.</li> </ul>  | <ul style="list-style-type: none"> <li>• Avoid infringing on protected areas, critical habitats or areas with significant biodiversity (e.g., wetlands).</li> <li>• Apply pesticides, herbicides and fertilizers at recommended times and doses.</li> <li>• Educate population in the proper use, storage and disposal of pesticides, herbicides and fertilizers.</li> <li>• Ensure that construction and rehabilitation of irrigation systems are carried out by using materials easily accessible through local market.</li> </ul>  |
| <p>Social Impacts:</p> <ul style="list-style-type: none"> <li>• Conflict over user rights of irrigation systems.</li> <li>• Vulnerable groups may lose access to water resources or land.</li> </ul>   | <ul style="list-style-type: none"> <li>• Ensure that inhabitants around water reserves are not deprived of access to water due to irrigation and other activities.</li> <li>• Ensure that the interests/rights of the vulnerable groups are integrated into the activities.</li> </ul>  |
| <b>Land Tenure</b>   |   |
| <p>Environmental and Social Impacts:</p> <ul style="list-style-type: none"> <li>• Risk of concentrating livestock numbers.</li> <li>• Over grazing and loss of vegetative cover.</li> <li>• Risk of land degradation</li> <li>• Pressure on water points and resulting risk of pollution.</li> <li>• Increased conflict between livestock herders and farmers/local population.</li> <li>• Vulnerable groups' livelihoods made more insecure.</li> </ul> | <ul style="list-style-type: none"> <li>• Limit animal numbers or control access to grazing lands;</li> <li>• Control length of grazing time through introduction of rotational grazing, development of dry-season grazing areas and reserves;</li> <li>• Strategic development and placement of water points;</li> <li>• Maintain regular animal health monitoring and vaccination programs;</li> <li>• Establish conflict resolution mechanism for each project village under the land tenure pilot project;</li> <li>• Integrate the vulnerable groups into each pasture management/land tenure project by making it a requirement to integrate the interests of the poor and vulnerable into the pasture management/land tenure projects.</li> </ul> |



| Potential Impacts  | Prevention and Mitigation Measures   |
|--|--|
| <b>Natural Resource Management/Forestry</b>  |  |
| <p>Environmental Impacts:</p> <ul style="list-style-type: none"> <li>• Plantation made up of mono species more vulnerable to disease, insects, fire, etc.</li> <li>• Use of certain tree species can lead to decrease in soil fertility, nutrients, water, etc.</li> <li>• Land degradation due to improper management of natural resources.</li> </ul>  | <ul style="list-style-type: none"> <li>• Consider use of a variety of multipurpose and fast-growing indigenous tree species and management practices to enhance disease, insect, and fire resistance.</li> <li>• Select tree species and management practices that promote sustainable soil and water conservation.</li> <li>• Educate local population on proper harvesting techniques and practices.</li> <li>• Community-based management of natural resources.</li> </ul>  |
| <p>Social Impacts:</p> <ul style="list-style-type: none"> <li>• Households may lack fuel if alternative measures are not taken into an account.</li> <li>• People's livelihoods that are dependent on forestry/forest resources may worsen (e.g. hunters).</li> <li>• Communities may not have right to manage their own natural resources.</li> </ul>   | <ul style="list-style-type: none"> <li>• Access and user rights to land clearly defined and well managed by community, local government or central planning.</li> <li>• Include local population in the design, site selection, development and management of forested areas.</li> <li>• Take special care of not introducing foreign plant species that may cause disruption in eco-balance.</li> <li>• Introduce sustainable practices of fuel wood gathering (rather than just restrictive measures).</li> </ul>  |
| <b>Income Generating Activities</b>  |  |
| <p>Injury from machinery:</p>  | <ul style="list-style-type: none"> <li>• Ensure that safe practices for the use of new machinery are understood and adopted.</li> </ul>  |
| <b>Rehabilitation of Schools and Clinics, Building Dispensaries, Classrooms</b>  |  |
| <p>Environmental Impacts:</p> <ul style="list-style-type: none"> <li>• Improper disposal of wastes.</li> <li>• Improper disposal of medical wastes.</li> <li>• Sanitation problems.</li> <li>• Some construction related problems but usually minor in nature.</li> <li>• Medical waste disposal.</li> <li>• Storage of hazardous materials.</li> <li>• Spread of disease from incoming laborers.</li> </ul> | <ul style="list-style-type: none"> <li>• Ensure inclusion of adequate sanitation facilities and maintenance.</li> <li>• Ensure planning, design and maintenance of infrastructure is appropriate to local needs, traditions, culture and desires.</li> <li>• Proper disposal of all solid wastes, containers, infectious wastes.</li> <li>• Public health awareness.</li> <li>• Priority given to rehabilitation of toilets in rehabilitation of schools/clinics.</li> <li>• Undertake awareness activities to reduce risk of transmission of diseases.</li> </ul> |

| Potential Impacts  | Prevention and Mitigation Measures  |
|--|---|
| <p>Social Impacts:</p> <ul style="list-style-type: none"> <li>• The vulnerable groups (women, poor children, migrants, pastoralists and the poor) may not benefit from infrastructure construction and rehabilitation.</li> <li>• Schools/health posts may become abandoned due to the lack of commitment.</li> <li>• Building infrastructure system alone without needs assessment may not benefit the community.</li> <li>• Infrastructure investments may be misappropriated by governments.</li> </ul> | <ul style="list-style-type: none"> <li>• Before the start of each infrastructure project, develop comprehensive organizational and maintenance plan, commitment from local government and public to maintain school supplies, medical supplies, etc.</li> </ul> |

## **Safeguards Procedures for Inclusion in the Technical Specifications of Contracts**

### **I. General**

1. The Contractor and his employees shall adhere to the mitigation measures set down and take all other measures required by the Engineer to prevent harm, and to minimize the impact of his operations on the environment.
2. The Contractor shall not be permitted to unnecessarily strip clear the right of way. The Contractor shall only clear the minimum width for construction and diversion roads should not be constructed alongside the existing road.
3. Remedial actions which cannot be effectively carried out during construction should be carried out on completion of each Section of the road (earthworks, pavement and drainage) and before issuance of the Taking Over Certificate:
  - (a) these sections should be landscaped and any necessary remedial works should be undertaken without delay, including grassing and reforestation;
  - (b) water courses should be cleared of debris and drains and culverts checked for clear flow paths; and
  - (c) borrow pits should be dressed as fish ponds, or drained and made safe, as agreed with the land owner.
4. The Contractor shall limit construction works to between 6 am and 7 pm if it is to be carried out in or near residential areas.
5. The Contractor shall avoid the use of heavy or noisy equipment in specified areas at night, or in sensitive areas such as near a hospital.
6. To prevent dust pollution during dry periods, the Contractor shall carry out regular watering of earth and gravel haul roads and shall cover material haulage trucks with tarpaulins to prevent spillage.

### **II. Transport**

7. The Contractor shall use selected routes to the project site, as agreed with the Engineer, and appropriately sized vehicles suitable to the class of road, and shall restrict loads to prevent damage to roads and bridges used for transportation purposes. The Contractor shall be held responsible for any damage caused to the roads and bridges due to the transportation of excessive loads, and shall be required to repair such damage to the approval of the Engineer.
8. The Contractor shall not use any vehicles, either on or off road with grossly excessive, exhaust or noise emissions. In any built up areas, noise mufflers shall be installed and maintained in good condition on all motorized equipment under the control of the Contractor.
9. Adequate traffic control measures shall be maintained by the Contractor throughout the duration of the Contract and such measures shall be subject to prior approval of the Engineer.

### **III. Workforce**

10. The Contractor should whenever possible locally recruit the majority of the workforce and shall provide appropriate training as necessary.
11. The Contractor shall install and maintain a temporary septic tank system for any residential labor camp and without causing pollution of nearby watercourses.
12. The Contractor shall establish a method and system for storing and disposing of all solid wastes generated by the labor camp and/or base camp.
13. The Contractor shall not allow the use of fuelwood for cooking or heating in any labor camp or base camp and provide alternate facilities using other fuels.
14. The Contractor shall ensure that site offices, depots, asphalt plants and workshops are located in appropriate areas as approved by the Engineer and not within 500 meters of existing residential settlements and not within 1,000 meters for asphalt plants.
15. The Contractor shall ensure that site offices, depots and particularly storage areas for diesel fuel and bitumen and asphalt plants are not located within 500 meters of watercourses, and are operated so that no pollutants enter watercourses, either overland or through groundwater seepage, especially during periods of rain. This will require lubricants to be recycled and a ditch to be constructed around the area with an approved settling pond/oil trap at the outlet.
16. The contractor shall not use fuelwood as a means of heating during the processing or preparation of any materials forming part of the Works.

### **IV. Quarries and Borrow Pits**

17. Operation of a new borrow area, on land, in a river, or in an existing area, shall be subject to prior approval of the Engineer, and the operation shall cease if so instructed by the Engineer. Borrow pits shall be prohibited where they might interfere with the natural or designed drainage patterns. River locations shall be prohibited if they might undermine or damage the river banks, or carry too much fine material downstream.
18. The Contractor shall ensure that all borrow pits used are left in a trim and tidy condition with stable side slopes, and are drained ensuring that no stagnant water bodies are created which could breed mosquitoes.
19. Rock or gravel taken from a river shall be far enough removed to limit the depth of material removed to one-tenth of the width of the river at any one location, and not to disrupt the river flow, or damage or undermine the river banks.
20. The location of crushing plants shall be subject to the approval of the Engineer, and not be close to environmentally sensitive areas or to existing residential settlements, and shall be operated with approved fitted dust control devices.

### **V. Earthworks**

21. Earthworks shall be properly controlled, especially during the rainy season.
22. The Contractor shall maintain stable cut and fill slopes at all times and cause the least possible

disturbance to areas outside the prescribed limits of the work.

23. The Contractor shall complete cut and fill operations to final cross-sections at any one location as soon as possible and preferably in one continuous operation to avoid partially completed earthworks, especially during the rainy season.

24. In order to protect any cut or fill slopes from erosion, in accordance with the drawings, cut off drains and toe-drains shall be provided at the top and bottom of slopes and be planted with grass or other plant cover. Cut off drains should be provided above high cuts to minimize water runoff and slope erosion.

25. Any excavated cut or unsuitable material shall be disposed of in designated tipping areas as agreed to by the Engineer.

26. Tips should not be located where they can cause future slides, interfere with agricultural land or any other properties, or cause soil from the dump to be washed into any watercourse. Drains may need to be dug within and around the tips, as directed by the Engineer.

## **VI. Historical and Archeological Sites**

27. If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

- (a) Stop the construction activities in the area of the chance find.
- (b) Delineate the discovered site or area.
- (c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry of Culture take over.
- (d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture immediately (less than 24 hours).
- (e) Contact the responsible local authorities and the Ministry of Culture who would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Ministry of Culture (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, including the aesthetic, historic, scientific or research, social and economic values.
- (f) Ensure that decisions on how to handle the finding be taken by the responsible authorities and the Ministry of Culture. This could include changes in the layout (such as when the finding is an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage.
- (g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Culture; and
- (h) Construction work will resume only after authorization is given by the responsible local authorities and the Ministry of Culture concerning the safeguard of the heritage.

## **VII. Disposal of Construction and Vehicle Waste**

28. Debris generated due to the dismantling of the existing structures shall be suitably reused, to the extent feasible, in the proposed construction (e.g. as fill materials for embankments). The disposal of

remaining debris shall be carried out only at sites identified and approved by the project engineer. The contractor should ensure that these sites (a) are not located within designated forest areas; (b) do not impact natural drainage courses; and (c) do not impact endangered/rare flora. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas.

29. In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such, debris or silt and restore the affected area to its original state to the satisfaction of the Supervisor/Engineer.

30. Bentonite slurry or similar debris generated from pile driving or other construction activities shall be disposed of to avoid overflow into the surface water bodies or form mud puddles in the area.

31. All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary, will be considered incidental to the work and should be planned and implemented by the contractor as approved and directed by the Engineer.

32. Vehicle/machinery and equipment operations, maintenance and refueling shall be carried out to avoid spillage of fuels and lubricants and ground contamination. An 'oil interceptor" will be provided for wash down and refueling areas. Fuel storage shall be located in proper bunded areas.

33. All spills and collected petroleum products shall be disposed of in accordance with standard environmental procedures/guidelines. Fuel storage and refilling areas shall be located at least 300m from all cross drainage structures and important water bodies or as directed by the Engineer.