Iraq Institutional Capacity Assessment Report

Ministry of Environment
Government of Iraq

Post-Conflict Branch
United Nations Environment Programme

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UNEP

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Executive Summary

The Iraqi Ministry of Environment (MoEn), which stemmed from and incorporated the Ministry of Health's former Environmental Protection and Improvement Directorate, was established in September 2003. Since its inception, the Ministry has operated under four different governments, with three different ministers. In spite of this political flux, security constraints and resource limitations, the Ministry has succeeded in establishing its presence, training its staff, improving infrastructure and carrying out a number of projects.

UNEP initiated this institutional assessment of the Ministry of Environment as part of its project for Strengthening Environmental Governance in Iraq, which is funded by the Government of Japan through the Iraq Trust Fund. Ministry officials undertook the fieldwork, and UNEP provided technical assistance.

The assessment found the Iraqi Ministry of Environment to be fully operational, with competent staff and functioning legislation. While its work covers all areas of environmental management, including law-making and law enforcement, the Ministry's core strength is in environmental monitoring, due to its historical background as the monitoring arm of the Ministry of Health. These three roles should in future be segregated, and the law-making and inspection capabilities reinforced. The Ministry is currently working on both these issues. In addition, a new framework law on the environment is being developed, which should be followed by a new set of standards and regulations. The Ministry is also being reorganized to better carry out its current mandate. Once these activities are completed, the law-making and enforcement components can be strengthened.

The rapid changes occurring in Iraq – in terms of democratization, decentralization, privatization and globalization – should also be taken into account when considering the future of the organization. This document sets out to explain how each of these trends will impact upon the Ministry's mandate and how it can respond to these challenges.

As in all other areas, the environmental needs in Iraq are massive. Attention and precious resources should therefore be focused on a few key issues in the coming years. Setting up a process to agree on the main priorities, preparing a national environmental action plan and addressing the priority issues through specific projects would help the Ministry to target its resources to ensure that tangible changes are observed in the short to medium term.

Finally, while the Iraqi Ministry of Environment has substantial experience in managing environmental issues in normal conditions, there is little expertise and virtually no experience in handling the environmental consequences of emergencies. It is hence recommended that the Ministry study environmental weaknesses and make institutional preparations for emergencies, should they arise.

CHAPTER I: Background

Introduction

This document reports on the findings of an Institutional Capacity Assessment of the Iraqi Ministry of Environment that was carried out between September and December 2005. This assessment represents the second component of UNEP's "Strengthening of Environmental Governance in Iraq through Environmental Assessment and Capacity-building" project. Funded by the Government of Japan through the Iraq Trust Fund managed by the United Nations Development Group (UNDG), this project features three main elements:

(a) the environmental assessment of contaminated sites;

(b) an institutional capacity assessment and support for environmental policy development; and

(c) capacity-building and the consolidation of the Ministry of Environment's environmental facilities.

The work was managed by the UNEP Post-Conflict Branch in Geneva, with supporting activities in Jordan and Switzerland. The Ministry of the Environment (MoEn) was the Iraqi Government partner. Due to access restrictions for international staff, an international team of experts was set up to provide national staff with the training and tools to perform the assessment. The data gathered by the national team was then analyzed during joint meetings.

This report describes both the process and the results of the assessment. It lists all the information collected during the exercise, offers an analysis, and puts forth specific recommendations to improve some essential aspects of governance capacity.

History of the Ministry of Environment

The Iraqi Ministry of Environment (MoEn) was only established in 2003. In contrast with other countries in the Middle East, however, Iraq had a well-developed system of environmental governance and monitoring prior to the formal constitution of the Ministry. A Human Environment Directorate was created under the Ministry of Health in 1972, after the United Nations Conference on the Human Environment. This was followed, in 1986, by the enactment of a law establishing an Environment Protection Centre (EPC) within the Health Ministry. With the introduction of the Environment Protection and Improvement Law in 1997, the EPC was transformed into the Environment Protection and Improvement Directorate (EPID). The law was then amended in September 2001, extending the mandate and responsibilities of the EPID to address broader environmental issues. At that time, the EPID was designated as an independent body and formally dissociated from the Ministry of Health.

An Environment Protection and Improvement Council (EPIC) – consisting of various governmental and non-governmental representatives and experts – was set up within this new institutional framework. Its principal duties were to:

- create an overall environmental policy framework;
- review the EPID's work plan, at both national and governorate levels;
- approve environmental quality standards;
- serve as an intra-governmental coordination body;
- deliver decisions, including sanctions for environmental offences; and
- formulate Iraq's position in regional and international environmental negotiations and consider accession to international agreements.

The Council's decisions had to be endorsed by the Cabinet (Council of Ministers), which was the

ultimate political and legislative decision-maker on environmental matters. The new law also allowed for the constitution of environmental councils and EPID branches in the eighteen governorates under the control of the central government in Baghdad[1].

Finally, the Environment Protection and Improvement Law established the EPID's budgetary and technical independence. Despite these legislative and structural changes, however, the EPID continued to receive administrative support from the Ministry of Health, of which it was widely regarded to be an integral part. Accordingly, in the administrative vacuum created by the 2003 conflict and in the absence of a functional Environment Council, the EPID was initially re-integrated (for administrative and budgetary purposes) into the Ministry of Health.

In mid-August 2003, EPID staff relocated from the Ministry of Health to the Department of Environmental Laboratories building in Baghdad. The Directorate's operations, though, were seriously curtailed by the limited office space available. As a result, its immediate concern was to identify or construct a new building. Moreover, the EPID's capacity was critically degraded, as most laboratories in Baghdad were looted after the conflict. Throughout the country, the remaining equipment was old, and reagents were in short supply. The need to rebuild Iraq's environmental monitoring capacity by reconstructing and re-equipping laboratories was clearly urgent.

On 1 September 2003, the Iraqi Governing Council (IGC) announced its Cabinet, which included the appointment of a Minister of Environment, Mr. Abdul-Rahman Sidiq Kareem. In parallel, the Governing Council developed and submitted a proposal for an institutional structure for a new Environment Ministry. Under the proposal, the existing Environment Protection and Improvement Directorate formed the core of the Ministry, which integrated all EPID departments and centres except for the National Centre for Occupational Health and Safety, which was reassigned to the Ministry of Labour and Social Affairs. Under the Minister, two under-secretaries were responsible for the technical and administrative portfolios, respectively. The Ministry of Finance opened a new account (in US dollars and Iraqi dinar), to which EPID assets held under the Ministry of Health were to be transferred.

The Ministry of Environment (MoEn) was officially created by a resolution passed by the Iraqi Governing Council and signed by Coalition Provisional Authority (CPA) Administrator, Ambassador L. Paul Bremer on 3 September 2003.

The resolution, known as CPA Order #44, gave the MoEn the mandate to protect and conserve Iraq's environment, as well as protect the residents of Iraq from environmental pollutants and environmental risks to human health. The Order further stated that the MoEn was responsible for integrating environmental concerns in other sectors, such as economic development, energy, transportation, agriculture, industry and trade. Other duties included the development of environmental policies and programmes, as well as the creation and enforcement of environmental standards.

Lastly, the CPA Order abolished the Environment Protection and Improvement Council (EPIC), connected with the previous regime's Council of Ministers, and set up a consultative body composed of representatives of other ministries to coordinate on policies and programmes affecting the environment.

After the United States' handover of sovereignty in June 2004, Ms. Mishkat Al Moumin was appointed as the new Minister of Environment. One year later, on 3 May 2005, when the IGC was replaced by the Iraqi Transitional Government, Mrs. Narmin Othman was sworn in as Minister of Environment. HE Othman was reconfirmed as Minister of Environment on 21 May 2006.

[1] This did not include the Kurdish region, autonomous since 1991. In the three northern provinces of the Kurdistan Regional Government, environmental matters were dealt with by the Ministry of Health and Social Affairs.

Box I. Iraqi Ministry of Environment timeline

September 2003

Iraqi Ministry of Environment is established
Interim Iraqi Government sworn in
HE Abdul-Rahman Sadiq Kareem is Minister of Environment

June 2004

Iraqi Governing Council is dissolved
New government leaders are named
HE Mishkat Al Moumin is Minister of Environment

January 2005

Elections for a Transitional National Assembly

April 2005

New Iraqi Interim Government sworn in
HE Narmin Othman is Minister of Environment

August 2005

National Assembly drafts a permanent Constitution

October 2005

Referendum on the new Constitution

December 2005

Elections for a permanent government held

May 2006

HE Narmin Othman reappointed as Minister of Environment

Institutional Capacity Assessment of the Ministry of Environment

The United Nations Environment Programme (UNEP) undertook a first needs assessment for the environment sector in Iraq between July and September 2003. A team of experts visited the Environment Protection and Improvement Directorate in July 2003 and reported the following:

"A new Ministry of Environment has been established with the existing EPID as the core of the new Ministry. Environmental units also exist in at least three other ministries (agriculture, industries, oil). During our interaction with the Iraqi environmental administration at the national and governorate level, it became obvious that there exists a relatively sophisticated administrative structure and staffing to monitor and manage environmental issues. The challenge facing the Iraqi administration and the international community is to enhance the capacity and skills of the environmental administration by training them on environmental best practices and providing them with sufficient equipment, operating budgets and guidelines to initiate environmental monitoring, clean up and conduct proactive environmental assessment and management".

In July 2004, UNEP succeeded in securing US$ 4.7 million to help meet the immediate capacity-building needs of the Iraqi Ministry of Environment. As mentioned earlier, this project, funded by the Iraq Trust Fund, had three components:

- upgrade the Ministry of Environment's physical infrastructure (laboratory/information centre etc);
- strengthen its human capacity (through classroom training and field assessments); and
- carry out an institutional capacity assessment.

Ideally, the institutional capacity assessment (ICA) should have preceded the other two activities, as input from it could have been used as a basis for targeted action on both physical and human capacity-building. However, because the political timetable for transition in Iraq resulted in frequent changes at the ministerial level, the project was implemented differently: it was considered more appropriate to conduct a systematic assessment of the Ministry of Environment after it had been in existence for at least a year and had had the opportunity to develop experience and maturity. It was also felt that any recommendations for follow-up would be of better value once the ministry had been in place for a full four-year term. The institutional capacity assessment was therefore only initiated in August 2005, after the human capacity element of the project had to a large extent been completed. Given that the needs of the new Ministry were enormous – requiring several years and a substantial budget to be met – the fact that the ICA was not undertaken before did not actually affect the Ministry's most important capacity-building needs.

In addition to the above project, UNEP initiated a series of other technical assistance activities to address environmental issues in Iraq. A comprehensive description of those activities is provided in Appendix I.

CHAPTER II: Implementation of the Institutional Capacity Assessment

Scope of work

The institutional capacity assessment was used as an opportunity to compile information on the political context, legal framework, physical infrastructure and human capacity of the Iraqi Ministry of Environment.

The scope of work was as follows:

1. Assess the context in which the MoEn operates, which is determined by the legislative framework that provides its mandate and by the country's general political situation. Iraq's commitments to regional and international treaties and organizations constitute additional constraints.

2. Inventory the organization's current resources by gathering information on the human, infrastructural and financial resources of the MoEn.

3. Assess procedures and priorities by acquiring information on the current operational practices of the Ministry, its institutional linkages and technical challenges.

4. Develop recommendations to assist the Ministry to successfully carry out its mandate.

Methodology

The standard approach to an ICA is to collect data through interviews and questionnaires, and follow up with brainstorming to generate conclusions and recommendations. The Iraqi security situation, however, presented some significant challenges for the implementation of this methodology, so the following practical approach had to be developed to meet the objectives of the study without diluting its impact:

Background research and initial data gathering

The UNEP team researched the overall political context, institutional mandate and structure of the Ministry through available literature and through contact with MoEn officials during multiple training events (not related to the ICA).

Design of the ICA implementation plan

Based on the background research and consultations with the senior management of MoEn, an implementation plan was developed for the ICA. The MoEn nominated a dedicated internal team – hereafter referred to as the ICA Task Force – to carry out the ICA. The Task Force's terms of reference included:

- manage the ICA process within the Ministry of Environment;
- inform and involve other stakeholders (governorates, line ministries, research institutes, etc.); and
- collect information relevant to the ICA process.

The Ministerial Order nominating the ICA Task Force, as well as its detailed terms of reference, are presented in Appendix II.

Development of questionnaires

The Geneva-based international team developed four types of questionnaires for the ICA:

- Resources questionnaire: this form relating to the MoEn's available resources was completed by each of the Ministry's departments and directorates;
- Responsibilities questionnaire for senior staff: this form was completed by each directorate head;
- Responsibilities questionnaire for other staff: this was completed by several staff members within the various units, under the directorates;
- Strategic questionnaire: this information was gathered throughout the process from a variety of sources. Much of it was already available in existing Ministry documents.

Training of the ICA Task Force

The ICA Task Force received training in Amman, Jordan, on the objectives and methodologies for conducting an ICA. The questionnaires were translated into Arabic and specific guidance was provided for completing them.

Fieldwork by the ICA Task Force

The ICA Task Force conducted surveys within the MoEn using the questionnaires.

Feedback and brainstorming

Once the fieldwork was completed, the ICA Task Force and the international team met in Amman to discuss the findings. Completed questionnaires were sent in advance and other anecdotal information was exchanged in person.

Data analysis

The ICA team analysed the data gathered through the questionnaires and information provided during the brainstorming session in detail, and produced recommendations.

Reporting

A draft report was written by the international team and sent to the ICA Task Force for comments. Comments received were incorporated before the report was finalized.

Constraints

1. The scope of the ICA was limited to an assessment of the Ministry of Environment in Iraq, as opposed to a more general evaluation of environmental governance in Iraq. Consequently, other organizations involved in environmental governance and the linkages between the MoEn and other institutions were not studied.
2. Due to security constraints, no international experts who worked on this ICA were able to travel to Iraq. Thus, no primary verification of the information provided was possible.
3. All the interviews were conducted by members of the MoEn Task Force. This may have resulted in some bias in the findings of the survey.
4. UNEP is aware that both the Framework Environmental Law and the Ministry's organogram are in the final stages of revision. It is therefore not useful to explain the current law and organogram in detail, as would be the case in a typical ICA.

CHAPTER III: Institutional Context

To understand the recommendations of the ICA, it is important to be aware of the general context in which the Ministry operates and is expected to operate in years to come. The following sections accordingly discuss the political, environmental and economic context of the Ministry's operations[2].

Political context

In April 2003, after military action led to the collapse of Saddam Hussein's regime, the US-led coalition established the Coalition Provisional Authority (CPA), headed by the US Civil Administrator, Mr. Paul Bremer III. The CPA selected a 25-member Iraqi Council, and transferred sovereignty to the Iraqi Interim Government (IG) in June 2004. General elections to select a transitional 275-member National Assembly were held on 30 January 2005.

During the summer of 2005, the newly elected parliament worked on establishing and finalizing a permanent constitution to replace the Law of Administration for the State of Iraq for the Transitional Period, which was put into force by the CPA after the war. The text of the proposed constitution was read to the National Assembly on 28 August 2005. It described the state as a "democratic, federal, representative republic" (art. 1) and a "multi-ethnic, multi-religious and multi-sect country" (art. 3). The division of powers, however, was to be deferred until the first parliament convened. The Constitution of Iraq was approved by a ratification vote on 15 October 2005.

On 15 December 2005, parliamentary elections were held to choose a permanent Iraqi Government. The turnout was high. The Shiite religious coalition (UIA) won 128 of the 175 seats. Kurds won 53 seats, while the two main Sunni-led coalitions took 55 seats[3]. This new parliament – now called the Council of Representatives – was elected to serve a full four-year legislative period, creating hopes for a more stable administration that would be able to address some of Iraq's many urgent problems.

One of the key political challenges in Iraq today is the issue of federalism – striking a balance between the regions and the central authority, and preserving the unity of the country while fostering regional development. A contentious topic during the drafting of the Constitution, the question of federalism continues to dominate Iraqi public life today. The issue, indeed, relates to Iraq's deep sectarian and ethnic divides; while a federal system could help to ease inter-communal tensions, it could also deepen the conflicts within Iraqi society. The system of government, along with the distribution of wealth and resources, will no doubt remain one of the most difficult issues facing the country for some time to come.

Another important political development has been the emergence and rapid growth of civil society organizations and the free press since 2003. Whereas non-governmental movements are a powerful tool in many countries for voicing and supporting environmental quality issues in the political arena, Iraq had no history of these types of institutions prior to the fall of Saddam Hussein's regime. Although they still do not have formal avenues for expressing their voice in the current system, it is likely that there will be more opportunities for NGOs to participate in policy-making in the new political environment in Iraq.

Linkages to regional organizations and Multilateral Environmental Agreements (MEAs)

Before the early 1980s, when it became increasingly isolated from regional bodies and international agreements for political reasons, Iraq was a Party to a number of international conventions and regional organizations, including the International Convention for the Prevention of Pollution from

[2] It is fully recognized that the key issue currently impacting the Ministry's operations is security. However, as security is essential for good governance regardless of the administrative structure under review, it is not included in this study. While it is possible to make recommendations for developing institutional capacity to work under security conditions such as those prevailing in Iraq, it is beyond UNEP's mandate or expertise to do so.

[3] Source: *The Economist, 26 Jan 2006, "Time for that sea change".*

Ships (MARPOL 1973), the Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques (ENMOD), and the Regional Organization for the Protection of the Marine Environment (ROPME).

Now that Iraq is returning to the international community, it is imperative that it re-join Multilateral Environmental Agreements and regional organizations. The Government of Iraq has accordingly formed a high-level committee to study the prospect of the country's accession to MEAs. As of March 2006, this committee has recommended accession to the Montreal Protocol and the Ramsar Convention, and a report is pending for other MEAs. Ultimately, Iraq's environmental laws and regulations will need to be harmonized with ratified international conventions.

The current accession status of Iraq to various MEAs is presented in Appendix IV. To put this in perspective, the status of neighbouring countries is also included.

Economic context

Under the previous regime, Iraq's economy was characterized by three factors. First, as in most countries in the Middle East, the oil industry was the economy's mainstay, inhibiting development in other sectors. Oil was discovered in commercial quantities in Iraq in 1927, but production was relatively limited until the 1970s. Following the rise in oil prices and nationalization in 1972, production grew rapidly. By 1979, the oil industry represented 63% of Iraq's GDP. Peak production of 3.7 million barrels per day (bpd) was achieved in 1979, compared with a low of 1.5 million bpd in 2002 and approximately 1.9 million bpd in June 2005.

Second, while industrial development began at the beginning of the twentieth century – with the start of significant oil production near Kirkuk and Basra – growth was basically limited to the oil industry and related services, and most of the equipment was imported. Broader industrial development only began in the 1970s, when the Iraqi government started a development programme funded for the most part by oil export revenue. The focus was on medium technology industries such as textiles, food production, construction materials and on heavy industry, including iron, steel and basic petrochemicals. Higher technology goods were, and still are, largely imported. The mineral industry grew gradually with a focus on sulphur, phosphates and potash, including the post-processing of ores to produce sulphuric acid, alum and fertilizers. At its peak in the 1980s, Iraq was one of the world's largest producers of fertilizer.

From the 1970s, Iraq also developed a domestic arms industry that produced the full range of low- to medium-technology goods, such as explosives, small arms and artillery munitions, as well as higher grade items such as missiles.

The industrial sector is currently in decline and though hundreds of enterprises exist, it is doubtful that they will be able to function effectively in a more market-oriented environment.

The last important aspect of Iraq's economy was that it was fully nationalized in the 1970s. After the fall of Saddam Hussein's regime, however, the Coalition Provisional Authority and the US Civil Administrator undertook to transform the country's economy from a state-run to a market economy. All state-owned enterprises, except for those in the oil industry, were privatized; foreign investors were allowed to withdraw profits without reinvesting in the country and foreign banks were allowed to enter Iraq and own up to 50% of a national bank.

Environmental context

Iraq's current environmental problems are the consequence of three related issues. First, the environmental sector has suffered from chronic underinvestment in both physical infrastructure and human resources for many decades, having been given low priority as a result of a lack of awareness of its importance. Second, Iraq's conflicts – the Iran-Iraq War, the Gulf War in 1991 and the 2003 conflict – all had their own direct impact on the environment. Third, UN sanctions following the Gulf War isolated the environment community in Iraq from the international arena, thus limiting its ability to improve the quality of the environment in the country. A more detailed

assessment of environmental issues in Iraq is presented in UNEP's *Desk Study on the Environment in Iraq* (2003).

Environmental priorities for Iraq

As a comprehensive national assessment of the state of the environment in Iraq has not been done so far, no document articulating the environmental priorities for the country as a whole is available. The UNEP *Desk Study*, however, identified the following priority actions for environmental management in Iraq in 2003:

1. assess the environmental situation on the ground;
2. relieve environmental threats to human health and well-being;
3. integrate environmental protection into the wider post-conflict reconstruction process;
4. create a knowledge base to address the environmental problems confronting Iraq; and
5. build strong national institutions and the capacity for long-term sustainable management of the environment.

Development plans

In 2004 and 2005, the Chairman of the Iraq Strategic Review Board and Minister of Planning and Development Cooperation, Mr. Barham A. Salih, issued the Iraq National Development Strategy. This strategy is meant to serve as the starting point for a new dialogue between the democratically elected government of Iraq and the international community. It provides a framework for cooperation and sets out priorities for the country's reconstruction and development. The vision, as stated in the National Development Strategy, is to "transform Iraq into a peaceful, unified federal democracy and a prosperous, market-oriented regional economic powerhouse that is fully integrated into the global economy. This ambitious vision can only be achieved by a market-oriented economy. One that is open to the world, driven by the ingenuity and creativity of private enterprise, founded on the rule of law, and led by a federal, democratic, transparent and accountable government".

The National Development Strategy is organized around four key pillars that must govern strategic public actions for reconstruction and development:

1. strengthening the foundations of economic growth;
2. revitalizing the private sector;
3. improving the quality of life; and
4. strengthening good governance and security.

Private sector development, rule of law, transparency and accountability, including accountability to the international community, are essential elements of this vision, which need to be taken into account by the Ministry of Environment.

CHAPTER IV: Results of the Institutional Capacity Assessment

This chapter presents the information gathered during the process of the institutional capacity assessment, with some preliminary observations. A detailed analysis of the data and the conclusions are provided in subsequent chapters.

Institutional mandate

Constitutional provisions

In all countries, constitutional provisions give the highest level of institutional mandate for environmental governance. Articles in the Constitution reflect the importance a country confers on the environment in comparison with all the other issues that vie for priority. In addition, constitutional provisions are often enforceable in the court of law, thus providing citizens with the means to ensure their implementation by the authorities.

The October 2005 Constitution contains several environmental provisions, namely:

- Article 33:
  - 1st Every individual has the right to live in a correct environmental atmosphere.
  - 2nd The state guarantees protection and preservation of the environment and biological diversity.

- Article 112:

The following duties shall be shared by the federal and regional authorities:

- 3rd drawing up environmental policy to guarantee the protection of the environment from pollution and the preservation of its cleanliness, in cooperation with the regions.

These articles have two implications: first, that a good environment is a fundamental right and freedom to be enjoyed by all citizens and is enforceable by legal action, and second, that both the federal and the regional governments have the responsibility to create and enforce environmental law.

CPA Order #44

As mentioned above, the Ministry of Environment (MoEn) was established by an Order of the Coalition Provisional Authority (CPA), which determined that the responsibilities of the Environmental Protection and Improvement Directorate (then under the Ministry of Public Health) would be transferred to a new Ministry of Environment. In this Order, the Ministry was allocated responsibilities for standard setting, policy formulation, mainstreaming, protection and conservation. The relevant sections from CPA Order #44 are reproduced below. The full order is presented as Appendix V.

- The Ministry of Environment (MoEn) is hereby established.
- Subject to transitional provisions in this order, the Environmental Protection and Improvement Directorate (EPID), established by paragraph 11 of Law number 3 of 1997, Protection and Improvement of the Environment, is hereby transferred to the MoEn. From the date of transfer to the MoEn, the EPID shall cease to have its own separate legal personality, and article 11 (3) of Law number 3 of 1997 is hereby suspended.
- The MoEn shall be responsible for the protection and conservation of Iraq's environment and for the protection of the residents of Iraq from environmental risk to human health and from environmental pollutants.
- The MoEn shall ensure that environmental protection is an integral part in developing policies concerning natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade.
- The MoEn shall develop policies, run environmental programmes and promulgate and enforce standards pursuant to Law Number 3 of 1997 and this Order.
- The Council for Protection and Improvement of the Environment connected with the previous regime's Council of Ministers is hereby abolished.
- Paragraphs 3-6 (inclusive) of Law Number 3 of 1997 are hereby abolished[4].

[4] This statement actually refers to Articles 3-6 in Chapter 2 of the 1997 Law which deals with the EPIC.

- The interim Minister shall set up a consultative body composed of representatives of other Ministries to coordinate on policies and programmes affecting the environment, and other Ministries shall cooperate with MoEn.

Mission Statement

Though not legally recognized or enforceable, the Mission Statement captures the fundamental intent of the Ministry and its approach to carrying out its mandate. The draft Mission Statement of the MoEn declares: [it is the mission of the MoEn] "to assure that the people of Iraq and their heirs have a clean and healthful environment where they may enjoy the resources of the country as those resources were given to them by nature".

To achieve this goal, the Statement sets forth the following key elements:

- The Ministry shall educate the people and industry as to the components of a sound, clean and stable environment. People must respect the environment and can do so only if they are aware that most of their daily actions affects that environment.
- The Ministry shall adopt and maintain a system of environmental laws, regulations and procedures that provides the basis for education of the people and industry as to the proper respect for and use of our natural resources.
- The Ministry shall develop a system of environment enforcement.
- The Ministry shall advocate and promote programmes to develop biodiversity.
- The Ministry commits itself to preventing further degradation of the environment. It shall further develop and adopt a programme to deal with the existing hazardous substances affecting the environment.

The draft Mission Statement is reproduced in Appendix VI.

Organizational structure of the Ministry

The Ministry of Environment has been in transition since its inception in 2003. As mentioned earlier, there have been three successive ministers of environment in the last three years. Each of the ministers has changed their team, including their deputy minister and advisors, and made major organizational changes. The result is that the institution has been in a continuous state of flux. A new organizational structure has been proposed, but the work has yet to be approved. The most recent structure available is presented in Figure 1[5]. A more detailed diagram of the functions of the Deputy Minister for Technical Affairs, including links with the offices in the governorates, is offered in Figure 2. Given that this is a "work in progress", the two diagrams, provided on two separate occasions, do not match. A new organogram is currently being finalized.

The Ministry is organized geographically, thematically and administratively. Under the Minister of Environment, there are deputy ministers for administration and technical affairs. A number of thematic areas are recognized under the Deputy Minister for Technical Affairs, such as air pollution, biodiversity and radioactivity. Environmental matters in the regions are handled by regional environmental centres that report administratively to the Director General of Governorate Affairs, and technically to their thematic divisions. In addition there are cross-cutting areas, including:

- the Engineering Affairs Office;
- the Information Technologies Centre;
- the Office of Administration and Financial Affairs;
- the Public Relations Department; and
- the Legal Affairs Department.

One obvious omission is an office or department dealing with environmental emergencies. Indeed, as discussed in later chapters, the potential for an environmental emergency was not considered a challenge by any of the senior officials interviewed for this institutional assessment.

[5] Given that the Ministry is currently finalizing a new organogram, it was not deemed useful to offer detailed comments on the present organizational diagram.

Figure 1: Organization chart of the Ministry of Environment of Iraq, April 2005

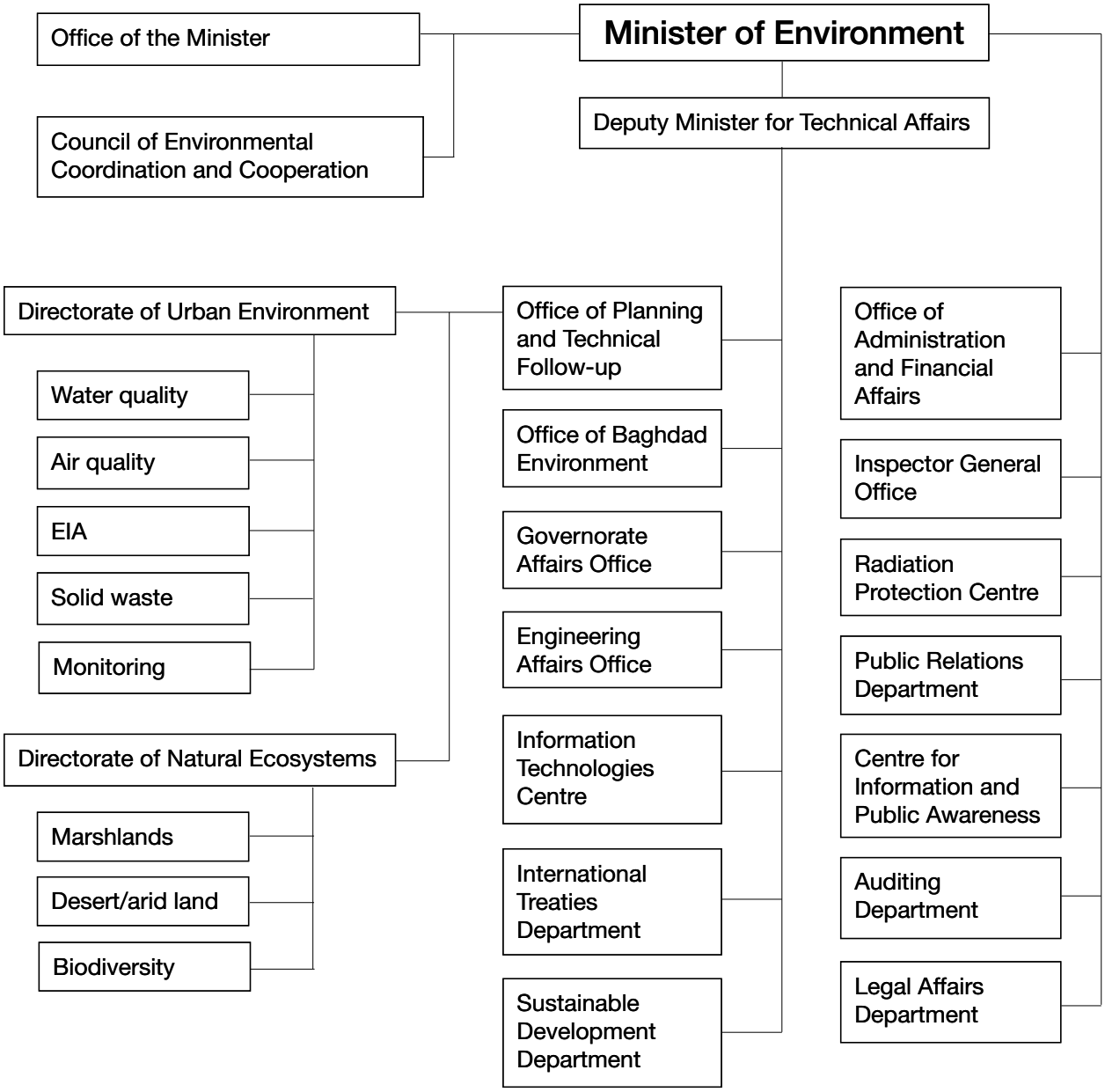
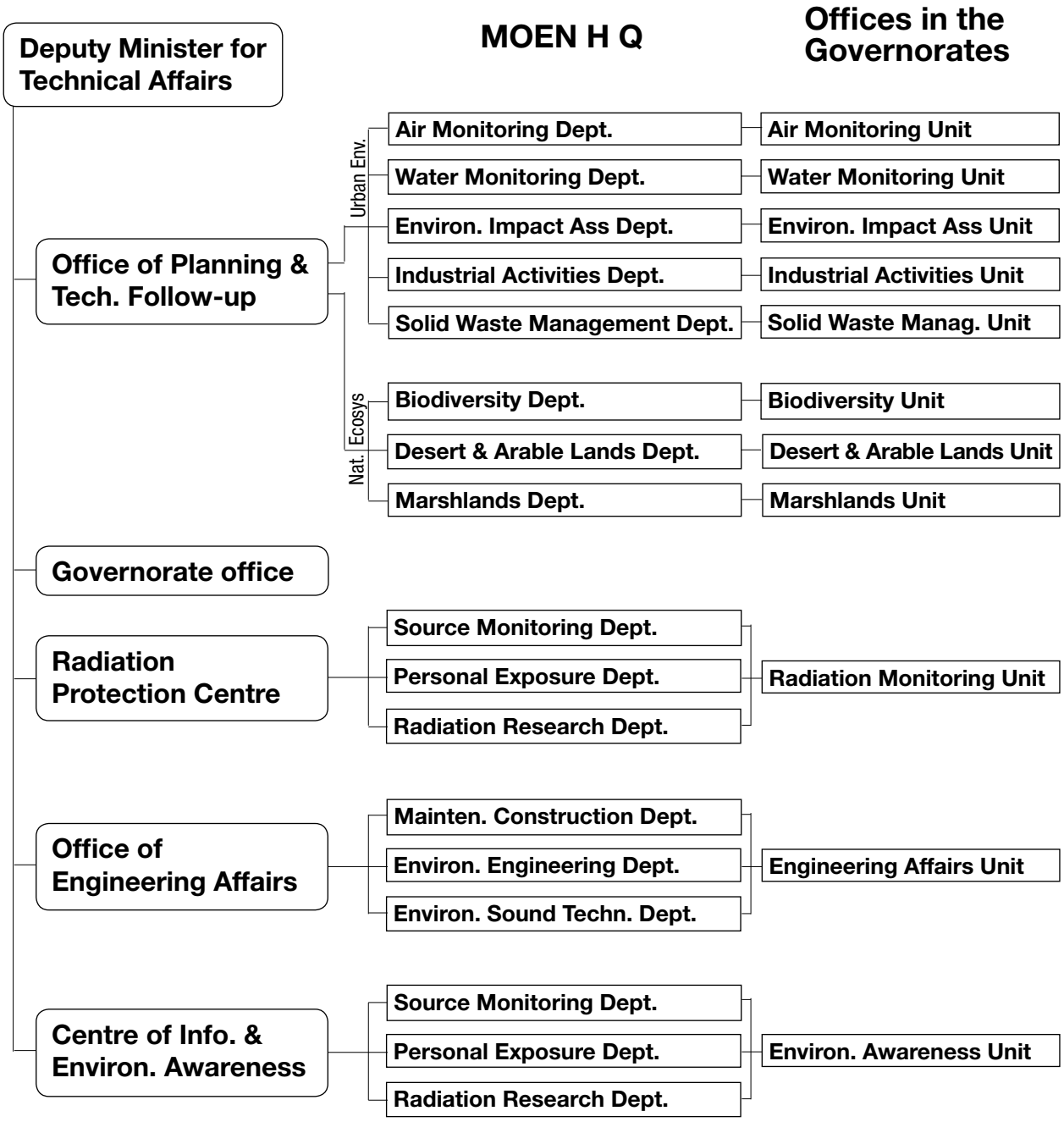


Figure 2: Functions of the Deputy Minister for Technical Affairs



Operating laws

Information about the various laws at the basis of the Ministry of Environment's operations was elicited by the questionnaire. A number of legal instruments were cited, which can be broadly classified in two categories:

1. Laws relating to environmental management:
    - Environmental Law of 1997 and its amendments;
    - Radiation Law;
    - CPA Order #44; and
    - instructions from the Foreign Office.

2. Laws relating to the management of civil service in Iraq:
    - Order 57 of the Government of Iraq (Civil Service Code of Conduct);
    - budget-related rules from the Ministry of Finance; and
    - Ministerial Council decisions.

Iraqi Penal Law also pertains, for both environmental management and office management.

In addition, the questionnaire revealed that:

- Iraq had a full system of legislation, not only in the environmental field, but also in other areas of governance (such as civil service, budget management, penal administration etc). It was not within the scope of this assessment to evaluate whether these laws were adequate;

- all senior staff interviewed for the ICA exercise were familiar with the various operating laws that governed their day to day operations; and that

- staff was more familiar with the Environmental Law of 1997 than the CPA Order of 2003.

The Environmental Framework Law[6]

A ministerial task force on environmental law is currently formulating new framework legislation. For the time being, however, the Modified Law on Environment Protection and Improvement Number 3 of the Year 1997 – as amended by CPA Order #44 – continues to govern the MoEn's day to day operations. The 1997 law has a number of strong points, including that:

- it defines the mandate of the Ministry and provides clear guidance on its operations;

- it establishes a mechanism for inter-ministerial consultations at both national and regional levels (this body apparently functioned well and is still operational even though the CPA Order abrogated this provision); and

- most Ministry staff are familiar with the technical provisions and operational implications of the law.

Nonetheless, the law's weak points clearly make a thorough review necessary. Indeed:

- the law focuses exclusively on "brown" environmental issues (pollution control) and neglects "green" issues (such as conservation);

- the Environmental Protection and Improvement Council (EPIC) consists of more than twenty member organizations, which each have a vote in the decision-making process. The Ministry of Environment hence has no particular means to enforce its recommendations other than lobbying other ministries;

- because of the depreciation of the Iraqi dinar, the penalty provisions have become meaningless; besides, penalties are generally a last resort for environmental violations: the law should also include incentive schemes encouraging environmentally friendly behaviour.

[6] A typical ICA would have involved a thorough assessment of the framework environmental law in the country. However, given that a redrafting of the current law was in advanced stages at the time of the evaluation, a review of the old law would not have assisted the new administration significantly.

As mentioned above, a committee is currently working within the Ministry to draft a new framework law on the environment. UNEP has been providing technical support for this exercise, and has recommended that the following issues be incorporated in the new law to distinguish it from the previous one:

1. The new law should define precisely how the legislative authority will be shared by the federal government and the governorates.

2. Iraq's transition from dictatorship to democracy should be reflected not only in the application of the rule of law (with better grievance mechanisms through judicial procedures for example), but also in increased stakeholder participation in decision-making and a clearly defined role for civil society.

3. Since Iraq has also made the transition from a centrally planned to a market economy, the incentive structure should identify functions for market instruments and confer a more prominent role to the private sector.

4. The focus of the law should be broadened to include "green" issues, such as conservation, in addition to pollution control issues.

5. Now that Iraq has rejoined the international community after years of isolation, provisions should be made to account for the possible impacts of joining multilateral environmental agreements.

Compliance and enforcement

The National Development Strategy recognizes that the institutionalization of the rule of law under Iraq's new political system requires the development of enforcement mechanisms. The establishment of effective law enforcement, however, will necessitate the international community's support to train and equip Iraqi security forces and police. In addition, a well functioning independent judiciary will need to have the capacity to engage both criminal and civil proceedings.

Inter-organizational linkages

The ICA evaluated the degree of interaction between the Ministry of Environment and other ministries. The survey showed that at an operational level, many linkages exist between various MoEn departments and other ministries or external agencies, as shown in the table below.

Sl #	Ministry/External Agency
1	Ministry of Health
2	Baghdad Municipality
3	Ministry of Water Resources
4	Ministry of Municipalities and Public Works
5	Ministry of Agriculture
6	Ministry of Education
7	Ministry of Finance
8	Ministry of Higher Education
9	Integrity Council
10	Judicial Council
11	Ministry of Foreign Affairs
12	University of Technology
13	Ministry of Interior
14	Ministry of Planning
15	Ministry of Electricity
16	Ministry of Oil
17	Ministry of Transportation
18	Ministry of Communication
19	Ministry of Commerce
20	International organizations (UNEP, WHO)

Table 1: Inter-organizational operational linkages

The Ministry of Health is the external agency the MoEn interacts with the most. While this may be due to the evident linkages between environment and health, UNEP assumes that it is rather a historical bond. Linkages with the Ministry of Water Resources and the Baghdad Municipality, for example, are more likely to be directly related to operational issues.

Generally speaking, these results indicate that the MoEn is not working in isolation. While the quality or frequency of its interaction with external actors were not covered in this survey, preliminary indications are that the MoEn collaborates with other ministries in discharging its duties, which is commendable.

Personnel

The following categories of personnel were assessed for the human resources section of the ICA:

- technical staff (engineers, chemists etc);
- administrative staff (secretarial, accounting etc); and
- support staff (drivers, office assistants).

For each category, information was collected about the number of staff in permanent positions and those in contract positions. Tables 2 and 3 provide this information for various divisions.

In addition to the Head Office in Baghdad, the MoEn has eighteen offices in the governorates. Table 3 provides information about the staffing of these regional offices.

	Technical Secretary	DG Planning	Radiation Protection Centre	Environmental Coordination Council	Finance and Admin	DG Governorate Affairs
Admin staff (permanent)	13	2	30		55	10
Admin staff (contract)	5	6	12	4	33	5
Technical staff (permanent)	2	6	27	2	3	15
Technical staff (contract)		2	16	1		7
Support staff (permanent)		1	10			1
Support staff (contract)			2			2

	Baghdad Environment	Baghdad Environment Laboratory	Public Relations and Awareness	IT Centre	Urban Environment	Natural Environment	Auditing Section
Admin staff (permanent)	7	8	12		1		11
Admin staff (contract)	2	1	9	2	2		4
Technical staff (permanent)	54	23		7	56	15	
Technical staff (contract)	14	14			13	10	
Support staff (permanent)		4					
Support staff (contract)							

	Legal Affairs	International Agreements Section	Sustainable Development Department	Maintenance & Construction	Personnel	Finance
Admin staff (permanent)	6	3			11	13
Admin staff (contract)	2		2	9	1	4
Technical staff (permanent)	1	3	2	12		
Technical staff (contract)				9		
Support staff (permanent)						
Support staff (contract)						

Table 2: Number of MoEn staff at headquarters

Location	Support		Administrative		Technical	
	contract	permanent	contract	permanent	contract	permanent
Baghdad						
Misan	10	2	-	2	10	8
Salah-Aldeen	13	1	-	1	9	6
Dheala	11	3	-	5	9	9
Bable	10	2	-	2	9	29
Anbar	10	4	1	6	9	7
Muthana	4	3	3	-	7	9
Qadisya	9	-	2	3	7	14
Waset	10	4	2	4	10	16
Kerbla	10	7		8	8	26
Krkuk	9	4	1	4	2	16
Nejaf	11	5	1	3	11	23
Thi-Qar	10	4	2	1	5	12
Basra	10	7	1	6	4	26
Mosul	13	3	3	4	5	31

Table 3: Number of MoEn staff in governorate offices

Technical background of staff

The table 4 below provides information on the MoEn staff's technical background.

Sl #	Specialization	Number
1	Engineers	165
2	Physicists	42
3	Chemists	68
4	Other scientific specializations	73
5	Medical	4
6	Technicians	142
7	Administrators	169
8	Service providers and professionals	114
9	Total	777

Table 4: Specialization of permanent staff[7] in the Ministry and its departments in Baghdad and other governorates at 1 December 2005

Equipment

The following elements were evaluated in the physical resources section of the ICA:

- office space;
- availability of electricity (either from the national grid or from a generator);
- telephones (fixed and mobile);
- vehicles;
- computers (desktop and laptop); and
- other specialized equipment (cameras, fax, photocopiers etc).

The results of the survey are shown in table 8. In addition, specific information was collected on the laboratory equipment available within the Ministry (excluding the Radiation Protection Centre). This is shown in table 5.

[7] The number of temporary contracts for various specializations in the ministry headquarters and relevant departments was 450 at the date mentioned above.

Sl #	Description	Baghdad	Governorates
1	AAS	1	3
2	Spectrophotometer	1	0
3	DO meter	4	6
4	Kjeldal meter	2	1
5	Stirrer	7	5
6	Turbidity meter	4	5
7	PH meter	6	3
8	Balance	4	3
9	Soxhlet extractor	1	2
10	BOD incubator	1	2
11	Flame photometer	1	0
12	EC meter	5	8

Table 5: List of laboratory equipment available at the Ministry of Environment[8]

Office space

As regards office space, the Ministry currently occupies the following buildings:

- the **Head Office** in Baghdad is a multi-story building which accommodates most of the MoEn's staff;
- the **Radiation Protection Centre** in Baghdad is located within the premises of the Ministry of Health. The centre's staff and the equipment in the radiation laboratory are located in this building;
- All eighteen governorates have MoEn offices, though only some have independent office buildings. Others share space with the Ministry of Health.

Physical Resources	Technical Secretary	DG Planning	Radiation Protection Centre	Environmental Coordination Council	Finance and Admin	DG Governorate Affairs	Baghdad Environment	Baghdad Environment Laboratory	Public Relations and Awareness
Space (rooms)	4	4	25	2	12	7	12	lab	3
Electricity	yes	yes	yes	yes	yes	yes	yes	yes	yes
Water	yes	yes	yes	yes	yes	yes	yes	yes	yes
Telephones (fixed)	1		2	yes	1	no	Y	1	1
Telephones (mobile)	6	3		3	1	no	5	1	2
Vehicles	2	1	4	1	27	no	12	1	1
Internet access	yes	yes	yes	yes	yes	yes	no	yes	yes
Desktop computers	7	7	13	2	11	12	14	5	6
Laptops	1		1						2
Other equipment	photo-copier, TV	photo-copier, Safe	30 field equipment kits, 6 lab systems	photocopier	photo-copier	3 photo-copiers	2 photo-copiers, lab equipment	lab Systems	photocopier, video camera, digital camera, TV.

Table 6: Availability of equipment in the MoEn's divisions and centres

[8] As part of its capacity-building activities UNEP has provided the Ministry with computers, furniture, books, field monitoring kits and other equipment. The list of these is provided in Appendix IX. In addition, UNEP has awarded a contract for refurbishing the laboratory with modern equipment. The listing of the equipment being procured is presented in Appendix X.

Physical Resources	IT Centre	Urban Environ-ment	Natural Environ-ment	Auditing Section	Legal Affairs	International Agreements Section	Sustainable Development Department	Maintenance and Construction	Personnel	Finance
Space (rooms)	2	7	3	2	2	1	2	1	2	4
Electricity	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Water	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Telephones (fixed)	yes	1	1	1	1	yes	no	no	1	1
Telephones (mobile)	1	4	3	2	3	1	no	no	1	1
Vehicles	no	1	no	1	1	no	no	no	no	no
Internet access	yes + VSAT	yes	yes	yes	yes	yes		1	no	FMIS
Desktop computers	10	12	8	2	2	2	1 shared		3	7
Laptops										
Other equipment	photo-copier, scanner, webcam, digital camera, ID scanner	field sampling kits	2 photo-copiers, field equip-ment	palm top, photo-copier	photo-copier	photocopier	shared photocopier	photocopier	2 photo-copiers	photo-copier

Table 6: Availability of equipment in the MoEn's divisions and centres (continued)

Financial resources

The Ministry of Environment's operational budget is provided in the Iraqi budget. Budget allocations for the years 2004 and 2005 are presented in Table 7.

Expenditure	**2004**	**2005**
Annual financial resources	Amount in Iraqi dinar for the period	Amount in Iraqi dinar for the period (1 Jan-13 Oct)
Emoluments/stable salaries/pensions Annuities Total emolument budget	1,264,302,024 458 123 472 1,722,425,496	1,484,246,340 569,654,554 2,053,900,894
Construction expenses/ maintenance Vehicles/travel Training Printed material Consultants Purchases Other expenses Total expenses budget excluding emolument	 131,127,435 91,911,140 2,322,000 40,789,280 -------- -------- 1,122,715 267,272,570	 13,409,370 108,876,740 5,087,250 296,950 26,492,105 -------- 211,954,383 3,661,067,798
Loans/debts/warranties/ guarantees/ obligations Total	-------- -------- --------	-------- -------- --------
Subsidies Other income sources Total income	 154,739,148	 13,923,000,000

Table 7: Ministry of Environment budget 2004-2005

Staff responsibilities

In addition to quantitative questions about physical and human resources, senior officials were asked about legislative procedures, environmental priorities and resource constraints in an open-ended questionnaire that covered the following aspects:

- reporting relationships;
- reporting frequency;
- legal basis for day to day operations;
- main external contacts;
- priority tasks; and
- new challenges.

The constraints faced by the Ministry were further investigated through a series of more specific questions, including:

- adequacy of the laws to support day to day operations;
- clarity of the definition of job responsibilities;
- adequacy of information needed to undertake tasks;
- adequacy of human resources available, both in numbers and training;
- adequacy of physical resources available; and
- adequacy of financial resources, both in amounts and expenditure procedures.

The findings of these surveys are compiled in table 8 below.

	Senior staff responsibilities								
	General Inspector	**General Manager**	**Director of Media**	**Section Head, Administration**	**Director of Urban Environmental Affairs**	**Maintenance and Construction**	**Director General**	**Laboratory**	**Computer and Communications**
Job title	General Inspector	General Manager	Director of Media Centre	Section Head, Administration	Director of Urban Environmental Affairs	Section Head	Director General	Deputy Chief of Labs	Chief of Centre
Based in	GI Office	Governorate Affairs	Environmental Media and Info Centre	Personnel Department	Urban Environment Directorate	Maintenance and Construction	Planning and Technical Follow-up	Laboratory, Baghdad Environmental Directorate	Computer and Communications
Reports	Minister	Technical Secretary	Minister	Director General	Director General	Director General	Minister	Director General	Technical Secretary
Reports on	Authority abuse, cheating	Technical and administrative matters	Department achievements	Appointments, leave, training	Condition of the environment and impact assessments	Project implementation	Technical issues	Scientific research	
Operating law	Order 57 of GI, Civil Service Code of Conduct, Iraqi Penal	Environment law	No Law, annual Plan	Civil Service Law of 1960, instructions from the MOF	Environment Law of 1997	None	Environment Law of 1997	Envrionmental Law of 1997	None
	Law, Iraqi				Communication				
Priority tasks	Prevention of cheating and abuse	Improving the condition of the environment	Promoting awareness among citizens	Personnel issues and activities	Conducting site assessments	Maintaining and constructing new buildings	Law	Conducting tests using advanced technology	Producing a database
	Staff performance evaluation						Research and awareness		E-governance
	Quality control						Integrate with national plans		Manage internet and training
New challenges	Political corruption	Changes due to lack of planning	Promoting awareness and improving the condition of the	Promoting efficient structures, filling vacancies and developing	Environmental disasters	Buildings in governorates	Eliminating pollution	Modern technology	Constructing infrastructure
	Interference of external parties						Implementing procedures in drinking water, sanitation, medical, industrial	Research work	Database development

Table 8: Survey findings

	Legal	Radiation Protection Center	Board Reporting	Sustainable Development	Admin and Finance	Accounts	Control and Scruitiny	International Convention	
Job Title	Chief of Section/Asst Legal Advisor	DG of RPC	DG	Head of Department	Director	Department Manager	Manager	Department Manager	
Based in	Legal Affairs Section	RPC	Environmental Consultancy and Co-ordination Board	SD	Admin and Finance	Accounts	Control and Scruitiny	International Convention	
Reporting	Minister	Minister	Minister	Technical Agent	Minister	DG	Minister	Technical Deputy	
On What	Law Sutis, Committees, Contracts	Technical, Admin, Legal	Environmental Law	Plans by Ministry of Planning		Budget	Finance, accounts	Capacity building, oversessing MEAs	
Operating Law	Environmental Law, Radiation Law, CPA 44/2003	Radiation Law, Civil Service Code, EPI Law			Instructions with national budget		MoF Instructions, Civil Service Act, Council Decisions	Instruction from Foreign Affairs	
								S&T	
Priority Tasks	Issuing Environmental Law	Supply Lab and Field Equipment	Knowing what is happening in other Ministries	Use of renewables	Provide support to Ministries work	E Governance	Controlling expenses		
		Contacting International Organisations							
New Challenges	Law relating to joining MEAs	Training Staff	The decision of the board should be abided by through a	NC	Lack of money	Increase project size	Project implementation		
	Litigation from new environmental laws	Building database							

Table 8: Survey findings (continued)

CHAPTER V: Institutional Analysis

This chapter provides an analysis of the data presented in chapter 4.

External challenges

The Ministry of Environment is currently faced with several challenges. As Iraq continues to move towards a more decentralized federal political system and a more market-oriented economy, the MoEn will have to keep adjusting to this rapidly changing political and economic environment for a number of years. At the same time, as Iraq rejoins the international community, it will be both more involved and more accountable in the international environmental arena. It is thus likely that the new system the MoEn will operate in will be one in which the rule of law, as well as new standards of transparency and accountability, are upheld. An increase in public participation is also to be expected, although achieving this will require environmental awareness-raising.

A brief discussion of the MoEn's main upcoming challenges follows.

Decentralization

There should be more focus on building capacity in the regions, as departmental structures regarding equipment, staff, budget and institutions require strengthening. The shift towards decentralization can be seen not only as an opportunity to address the immediate needs of the population more directly, but also, according to the more holistic approach which modern environmental management is based on, as an opportunity for positive environmental actions in one governorate to impact on others, just as Iraq's overall environmental actions affect the region and even the world as a whole.

Market economy

The move towards a market economy will require the Ministry of Environment to develop strong working relationships with the private sector, and to use economic instruments and incentives to achieve environmental goals. The Ministry could also emphasize and support the development of environmental equipment, goods and services in the private sector.

Rule of law

A large share of the international assistance provided to Iraq is allocated to stabilization. Facilitating the application of the rule of law – strengthening the judiciary and the enforcement authorities, and increasing the quality of the legal system (laws, regulations, jurisprudence, etc.) – is an important part of this effort. The Ministry of Environment is already working to harmonize environmental law with the new Constitution, and to strengthen the law in terms of international best practice. The next phase will involve developing standards for enforcement and inter-ministerial collaboration on environmental legal tools. Defining advocacy for the environment as a human right, and developing public participation/ claims mechanisms will also be important.

International context

Iraq's accession to several international environmental agreements is imminent. Accession will allow Iraq to benefit from the financial and technical assistance provided by a variety of convention secretariats, and by the Global Environment Facility. It will also require Iraq to harmonize its laws with the provisions of the MEAs to which it has become party.

Awareness-raising

The lack of public awareness on environmental issues and on the specific role of the Ministry of Environment, as well as the lack of active civil society environmental organizations, are major challenges that can be addressed in a variety of ways. Media such as television, radio, newspapers and the internet can reach out to the public and private sectors at large. Educational initiatives can also be carried out through environmental awareness programmes and courses at educational and religious institutions. Collaborating with civil society should be a priority for the Ministry of Environment.

Internal challenges

In order to address the external challenges mentioned above, the MoEn will need to re-align itself on its priority functions. Some important steps have already been taken in this regard.

The following section discusses the main internal issues facing the MoEn.

Institutional mandate

A precondition for an effective institution is to have its mandate explicitly stated in the appropriate legal framework. The CPA Order provided an unambiguous mandate for the Iraqi MoEn to take ownership of the range of conservation- and protection-related environmental issues. The provisions of the Iraqi Constitution – which define a healthy and clean environment as a right for the Iraqi people and as a duty for the State – also provide a strong foundation for the MoEn's operations.

At this juncture, it is important to determine whether the Ministry should operate as a purely normative and regulatory agency, or whether it should become an implementing ministry such as the Ministry of Municipalities or the Ministry of Water Resources, for example.

Generally speaking, newly established environment ministries tend to respond to the pressure to produce visible results by taking up an implementing role and rapidly engaging in the execution of environmental management projects (e.g. waste landfills, forestry, irrigation). This often leads to overlap and sometimes to conflict with other ministries, who tend to see the Ministry of Environment rather as a regulatory and standard-setting entity.

At the same time, environment ministries are often judged by the public on issues such as street cleanliness (garbage collection), water quality, sanitation or sewage, even though the operational responsibilities for such issues are actually usually vested in the municipalities or other ministries, such as the Ministry of Public Works. The MoEn must hence find ways to guide other ministries – particularly those with implementation responsibilities – to undertake actions that lead to improvements in environmental standards.

Besides, the Ministry of Environment is a relatively new ministry, which has to establish itself amongst larger and more established governmental departments. Its mandate could easily be shared or aligned with those of the Ministries of Municipalities, Public Works, Water Resources and Health, which all have stronger capacities (higher number of staff and larger operational budgets). Given that Iraq's MoEn is new and developing, and that it currently has neither the budget nor the staff to operate as an implementing agency, it should initially ground itself firmly among the established ministries, and use its regulatory power and standard-setting authority to influence them.

Examples of international practice in environmental governance

The following functions typically need to be carried out by governmental or quasi-governmental agencies to achieve good environmental governance:

- making laws and policies for environmental management;
- enforcing laws and policies (e.g. granting permits and policing violations); and
- monitoring environmental quality (e.g. air and water).

In Iraq, all of the above functions are incorporated in the Ministry of Environment's mandate. This offers considerable advantages for the optimal use of available expertise and for directing resources towards achieving identified goals.

In this context, it may be useful for the Iraqi Ministry of Environment to consider how environmental administrations are organized in other countries. A brief discussion of this issue is presented in the sections below, while a more substantial analysis is offered in Appendix VIII.

Since the mid-1980s, a number of countries have established environment ministries. In some countries, they are independent (e.g. Japan, Lebanon, New Zealand), while most others have environment ministries or departments associated

and located within other multi-mandate ministries such as forests, municipalities or water resources (e.g. India, Oman, Singapore). There are advantages and disadvantages to both stand-alone and integrated ministries. In most countries, an environment ministry is not considered to have much political weight on its own. Linking it with a major implementing ministry such as water resources, for example, may substantially enhance its prestige, but may also create conflicts of interest within the ministry itself.

Core environmental management functions (legislation, enforcement and environmental monitoring) are administered in many different ways around the world. In some countries, they are all devolved to the environment ministry, while in others independent bodies, including quasi-governmental and private sector organizations, share the responsibilities. Appendix VIII provides a detailed systemic analysis for the following countries:

- Azerbaijan – Ministry of Ecology and Natural Resources
- Denmark - Ministry of Environment
- Egypt – Ministry of State for Environmental Affairs / Egyptian Environmental Affairs Agency
- Estonia – Ministry of Environment
- Finland – Ministry of Environment
- India - Ministry of Environment and Forests
- Iran – Department of Environment
- Jordan – Ministry of Environment
- Latvia – Ministry of Environment
- Malaysia – Department of Environment within the Ministry of Natural Resources and Environment

There is no "correct" or "ideal" way to organize environmental administration, but all three elements of environmental management must be addressed in one or more entity. Finally, the size of the administration should be proportional to the environmental challenges it is expected to meet, and the skill set appropriate for the issues involved.

Re-aligning the organizational structure

Given that the Ministry is currently working to establish a new organogram, this report does not include a detailed commentary of the existing structure. However, the following broad points may be worth considering when finalizing the new organogram:

1. In view of the Constitution's emphasis on decentralization, how can the devolution of authority to regional administrations be reflected in the future organizational structure of the Ministry?

2. Which of the functions currently carried out by the Ministry can be left to the market to undertake, thereby increasing the private sector's role and reducing the cost of running the Ministry?

3. How can the Ministry's resources be optimally aligned with environmental priorities and commitments?

Priority tasks and anticipated challenges

In the survey, senior officials were asked to identify priority tasks and anticipate the challenges for the next five years.

The key responses on priority tasks were:

- improving environmental quality;
- increasing environmental awareness;
- adopting new technologies, such as e-governance;
- better training for staff; and
- controlling expenses.

The key responses on anticipated challenges were:

- interference from external parties;
- political corruption;
- filling vacancies;
- litigation from new environmental laws;

- joining MEAs;
- increased project size;
- lack of funds; and
- border control relating to environmental issues.

Overall, the responses showed a very high degree of familiarity with the key political, administrative and technical issues. Interestingly, however, the potential role of civil society, and the impacts of decentralization and of a market economy were not identified as challenges.

Considering that the needs of Iraq are substantial and that resources will continue to be limited, it is important for the Ministry to agree on the priority tasks that available resources should be directed to. A process to identify such priorities should be established, and project teams or task forces with specific mandates and resources created to achieve tangible results in meeting those needs. The substantial progress made by the Ministry team during the environmental site assessment is an example of how the Ministry can meet its goals when its efforts are focused.

Resources of the organization

With more than 700 well qualified staff members, human resources are a major strength of the Iraqi Ministry of Environment. The MoEn should be commended on the following points:

1. All interviewed staff demonstrated a clear understanding of their roles and responsibilities. Their main concern was the absence of clear terms of reference making their responsibilities official.

2. Almost all staff had had the opportunity to benefit from training given by international organizations outside Iraq during the last two years.

3. The staff numbers indicate a fairly good balance between technical and non-technical staff.

4. The staff's technical background is appropriately diverse.

5. Numbers also show a healthy mix of permanent and contract staff.

6. The staff size of more than 700 is comparatively high for an environment ministry, but it is explained by the following factors:

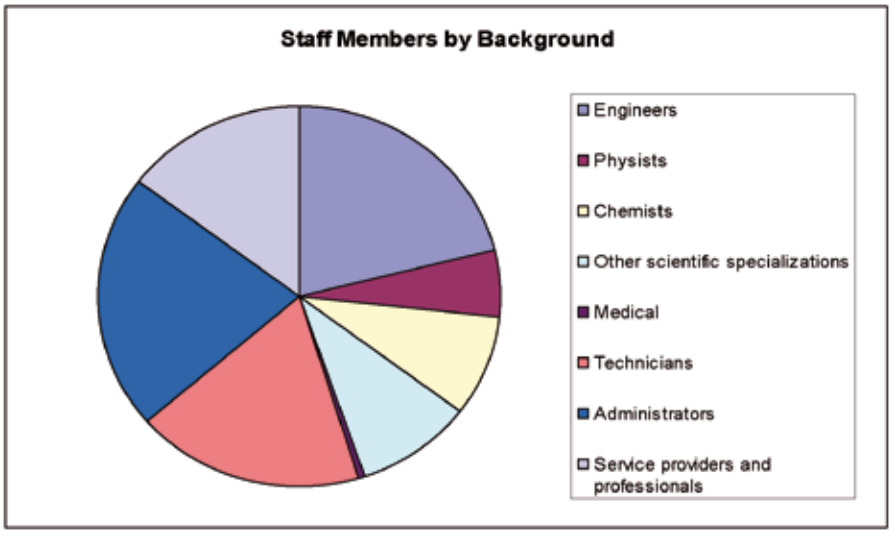
   a. the Ministry has three roles associated with environmental governance (law-making, law enforcement and environmental monitoring);

   b. the Ministry has a presence in Baghdad and in eighteen governorates;

   c. the civil service is a major employer in Iraq (in comparison, the Ministry of Water Resources has over 25 000 staff).

Bearing the external challenges facing the Ministry of Environment in mind, the current staff will need to implement several changes to ensure a more efficient focus on the organization's outputs.

Figure 3: Technical background of MoEn staff



CHAPTER VI: Recommendations

It has been a challenging period for the Iraqi Ministry of Environment, and it is a testimony to the strength of the core of the organization that it has withstood this challenge. Not only has the Ministry continued to function amid political and security uncertainties, it has also succeeded in implementing national and international projects during this transition period, demonstrating the high level of the technical competence of its staff.

In order to be effective as an institution in the longer term, the Ministry's mandate must be explicitly stated in the appropriate legal framework. The CPA Order provided an unambiguous mandate for the Ministry of Environment to take ownership of all conservation- and protection-related environmental issues, and the current constitutional provisions on the environment provide a strong political and legal base for the Ministry to operate. Moreover, the Ministry is currently drafting a new framework environmental law which is expected to further clarify its role and responsibilities.

The Ministry of Environment faces two main challenges in carrying out its mandate. First, it must prevail in Iraq's changing political context. The MoEn is a relatively new ministry whose mandate can be aligned or shared with the Ministries of Municipalities, Public Works, Water Resources and Health, which are all firmly established organizations with significantly higher staff numbers and operational budgets.

The MoEn's second challenge is to increase public awareness of its role as a normative agency, distinct from implementing ministries such as the Ministry of Municipalities. The MoEn has to find ways and means to use its mandate to guide larger ministries with implementation responsibilities to undertake actions that lead to environmental improvements.

Based on this Institutional Capacity Assessment, UNEP recommends the following actions:

1. The Ministry's three core functions (law/policy-making, law enforcement and environmental monitoring) should be clearly segregated and staff deployed in these three areas.

2. The new framework environmental law should be adopted as soon as possible, so as to provide an administrative tool for MoEn staff to enforce environmental norms. Additional rules, regulations and standards need to be developed once the framework law is put into place.

3. Environmental concerns should be prioritized and resources deployed to address the most serious challenges.

4. The constitutional emphasis on decentralization should be taken into account in the final organogram.

5. Some of the Ministry's expertise (e.g. in environmental impact assessment, environmental monitoring etc.) should be made available as a "service function", with a view to developing these services into independent profit centres at a later date.

6. The Ministry should consider partnerships with civil society to strengthen environmental governance, but retain its independence.

7. The Ministry must identify the potential emergency situations in which environmental concerns are involved (e.g. oil spills), and develop the expertise and systems to react appropriately.

APPENDIX I: UNEP activities in Iraq since 1991

UNEP's post-conflict environmental activities in Iraq began after the 1991 Gulf War, with the production of a rapid environmental assessment report that identified key environmental problems and needs. In 2001, after a period of restricted access, UNEP resumed assessment activities in Iraq and produced a comprehensive assessment of the degradation of the Mesopotamian marshlands.

During the war in 2003, UNEP monitored the potential environmental impacts of the conflict, and provided environmental information to key stakeholders, such as Iraqi government ministries, through a series of round table meetings. After the conflict, UNEP issued a *Desk Study on the Environment in Iraq* in April 2003 and the *Environment in Iraq UNEP Progress Report* in October 2003. These reports outlined the main chronic environmental problems faced by the country, as well as the environmental threats posed by the various military conflicts.

The *Desk Study* and the *Progress Report* identified the need for an environmental assessment of selected contaminated sites in order to determine the risks to human health and livelihoods and to initiate urgent risk reduction measures. Also stressed was the need to build and strengthen the environmental governance capacity of the Iraqi administration and to provide specific training to experts from the Ministry of Environment in the areas of: contaminated sites assessment, environmental impact assessment, natural resources management, multilateral environmental agreements, environmental monitoring, environmental information and disaster management.

The UNEP post-conflict programme in Iraq 2004 - 2005

In consultation with the Iraqi Ministry of Environment (MoEn), UNEP developed a comprehensive package of activities that would contribute to building the capacity of the MoEn to conduct assessments of contaminated sites, develop sound environmental policies and monitor environmental quality. This project was supported by the Government of Japan through the Iraq Trust Fund, managed by United Nations Development Group. The project – entitled "*Strengthening Environmental Governance in Iraq through Environmental Assessment and Capacity Building*" – was implemented over the period of July 2004 to June 2006.

The programme is divided into the following components:

- **Assessment of contaminated sites:** it is estimated that Iraq has several thousand contaminated sites resulting from a combination of industrial activities, military activities and post-conflict damage and looting. The Environmental Site Assessment (ESA) programme is a combined package of capacity building and technical assessment that focuses on priority contaminated sites that potentially pose risks to human health and the environment.

- **Capacity building in technical and policy areas:** Iraq's MoEn identified urgent capacity-building, training and infrastructure needs for 2004-2005. These include provision of equipment, training and technical assistance for 200 Ministry staff at the national and governorate level.

- **Institutional capacity assessment:** in order to develop the MoEn into an effective law-making and law-enforcement body, substantial, urgently-needed capacity-building efforts have been identified and are being carried out. This Institutional Capacity Assessment aims to systematically review and assess current resources (physical, financial, information and human) available within the MoEn.

- **Infrastructure and equipment:** Iraqi professionals have been isolated from their peers, resulting in a serious need for institution building, restoration of information-sharing and the rehabilitation and modernization of infrastructure. UNEP is strengthening MoEn facilities and other selected government agencies with an environmental remit. Urgently needed equipment, training and technical

assistance are being provided to Iraqi policymakers and technical experts, mainly among MoEn staff and other governmental agencies that share cross-cutting issues and activities.

- **Mesopotamian marshlands:** working in partnership with the Iraqi MoEn, other government ministries and local non-governmental organizations, UNEP (Division of Trade, Industry and Economics International Environmental Technology Centre in Japan) is providing a package of technical assistance to support the sustainable management and restoration of the Iraqi marshlands. The project comprises a range of activities including facilitating strategy formulation, monitoring marsh conditions, raising the capacity of Iraqi decision makers and providing water, sanitation and wetland management options on a pilot basis. Remote sensing monitoring of marshland reflooding is being carried out by the UNEP Post-Conflict Branch.

In addition to the above, UNEP is also undertaking the following activities in Iraq, supported by the Department for International Development, UK.

- **Depleted uranium:** uranium is a heavy metal with associated toxicity and is a source of radioactivity. Depleted uranium (DU), the waste product of the uranium enrichment process which has about 60 per cent of the radioactivity of natural uranium, has been used in a number of conflicts in recent years, including in Iraq. UNEP has recommended that a scientific assessment of sites targeted with weapons containing DU be conducted in Iraq as soon as conditions allow. A total of approximately 290 metric tons of DU rounds were fired by the Coalition forces during the Gulf War, compared to nine tons in Kosovo and three tons in Bosnia and Herzegovina. DU remains in the environment as dust, small fragments or intact penetrators.

- The UK has confirmed the use of 1.9 tons of DU in tank battles in the Basrah region during the 2003 war; none was used by the UK in air to ground attacks. US statistics on DU usage for ground to ground and air to ground attacks are not yet available but are estimated at 70-700 tons.

- **Mainstreaming the environment into UN reconstruction:** Iraq's chronic environmental problems, the lack of site data and the lack of coherent environmental regulations and enforcement mean that international reconstruction efforts may unknowingly cause environmental harm. As part of its assistance strategy to Iraq, UNEP is addressing environmental concerns in the UN Trust Fund mechanism, which includes the review of UN-managed projects and the provision of advice on environmental issues to project managers.

- **Promoting regional cooperation:** UNEP is facilitating Iraq's participation in international and regional environmental programmes, from which it has been isolated for more than a decade, and promoting dialogue and cooperation between Iraq and neighbouring countries on shared ecosystems.

APPENDIX II: Ministerial Order establishing the ICA Task Force

Pursuant to the Ministry's best interest, the following has been decided:

1. Assigning the task of evaluating the Ministry's organizational structure and its commission to the names listed below as a part of the joint project with UNEP for institutional capacity assessment.

2. Assigning no other tasks for the names mentioned till the mission is completed.

3. The General Inspector of the Ministry, Dr. Amer Boutros, is assigned the tasks of being the liaison member with the Ministry with regard to assessing the organizational structure of the Ministry.

4. The order is to be implemented starting from the date of issue.

Nirmeen Othman Hassan
Minister of Environment

14 November 2005

Terms of Reference for the ICA Task Force

- The Task Force will consist of members of the Ministry of Environment.
- The Task Force is fully dedicated and prepared to take the lead in the Institutional Capacity Assessment.
- The Task Force will manage the Institutional Capacity Assessment process within the Ministry of Environment.
- The Task Force will inform and involve actively other stakeholders (Governorates, line ministries, research institutes, etc.).
- The Task Force will be assisted by the UNEP team.
- The Task Force will meet regularly to exchange information.
- The Task Force will meet the UNEP team on two briefing meetings, and one findings meeting in Amman (dates to be determined).
- The Task Force will collect information relevant for the Institutional Capacity Assessment process.
- The Task Force will be responsible for the completion of the Institutional Capacity Assessment questionnaires.
- The Institutional Capacity Assessment will result in concrete outcomes: a report on final findings.

Names:

1	Expert Environmental Engineer	Faten Subhy	The Department of Planning and Technical Monitoring
2	Chemical Expert	Raja'a Abd Al Wahhab Al Assaf	The Department of Planning and Technical Monitoring
3	Assistant Legal Consultant	Emad Obeid Jassem	Head of Legal Affairs Section
4	Administrative Expert	Khaled Radeif Ahmad	Head of Personnel Section
5	Environmental Engineer	Hala Farouq Shehab	The Department of Planning and Technical Monitoring
6	Chemical Engineer	Massara Moh'd Abbas	The Department of Planning and Technical Monitoring
7	Translator	Reem Faysal Shamo'un	Technical Undersecretary Office
8		Samya Naser	The Department of Planning and Technical Monitoring
9	Senior Physicist	Sami Rajab Rasool	The Department of Planning and Technical Monitoring

Ministerial Order

Pursuant to the Ministry's best interest, and following order number 686 on November 14, 2005 the following has been decided:

1. The Ministerial Order referred to is to be modified by adding Mr. Reyad Abd Al Ameer Khalaf from the Office of the General Inspector to the staff assigned to assess the organizational structure of the Ministry as a part of the joint project with UNEP to assess the Ministry's institutional capacity.

2. The order is to be implemented starting from the date of issue.

Nirmeen Othman Hassan
Minister of Environment

30 November 2005

A copy to:

- The Minister's Office - to kindly notice.
- The Technical Undersecretary Office - to kindly read with the memorandum number 1070 on October 12 2005 with regards.
- The General Inspector's Office - to kindly read with the memorandum number 237 on October 24 2005 with regards.
- The Administrative and Financial Department General Director - kindly read with regards.
- The Department of Planning and Technical Monitoring General Director' office - kindly read with regards.
- The ladies and gentlemen mentioned earlier to read and implement with regards.
- Committees' Dossier.
- Documentation.

APPENDIX III: ICA Questionnaires

Four different types of questionnaires were filled in by different members of the Ministry of Environment staff.

1. **Questionnaire on Resources:** a detailed questionnaire related to the available resources of the Ministry of Environment, which was completed by every Ministry DEPARTMENT or DIRECTORATE. If one questionnaire was sufficient for a whole directorate, there was no need to fill one out for each department.

2. **Responsibilities Questionnaire for Senior Staff:** completed by THE HEAD OF EACH DIRECTORATE, offices identified on the Ministry's organogram by this colour:

3. **Responsibilities Questionnaire for Other Staff:** completed by several staff members within the Units identified on the Ministry's organogram by this colour (Units under the Directorate of Urban Environment and Units under the Directorate of Natural Ecosystems):

1. Questionnaire on Resources

This questionnaire was completed by the most appropriate and senior member within each of the relevant Directorates, Offices or Departments, including:

- Directorate of Urban Environment
- Directorate of Nature Ecosystems
- Office of Planning and Technical Follow-up
- Office of Baghdad Environment
- Governorate Affairs Office
- Engineering Affairs Office
- Information Technologies Centre
- International Treaties Department
- Sustainable Development Department
- Office of Administration & Financial Affairs
- Inspector General Office
- Radiation Protection Centre
- Public Relations Centre
- Centre for Information and Public Awareness
- Auditing Department
- Legal Affairs Department

NAME of Directorate, Office or Department:

Human Resources	Permenant	Contract	Specialist Training?
Number of administrative staff			
Number of technical staff			
Number of support [including translators, secretarial, and other staff]			

Physical Resources	For each item below please describe the location, extent/number, age suitability and condition.
Premises	
Utilities: Power/Water/Phone	
Vehicles	
Communications Equiment	
Computer Equipment	
Specialist Equipment	

	2003	2004	2005
Annual Financial Resources			
Pay/Salaries Permenant Pay/Salaries Contract Pensions **Total Pay Budget**			
Building/repairs Utility Bills Transportation/travel Equipment Training Publications Consultants Supplies Other **Total non-pay Budget**			
Loans/borrowings Guarantees/bonds Liabilities **Total Liabilities**			
Central grant Other income sources **Total income**			
Please provide whatever information is available, even if it is a total amount			

2. Responsibilities Questionnaire for Senior Staff

Responsibilities

1 Position/title:

2 Directorate, Office or Department:

3 Reporting relationship to Minister:

4 Principal areas of responsibility:

-
-
-
-
-
-

5 Who reports directly to you? How often? About what?

6 Principal documents referred to for:

- Legislation
- Policies
- Objectives
- Strategies
- Procedures

7 List the five main administrative tasks that occupy the majority of your time:

1.

2.

3.

4.

5.

8 List the five main technical activities [if any] that your section administers:

1.

2.

3.

4.

5.

9 List the other ministries and agencies that you communicate with about environmental issues:

10 What are the most urgent/important tasks that you believe should be addressed by your section?

11 What do you anticipate will be the biggest new challenges for your section over the next five years?

12 What are the biggest difficulties encountered by your section? Are they:

Insufficient legal authority?
[Do you work with out-of-date legislation that does not address the realities of your main challenges? What is missing? What needs to be improved?]

Poorly Defined Administrative Roles?
[such as need for clearer roles or responsibilities, better communications or reporting structure]

Insufficient Information?
[Is there sufficient data available for your section? Is it incomplete? Is it out of date? Be as specific as possible]

Insufficient Resources?
Human Resources [what additional staff are required? What are they needed for? What additional skills or training are needed?]

Physical Resources?
[what additional/improved premises, utilities, equipment are needed to allow your section to perform more effectively. What improvements would occur?]

Financial Resources?
[what are the five biggest financial obstacles that reduce the effectiveness of your section?]

3. Responsibilities Questionnaire for Other Staff

This section was answered by a wide range of officials – technical, administrative, permanent and contract. The objective was to provide clarity and detail to help understand how the functions of the Ministry were being carried out and how they could be improved.

Responsibilities

1 Position/title:

2 Location:

3 Who do you report to?

4 Principal areas of responsibility:

-
-
-
-
-

If possible, distinguish between tasks that are routine, frequent, occasional, rare, and critical.

5 Who reports directly to you? How often? About what?

6 Principal documents referred to for:

- Legislation
- Policies
- Objectives
- Strategies
- Guidelines
- Procedures

7 List the five main administrative tasks [if any] that you carry out:

1.

2.

3.

4.

5.

8 List the five main technical activities [if any] that you carry out:

1.

2.

3.

4.

5.

9 List any other ministries, agencies, or stakeholders that you communicate with for your job:

10 What are the most urgent/important tasks that you believe should be addressed by your section?

11 What do you anticipate will be the biggest new challenges for your section over the next five years?

12 What are the biggest difficulties encountered by your section? Are they:

Poorly defined administrative roles?
[Such as need for clearer roles or responsibilities, better communications or reporting structure]

Poorly defined standards/guidelines?
[Are there clear criteria that allow you to make decisions?]

Insufficient information?
[Is there sufficient data available for your section? Is it incomplete? Is it out of date? Be as specific as possible.]

Insufficient resources?

Human resources?
[What additional staff are required? What are they needed for? What additional skills or training are needed?]

Physical resources?
[What additional/improved premises, utilities, equipment are needed to allow your section to perform more effectively? What improvements would occur?]

Financial resources?
[What are the five biggest financial obstacles that reduce the effectiveness of your section?]

13 Training:

- Have you received any specific training for your job?
- If so when did you last receive training?

What additional training would help you to do your job better?

APPENDIX IV:
MEA accession/ratification status of Iraq and its neighbours

MEA	IRAQ	IRAN	KUWAIT	JORDAN	S. ARABIA	SYRIA	TURKEY
Air MEAs:							
UN Convention on the Law of the Sea 1982	**dc**	dc	s	-	-	-	-
	r 30.07.85	-	suc 02.05.86	ac 27.11.95	suc 24.04.96	-	-
Annex 16, vol. II to the Chicago Convention on International Civil Aviation 1944	02.06.47	19.04.50	18.05.60	18.03.47	19.02.62	21.12.49	20.12.45
UNFCCC 1997	**P**	P	P	P	P	P	P
Kyoto Protocol 1997	-	-	-	ac 17.01.03	ac 31.01.05	-	-
Vienna Convention 1987	-	ac 3.10.90	ac 23.11.92	ac 31.05.89	ac 01.03.93	ac 12.12.89	-
Montreal Protocol 1987	-	ac 3.10.90	ac 23.11.92	ac 31.05.89	ac 01.03.93	ac 12.12.89	ac 20.09.91
Biodiversity & biodiversity-related MEAs:							
Convention on Biodiversity (CBD 1992)	-	s 14.6.92 r 06.8.96	s 09.06.92 r 02.08.02	s 11.06.92 r 12.11.93	ac 3.10.01	s 3.5.93 r 4.1.96	s 1.4.04 r 30.6.04
Cartagena Protocol on Biosafety 2000 to the CBD	-	s 23.4.01 r 20.11.3	-	s 11.10.00 r 11.11.03	-	-	-
CITES 1973	-	r 3.8.76	r 12.8.02	ac 14.12.78	r 12.3.96	ac 30.4.03	ac 23.9.96
Convention on Migratory Species 1979 (CMS 1979)	-	-	-	P	P	P	-
AEWA 1995 (to the CMS)	-	-	-	P	-	P	-
Ramsar Convention on Wetlands 1971	-	P	-	P	-	P	P
FAO IUPGR 1983	-	-	-	-	-	-	-
FAO ITPGRFA 2001	-	-	-	-	-	-	-

Note: MEA titles have been shortened to fit the table and are not the official legal titles.

dc = declaration but no signature
s = signature
suc = succession
r = ratification or date of ratification
ac = accession
P = Party/Contracting Party
- = no dc, s, suc, ac, r or P

APPENDIX V:
CPA Order # 44 establishing the Iraqi Ministry of Environment

COALITION PROVISIONAL AUTHORITY ORDER NUMBER 44

MINISTRY OF ENVIRONMENT

Pursuant to my authority as Administrator of the Coalition Provisional Authority (CPA), and under the laws and usages of war, and consistent with relevant U.N. Security Council resolutions, including Resolution 1483 (2003),

Recognizing that responsible management of the environment is essential to foster sustainable development,

Furthering the purposes of the Governing Council to create a ministry responsible for environmental issues,

Recalling CPA Memorandum Number 6, publishing the appointment of the Interim Minister of Environment,

I hereby promulgate the following:

Section 1
Establishment

1) The Ministry of Environment (MOEN) is hereby established.

2) All acts and decisions of the interim Minister of Environment in connection with his office or the Ministry from his appointment by the Governing Council on 7 August 2003 to the formal establishment of the MOEN under this Order are hereby ratified. For the purposes of this ratification, the MOEN is deemed to have been established on 7 August 2003.

3) Subject to transitional provisions in this Order, the Environmental Protection and Improvement Directorate (EPID), established by paragraph 11 of Law Number 3 of 1997, Protection and Improvement of the Environment, is hereby transferred to the MOEN. From the date of transfer to the MOEN, the EPID shall cease to have its own separate legal personality, and Article 11(3) of Law Number 3 of 1997 is hereby suspended.

Section 2
Functions

1) The MOEN shall be responsible for the protection and conservation of Iraq's environment and for the protection of the residents of Iraq from environmental risks

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to human health and from environmental pollutants. The MOEN shall ensure that environmental protection is an integral factor in developing policies concerning natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade.

2) The MOEN shall develop policies, run environmental programs and promulgate and enforce standards pursuant to Law Number 3 of 1997 and this Order.

3) The MOEN shall absorb the EPID into its structure, perform the EPID's functions under its authority, and exercise such powers accorded to the Minister of Health and the Council of Protection and Improvement of the Environment in Chapters III and IV of Law Number 3 of 1997. The MOEN may reorganize and reallocate the assets of the EPID.

Section 3
Structure

1) The interim Minister of the MOEN shall organize the MOEN into such divisions and departments as are necessary. The interim Minister shall ensure, as a minimum, that programs are organized to address environmental concerns in the following areas: radiation control; remediation; solid and hazardous waste management and control; control of toxic substances and hazardous chemicals; ground water; water quality and pollution; air quality and pollution; natural resource protection and land management; and biodiversity. The interim Minister shall ensure, as a minimum, that the following aspects of administration are addressed: media and press relations; security; facilities; personnel and finance; information and technology; legal; enforcement and compliance; international cooperation; a central analytical laboratory; and such regional and local programs as may be required.

2) The Council of Protection and Improvement of the Environment connected with the previous regime's Council of Ministers is hereby abolished. Paragraphs 3 to 6 inclusive of Law Number 3 of 1997 are hereby suspended. The interim Minister shall set up a consultative body composed of representatives of other Ministries to coordinate on policies and programs affecting the environment, and other Ministries shall co-operate with the MOEN.

Section 4
Personnel and Administration

1) The MOEN shall have power to hire and employ personnel in accordance with Iraqi law, as amended by CPA Orders and Memoranda. Such hiring shall be consistent with CPA Order Number 1 and any authorized implementation thereof.

2) Salaries of MOEN personnel shall conform to the salary structure applicable to Iraqi government employees.

3) The staff of the EPID shall be transferred immediately to the MOEN, and the Minister of Environment shall assume full authority, direction and control over this staff.

Section 5
Transitional Arrangements

1) The Ministry of Health (MOH) shall be responsible for the pay and personnel records of EPID staff until 1 January 2004, unless responsibility is transferred to the MOEN at an earlier date by mutual consent of the MOH and MOEN.

2) The MOH shall coordinate with the MOEN to transfer pay and personnel records as soon as practicable.

3) The MOEN and not the MOH shall administer the employees hired by the MOEN before 1 January 2004.

4) The National Centre for Occupational Health and Safety (NCOHS) shall not be transferred with the EPID to the MOEN, but shall be transferred to the Ministry of Labor and Social Affairs.

Section 6
Property

All the movable and immovable property currently under the control of the EPID shall be transferred to the MOEN, with the exception of the movable and immovable property of the NCOHS which shall be transferred to the Ministry of Labor and Social Affairs.

Section 7
Budget

The MOEN shall coordinate with the Ministry of Finance to transfer to the MOEN the budget allocation of the EPID for the financial year 2004. The MOEN shall further co-ordinate with the Ministry of Finance on its own 2004 budget.

Section 8
Administrative Instructions

The interim Minister, in consultation with the CPA Senior Advisor for Environment, may issue Administrative Instructions, not inconsistent with Iraqi law or any CPA Order, Regulation or Memorandum, prescribing all matters necessary for carrying out the duties described under this Order.

Section 9
Entry into Force

This Order shall enter into force on the date of signature.

L. Paul Bremer, Administrator
Coalition Provisional Authority

APPENDIX VI:
Iraqi Ministry of Environment Mission Statement

DRAFT

To assure that the people of Iraq and their heirs have a clean and healthful environment where they may enjoy the resources of the country as those resources were given to them by nature.

The Ministry shall educate the people and industry as to the components of a sound, clean and stable environment. People must respect the environment and can do so only if they are aware that most of their daily actions affects that environment.

The Ministry shall adopt and maintain a system of environmental laws, regulations and procedures that provides the basis for education of the people and industry as to the proper respect for and use of our natural resources. Such laws, regulations and procedures shall recognize that a healthy economic atmosphere in the country is needed and effective operation of the country's industrial base is necessary. That said, industry must recognize that it too is a citizen of the county and its activities must be conducted in a way as to be environmentally sound and benign to the appropriate degree.

A system of laws, procedures and regulations must be more than platitudes and cannot be effective unless there exists a nationwide system of enforcement. To this end, in cooperation with other agencies of the government, the Ministry shall develop a system of environment enforcement that educates those subject to the laws, encourages them to respect the laws and levies appropriates fines and other penalties for violations should they occur and persist.

Recognizing that a healthy environment consists of a wide range of living organisms, the Ministry shall advocate and promote programs to develop biodiversity within the country in the plant, animal and aquatic worlds.

Many years of neglect, in ways stretching back to the very founding of the country, have left a poisonous or hazardous legacy through the countryside. Above, the Ministry commits itself to preventing further degradation of the environment. It shall further develop and adopt a program to deal with the existing hazardous substances affecting the environment. Such programs shall identify such substances and the sites where they are located, categorize and rank such sites and shall propose a plan to deal with making such sites benign in nature.

APPENDIX VII:

Modified Law of Environment Protection and Improvement No. (3) of the year 1997 and No. (73) of the year 2001

(First modification)
In the name of Public Republic Presidency

According to what the National Council confirmed and what the Revolution Leadership Council approved, and according to the fifty-third article provisions of the Constitution, we issue the following Law:

Number (3) of the year 1997 Environment Protection and Improvement Law

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Chapter 1
Aims and Definitions

Article 1

This law aims to protect and improve the environment, including the regional waters, from pollution and restricts its influence on health, environment and natural sources, create environmental policy and prepare necessary plans that achieve a continuous development.

Article 2

The following terms indicate the correspondent meanings that serve the purposes of this law.

First: The Council → Environment Protection and Improvement Council.

Second: Governorate Council → Environment Protection and Improvement Council in the governorate.

Third: Department → Environment Protection and Improvement Department.

Fourth: Environment → surroundings with all its elements and all the living beings that live in it.

Fifth: Environmental Pollutants → any solid, liquid or gas, noise, radiations, heat, glow, vibrations or other similar pollutants or any revival factor that directly or indirectly causes pollution to the environment.

Sixth: Environmental Pollution → the existence of any effect of pollution to the environment with quantity or concentration or abnormal mark that directly or indirectly causes damages to human or other living beings or the environment.

Chapter 2
Environment Protection and Improvement Council

Article 3

According to this Law a council is established and called (Environment Protection and Improvement Council) which is associated to the cabinet and represented by the Chairman or his representative.

Article 4

First: The Council is formed of:

1. The Minister of Health – the Chairman.
2. Deputy Minister of Internal Affairs being representative of the Minister and Vice Chairman.
3. The General Manager of the Department – Member and Declarer (decision maker).
4. Representative of each of the following authorities, being at least a member to be on the level of General Manager of Department of Authority related to Environment Protection and Improvement, with experience in this field:
    a) The Arab Ba'ath Socialist Party
    b) National Council
    c) Ministry of Health
    d) Ministry of Information
    e) Ministry of Irrigation
    f) Ministry of Agriculture
    g) Ministry of Industry
    h) Ministry of Oil
    i) Ministry of Foreign Affairs
    j) Ministry of Education
    k) Ministry of Higher Education and Scientific Research
    l) Board of Planning
    m) Baghdad City Council
    n) National Security Headquarters / Environmental Security Headquarters
5. Members from special experts in Environment Protection and Improvement. These will be not more than (4) four members mentioned by the Cabinet, nominated by the Chairman of the Cabinet.

Second: The Cabinet could add other members to the Council.

Third: The Cabinet should receive any specialists or representatives from different Departments in the country or from socialist, mixed or private sectors in order to consult and inquire about environmental issues related to representative authorities.

Article 5

First: The Council holds at least one meeting every month with the call of its Chairman or his representative.

Second: A meeting is held if two thirds of the members are present.

Third: The decisions are made by a vote of the majority of the number of the present members and in the case of a balance the side of the Chairman's vote is preferred.

Fourth: The decisions made by the Council are obligatory and should be executed by the concerned authorities after being certified by the Cabinet.

Fifth: The Department performs all the acts appointed by the Council.

Article 5

First: The Council practices the following to fulfill its aims:

1. Suggesting the general policy to protect the environment from pollution and to improve its quality, and offer that to the Cabinet to be certified.
2. Confirming the plans offered to the Council by the department and governorates' Councils.
3. Confirming the limits and levels of environment quality.

4. Taking into consideration the environmental cases and problems offered to the Council and making the right decisions about them.

5. Coordinating between the activities of the authorities concerned in environment protection and improvement and following up their work.

6. Making decisions about recommendations presented by the department or governorates' Councils to stop the work, temporarily or permanently lock of facilities, factories, sections, units, or any activity that has pollutant effect to the environment or disagrees with the conditions of health and occupational safety.

7. Showing opinion about Arabic, regional and international relations with Iraq in the field of environment protection and improvement.

8. Suggesting that Iraq joins Arabic, regional and international agreements, treaties and protocols related to the environment.

9. Confirming of rewards and giving prizes to people and authorities that make special efforts in the field of environment protection and improvement according to rules put by the Council for this purpose.

10. Suggesting the budget offered to the Council by the department.

11. Suggesting finding environmental sectors in the relevant Ministries and authorities that have effective environmental activities.

Second: The Council can entitle some of its authorities to the Chairman, Heads of the governorates' Councils and the General Manager of the department.

Chapter 3
Governorates' Councils of Environment Protection and Improvement

Article 7

In every governorate there shall be a council called (the governorate's Council for Environment Protection and Improvement) headed by the Governor and related to the Council.

Article 8

The Council shall undertake the formation of the governorate's Council in accordance with the nature and privacy of the environmental work in every governorate provided that it shall include an Arab Ba'ath Socialist Party's representative and a City Council's representative as members.

Article 9

First: The governorate Council holds at least one meeting every month with the call of the Chairman.

Second: The meetings of the governorate Council are held when two thirds of its members are present.

Third: The decisions of the governorate Council are made by the majority votes of its present members, and in the case of balance the side of the Chairman's vote is preferred.

Fourth: The meeting reports of the governorate Council shall be monthly offered to the Council to look at and certify them according to its authorities.

Article 10

First: the governorate Council shall practice the following:

1. Following up the execution of the decisions and general policies planned by the Council.

2. Suggesting plans of environment

protection and improvement and offering a regular report to the Council about the environmental activities and situation.

3. Coordinating between the activities of the authorities concerned with the environment protection and improvement in the governorate as well as evaluating their work.

4. Taking into consideration the issues related to the environment protection and improvement, making decisions to stop the work or to temporarily lock the facilities, factories, sections or units or any activity that has pollutant effect on the environment or disagrees with the health conditions and occupational safety for not more than (6) months, and offering recommendations to the Council when it is necessary to permanently lock the source that has environmental pollution or disagrees with the health conditions and occupational safety.

5. Hosting any specialists or representatives of the Governmental Departments, social, mixed and private sectors to take into consideration their opinions and inquiries concerning the environment in respect with the authority they represent.

Second: The Council can entitle some of its authorities to its Chairman.

Chapter 4
Department of Environment Protection and Improvement

Article 11

First: According to this Law a department shall be established and called (the Department of Environment Protection and Improvement) to be related to the Council.

Second: a general manager having a special degree from specialists shall head The Department.

Third: The Department shall have its own identity and financial and administrative independence, and shall be represented by its General Manager or his authorized person.

Fourth: The budget of the Department shall be included in the Government's general balance to cover its expenses, the Council's expenses and the expenses of the governorate's Councils.

Article 12

First: The Department shall practice the following:

1. Putting annual, middle and long-term plans of environment protection and improvement presented to the Council to certify them.
2. Suggesting the limits and disciplines of environmental pollutions, supervising the execution and presenting them to the Council to be confirmed.
3. Studying the environmental problems and suggesting solutions in coordination with the concerned authorities.
4. Following up the current and suggested usages of natural sources within the Government policy in a way that prevents the environmental damages in coordination with concerned authorities.
5. Following up and improving the environment and workers safety through examines related to environmental pollutions, workers' safety, the factors that affect the environment in coordination with the concerned authorities.
6. Conducting environmental surveys in coordination with the concerned authorities.

7. Studying the validity of the projects' sites in respect with the environmental aspect, putting disciplines for these sites, and coordinating with planning departments for this purpose.
8. Making and supporting studies and researches concerning the environment protection and improvement.
9. Specifying the environmental subjects that can be studied by the researchers and post-graduate students in the universities and scientific institutions to be applied.
10. Coordinating and cooperating with the institutions of the Ministry of Higher Education and Scientific Research to find centers for environmental researches and primary or higher studies in the field of the environment.
11. Working on spreading the environmental awareness.
12. Making and encouraging training sessions and courses in respect with the environment protection and improvement.
13. Following up the Arabic, regional and international activity in the fields on environment protection and improvement and suggesting cooperation agreements in this field to be shown to the Council to make the decision.
14. Coordinating with the environmental formations in the ministries and with the non-ministerial authorities to ask for data and information.
15. Following up the execution of the plans put by departments of environment protection and improvement in the governorates.
16. Giving the Councils opinions about the decisions and recommendations of the governorates' Councils.
17. Putting annual report about the environment.
18. Studying and confirming reports about the environmental effect that are presented by the authorities responsible for suggested and current projects.
19. Working on protecting the nature and establishing environmental compounds in coordination with the relevant authorities.
20. Establishing and maintaining environmental data bases.
21. Dealing with offices, consultative parties and laboratories to make studies, analyses and measurements in the field of environment protection and improvement.
22. Working on providing a healthy environment of work, insuring the workers' health and safety in all the economical activities, and specifying the nature of hazards and infection in every job according to scientific ways to stop work accidents.
23. Using all the necessary means to protect the human beings and environment from the danger of ionic radiation.
24. Preparing a general budget for the Department to be shown to the Council.
25. Following up the execution of the Council's decisions.

Second: The General Manager of the Department is being the (national dependant) towards Arabic, regional and international organizations in the field of the environment protection and improvement.

Third: The Department has the right to ask any of the concerned authorities for data and information related to its activity in the fields of environment protection and improvement according to the agreed disciplines.

Fourth: The General Manager of the Department or his authorized person has the right to warn any facility, factory, authority or source that has pollutant effect on the environment or that disagrees with the health conditions and occupational safety to get rid of the affecting factor within (10) ten days from the date of warning, otherwise the General Manager has the right to stop or temporarily lock the pollutant source or the source that disagrees with the health conditions and occupational safety for not more than (30) thirty days, and has the authority to recommend the Council to lock the source permanently.

Fifth: The General Manager of the Department has the authority to assign cadres as needed.

Sixth: The General Manager has the authority to make agreement with specialized persons to participate in solving the environmental problems.

Article 13

The formations of the Department shall be defined according to a regulation to be prepared by the Council and issued by the Cabinet.

Article 14

First: A directorate of the environment protection and improvement shall be established in every governorate to be administratively and technically related to the Department of Environment Protection and Improvement.

Second: The Council shall define the tasks and formations of the Directorate.

Article 15

First: The Department shall have a special system of incentives and salaries.

Second: The Council shall define the wages for the services the Department provides to the parties concerned with the environment in the social, mixed, cooperative and cooperative sectors.

Chapter 5
Rules of Environment Protection and Improvement

Article 16

The parties that precede pollutant activities shall do the following:

First: Providing devices for measuring and controlling the pollution according to its nature and providing the Department with the measuring results. In case there are no such devices, the tests shall be conducted in consultative offices and parties and laboratories agreed by the Department.

Second: Providing and operating means and systems to treat the pollution and making sure that they are efficient, and solve the problem when it occurs and inform the Department about it.

Third: Establishing and maintaining data base in respect with the environment protection and the percentage and levels of the pollution according to its nature.

Article 17

All the activities that affect the environment shall be subject to the environmental sensor, and the party that is responsible for these activities shall provide the necessary facilities to the environmental sensor teams to do their job in insuring the environment and workers safety.

Article 18

The study of economical and technical benefit of any project should include a report of the environmental effect that includes the following:

First: Evaluation of the environmental effect and positive and negative effects of the project on the environment.

Second: The suggested means to avoid and treat the causes of pollution in a way that achieves following the environmental disciplines and instructions.

Third: Emergency and possible cases of pollution

and necessary preservations.

Fourth: The possible alternatives to use environmentally cleaner technologies.

Fifth: Decreasing the residuals and recycling or reusing them.

Sixth: Estimating the environmental benefits and losses the project causes.

Article 19

It is not allowed to do the following:

First: Discharging the industrial, agricultural, household, or service residuals into rivers, seas, ground water, air, or ground unless they are subject to necessary treatments to insure that they match with the environmental regulations, instructions and limits. This shall include all kinds of drainage whether it is continuous, interval or temporary.

Second: Discharging oil residuals, fuel remaining, or balance water of oil tankers to the internal surface waters or regional waters whether the drainage is coming from firm stations of from moving sources.

Third: Throwing garbage and animal droppings and bodies in water resources including garbage spots.

Fourth: Fishing and hunting birds and other animals using poisonous materials or explosives.

Fifth: Discharging any residuals that contain poisonous materials like insecticides, heavy materials and other poisonous compositions to the sewage systems, surface water and other environmental elements before they are treated and match with the environmental disciplines and limits.

Sixth: Linking and discharging sewages of houses, factories and other facilities to the rainfall water drainage systems.

Seventh: Owning, using, making, storing, lending, moving, selling, buying, importing, exporting or having any radiation source without the Department license.

Eighth: Operating all economical activities without having the approvals that insure the requirements of environmental work and the workers health and safety.

Chapter 6
Punishment Rules

Article 20

Without breaking any further punishment in the law, the disagree of the article (19) of this Law shall be punished with prison of fine of not less than (50000) fifty thousand dinars and not more than (250000) two hundred and fifty thousand dinars.

Article 21

First:

1. Shall be punished with fine of not less than (50000) fifty thousand dinars and not more than (250000) two hundred and fifty thousand dinars per month everyone who disagrees with the provisions, regulations, instructions and information issued in this Law until demolishing the misdemeanor.
2. In case of repeating the misdemeanor, the punishment shall be prison for not less than (3) three months and not more than (6) six months or a fine of not less than (100000) one hundred thousand dinars and not more than (500000) five hundred thousand dinars.
3. The incomes that come from the fine sums shall be distributed according to part (1) of this clause with the following two rates:
   a) A rate of (50%) fifty percent added to the wages of the Department and Directorates of Environment Protection and Improvement in the Governorates to be distributed according to the salary rule of the Department.
   b) A rate of (50%) fifty percent to the General treasury.

   Second: The Chairman of the Council or his authorized person who has no less than General Manager position is authorized to declare the punishments provided in part (1) of clause (first) of this Article.

Article 22

In addition to the punishments provided in Article (20) and clause (first) of Article (21) of this Law, the person who practices an activity that results in environmental pollution shall be obliged to pay compensation for the damages resulted from the activity. The compensation shall include the costs of removing the pollution.

Chapter 7
Conclusion Rules

Article 23

The Environment Protection and Improvement Law No. (76) of the year 1986 should be cancelled, while its regulations and instructions should remain valid unless they disagree with the provisions of this Law until issuing provisions that replace or cancel them.

Article 24

Regulations, instructions and data can be issued to facilitate the execution of the provisions of this Law.

Article 25

This Law should be executed sixty days after the date of issuing in the official newspaper.

President Saddam Hussein

Urgent Reasons

According to interest of the Revolution of 17-30 of July, 1968 in human being and environment and maintaining the natural resources, especially the water, to provide health, prosperity and continuous development, and to spread environmental awareness and education, limit the environmental pollution resulted from wrong practices, support the role of executive systems in applying the decisions and procedures related to the environment protection and improvement, give bigger role to the parties that have no pollutant activities in making environmental decisions, raise the administrative level of the executive environmental formations, and to move gradually in the punishment provisions and give the authority to execute them

This Law has been legislated.

Issued in Al-Wawa'e Iraqi newspaper, issue No. 3662 on March 24th, 1997

Appendix VIII: Examples of institutional structures for environmental management

Examples of Institutional Structures for Environmental Management

Background Information Submitted by UNEP

Informal Working Document

The information contained in this document is a collection of secondary sources and does not represent an official view or opinion of the United Nations Environment Programme.

Institutional Structures for Environmental Management

This document has been prepared by UNEP at the request of the Ministry of Environment to provide a brief outline of certain key principles of environmental administration, and, furthermore, give a few examples of public institutional structures for environmental policy-making.

The countries are not chosen for a particular reason, and should not be seen as best practice. However, the country examples could serve as guidance for developing and structuring the Ministry of Environment in Iraq. The following countries will be presented:

- Azerbaijan – Ministry of Ecology and Natural Resources
- Denmark – Ministry of Environment
- Egypt – Ministry of State for Environmental Affairs / Environmental Affairs Agency
- Estonia – Ministry of Environment
- Finland – Ministry of Environment
- India – Ministry of Environment and Forests
- Iran –department for Environment
- Jordan – Ministry of Environment
- Latvia – Ministry of Environment
- Malaysia – Department of Environment in Ministry of Natural Resources and Environment

The document contains information from public sources and does not necessary mirror the official stand of the United Nations Environment Programme nor its member states. However, as such, the document may provide useful information to the Ministry for its initial planning for the key structures and staffing.

Outline

1. General Background

1.1. Institutional arrangements for environmental decision-making

Institutional arrangements refer to formal government organizational structures as well as informal norms, which are in place in a country for arranging the undertaking of its policy work. Institutional arrangements are crucial as they provide the government at all levels - federal, provincial and local - with the framework within which to formulate and implement policies. The credibility, transparency and predictability of the operations of these institutions have a direct bearing on the extent to which a government is successful in achieving its goals, including that of protecting the environment for sustainable development.

There are several different institutional set-ups throughout the world designed for integrating environmental and economic decision-making. Given the cross-sectoral nature of sustainable development goals and variation among countries in terms of size, political structure, geographical condition etc, there is no "model" structure which suits all the countries. Different frameworks include:

- An environment department (or unit) in a multi-functional ministry
- A more independent environment ministry/ department
- An environmental unit (cell) in each relevant ministry/department coordinated by Ministry of Environment or another ministry
- A national level commission/committee specialized in environment (often parallel to the planning commission/committee)
- A national level planning commission or committee with emphasis also on sustainable development
- An Environmental ministry/department at national level and decentralized decision making authority (e.g. local government, regional environment office) at local level
- Parliamentary system (head: a prime minister, government agencies head: ministers, staff: professional civil servants)

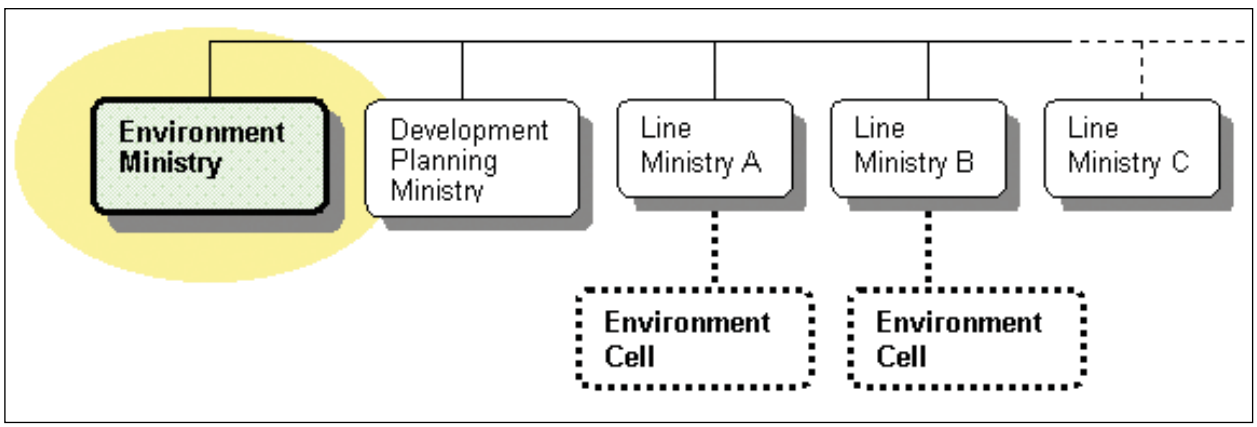
1.2 Role of the Environment Ministry, Department or Unit

Almost all the countries in the region have an environment ministry, department or unit. Their authorities, functions, etc. differ across countries and such differences often reflect the degree of government attention to environmental issues. There are two types in the organizational location of the environment ministry / unit in the region. These are:

- Ministry of Environment in charge of all environmental affairs
- Environment as a part of a multi-functional ministry

In both cases, their role is in the areas of:

- Contributing to vision
- Policy formulation



- Setting standards, guidelines, controls and designing laws (More on legal aspects)
- Involvement of ministry staff at sub-national levels
- Monitoring and enforcement programmes
- Environment assessment processes
- Financial and human resource capacity
- Inter-ministerial coordination

The typical role of the environment ministries related to policy-making are:

- **Advisory**: Technical advice, political advise
- **Coordinating**: Coordination with other ministries
- **Policy-making**: Environmental policy making, possibly being involved in economic policy making
- **Implementation**: Implementing agency for government programmes/projects
- **Monitoring**: Monitoring of compliance with regulations
- **Administration**: Service as secretariat to a higher body (which may ensure the link between the ministry and the higher policy making body)
- **Awareness**: environmental education, awareness campaign etc.
- **Information**: environmental database

1.3 Comparison of Structures

A mentioned before, the most common structures in the region for integrating the environment into decision-making are: ministry of environment in charge of all environmental affairs or environment as part of a multi-functional ministry. Depending on how environment department is located, there are different advantages and disadvantages.

Ministry of Environment in charge of all environmental affairs

Advantages:

- The dedication of a full ministry to environmental affairs may reflect the government's high priority for environmental issues
- Specialized skills and experience in dealing with environment-related issues are developed.

Disadvantages:

- Due to physical separation from other ministries, there may be problems in coordinating, monitoring and enforcing policies
- This can lead to the isolation of the environmental issue rather than regarding it as an integral part of other issues
- There may be very little environmental input from other ministries
- If the level of coordination is low, environmental effects from other line ministries may be ignored or not completely accounted for.

Environment as a part of a multi-functional ministry

Advantages:

- It would make it easier for environment issues to be considered in the policy-making of that particular ministry
- When the scope is well-defined, its work becomes more focussed, which in turn makes it easier to attract personnel with technical capabilities or train them according to specific needs.

Disadvantages:

- It may inherently limit the scope of environment activities
- Environmental concerns in all other ministries are likely to be neglected.
- Its lack of independence may mean that when there are conflicts with other functions of the host ministry, environmental concerns may be relegated to second place
- It may reflect that low priority is placed on environmental issues in a country.

2. Environment ministry/ department in selected countries

South Asia

- Bangladesh: Department of Environment, Ministry of Environment and Forest
- India: Ministry of Environment and Forests (planning, promotion, and coordination of environmental, forestry, and wildlife programme), Pollution Control Board and State Departments (executing agency)
- Iran: Department of Environment
- Maldives: Ministry of Planning, Human Resources and Environment (policy institution), National Environment Council (executive agency)
- Nepal: National Planning Commission (policy institution), Environmental Protection Council (executive agency), Ministry of Population and Environment
- Pakistan: Ministry of Environment, Urban Affairs, Forestry and Wildlife (policy institution), Federal/ Provincial Environment Protecting Agencies (executive agencies)
- Sri Lanka: Ministry of Forest and Environment, Central Environmental Authority (executive agency)

East and Southeast Asia

- Republic of Korea: Ministry of Environment
- China (PR): National Environmental Protection Agency, Commission of Environmental Protection of the State Council
- Indonesia: State Ministry for Environment
- Malaysia: Department of Environment in Ministry of Natural Resources and Environment
- Myanmar: National Commission for Environmental Affairs
- Philippines: Department of Environment and Natural Resources - Environment Management Bureau
- Singapore: Ministry of Environment
- Thailand: Ministry of Sciences, Technology and Environment
- Viet Nam: National Environment Agency (NEA) in Ministry of Sciences, Technology and Environment

West Asia

- Bahrain: Public Commission for the Protection of Marine Resources, Environment & Wild life
- Jordan: Ministry of Environment
- Kuwait: Environment Public Authority
- Lebanon: Ministry of Environment
- Oman: Directorate General of Environmental Affairs in Ministry of Regional Municipalities, Environment and Water Resources
- Qatar: Supreme Council for Environment and Natural Resources
- Saudi Arabia: Meteorology and Environmental Protection Administration
- Syria: Ministry of Environment
- Yemen: Environment Protection Authority in Ministry of Water and Environment

Source: http://www.unescap.org/ and http://www.unep.org.bh/

3. Environmental structures in selected countries

3.1 Azerbaijan – Ministry of Ecology and Natural Resources

Source:
http://www.unece.org/env/epr/studies/azerbaijan

The statutes of the Ministry of Ecology and Natural Resources were adopted by a presidential decree on 18 September 2001. Created on the basis of the former State Committee on Ecology, the Ministry took over the functions of several other State bodies: the Departments of Hydrometeorology, Geology, Forestry and Fishery. Therefore, the Ministry's employment structure looks asymmetric – out of 9,500 employees, only about 900 (incl. 500 at the local levels) work for environment divisions against 2000 for forestry.

The main responsibilities of the Ministry include:

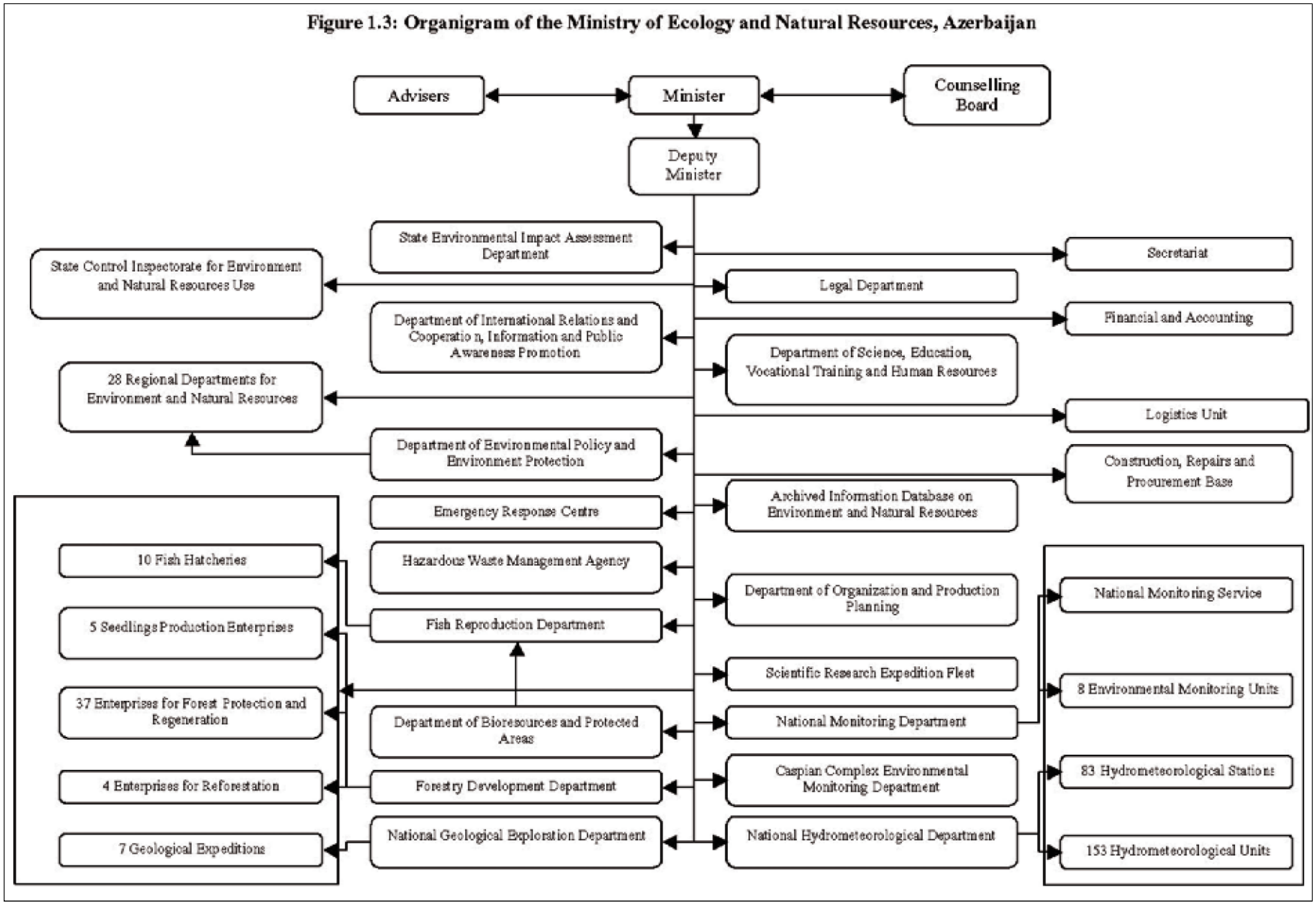
- Implementation of State policy on natural resources research, use, restoration, protection and safety assurance, and biodiversity conservation
- Implementation of State policy on the use of bio-resources of both internal water bodies and the Caspian Sea (although not of the water resources themselves)
- Implementation of State policy on geological exploration, mineral resources protection and use
- State administration in the field of the environment
- Organization of hydro-meteorological services
- Implementation of State control over ecological safety compliance
- Within its competence, implementation of relevant international agreements and coordination of other bodies in this field.

Unfortunately, the Ministry was unable to function properly for many months after its establishment owing to the usual burden of restructuring but also owing to the late availability of funding in 2002. Its present structure includes several departments at the central office, and a large number of subordinated facilities (e.g. fish hatcheries, seedling productions, hydro-meteorological units). Coordination among so many different units requires well-developed procedures and sub-normative documents that must be upgraded over time.

The structure of the Ministry continues to bear signs of the constituent parts that were brought together to create it. For example, the geology, hydrometeorology, forestry and fishery sub-sectors have separate departments, as does the environment in general. Consequently, some tasks are divided among several departments; for instance, there are three different departments with monitoring responsibilities. The Ministry, therefore, appears still to be in a transitional stage from a complex combination of pre-existing organizations to an integrated and manageable institution. It is expected that further adjustments to the Ministry's structure will be unavoidable in the future.

The Ministry of Ecology and Natural Resources also has a network of 28 regional departments for environment and natural resources subordinated to its Department of Environmental Policy and Environment Protection.

Figure 1.3: Organigram of the Ministry of Ecology and Natural Resources, Azerbaijan



3.2 Denmark - Ministry of Environment

Sources: http://www.mim.dk/ and http://www.mst.dk/

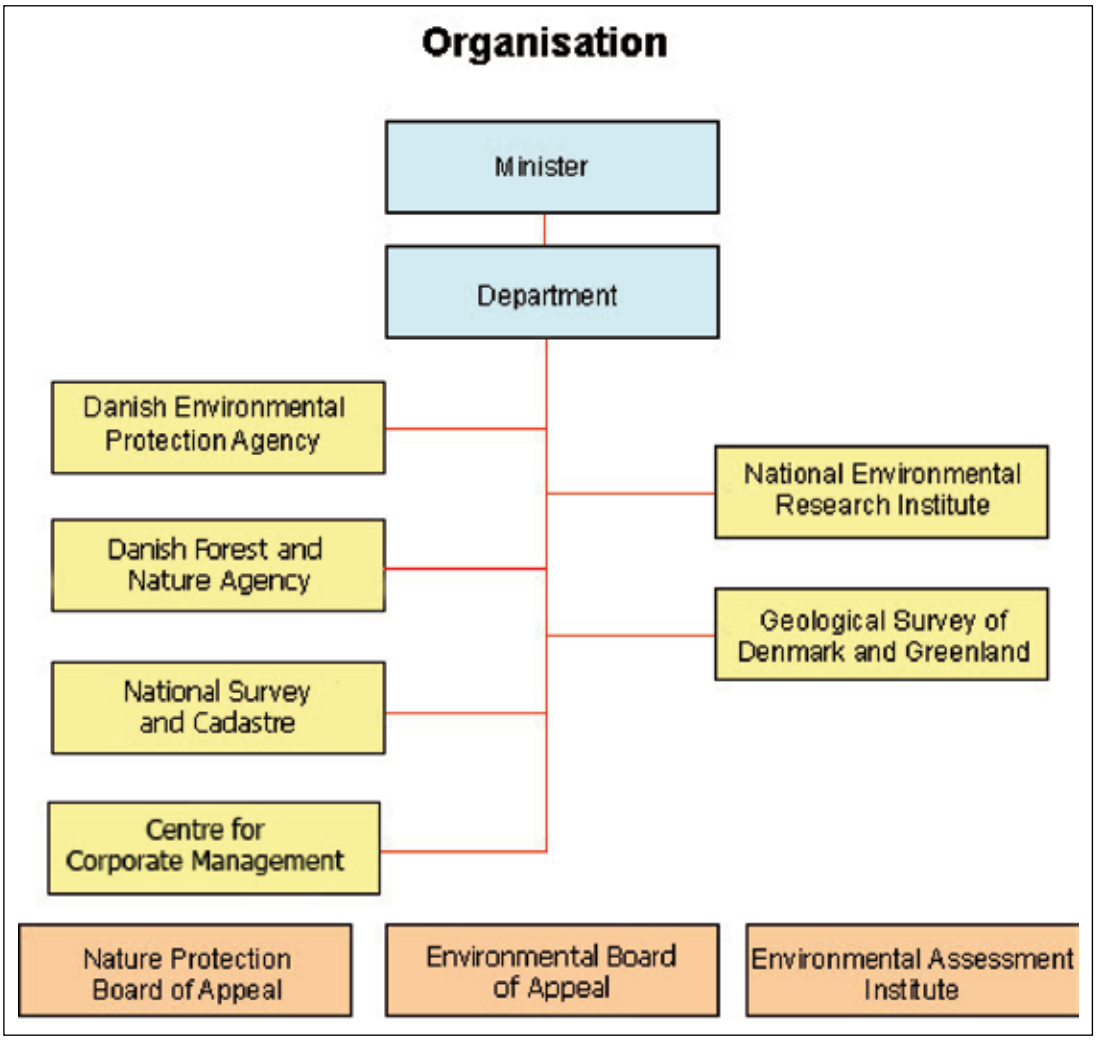
The Ministry of the Environment is in charge of administrative and research tasks in the area of environmental protection and planning. In Denmark the administration at state level is managed by the Ministry of the Environment. At regional and local level, much of the administrative responsibility has been delegated to local governments in counties and municipalities. The Ministry of the Environment was created in autumn 1971 when two ministries were merged. The Ministry employs more than 2500 people.

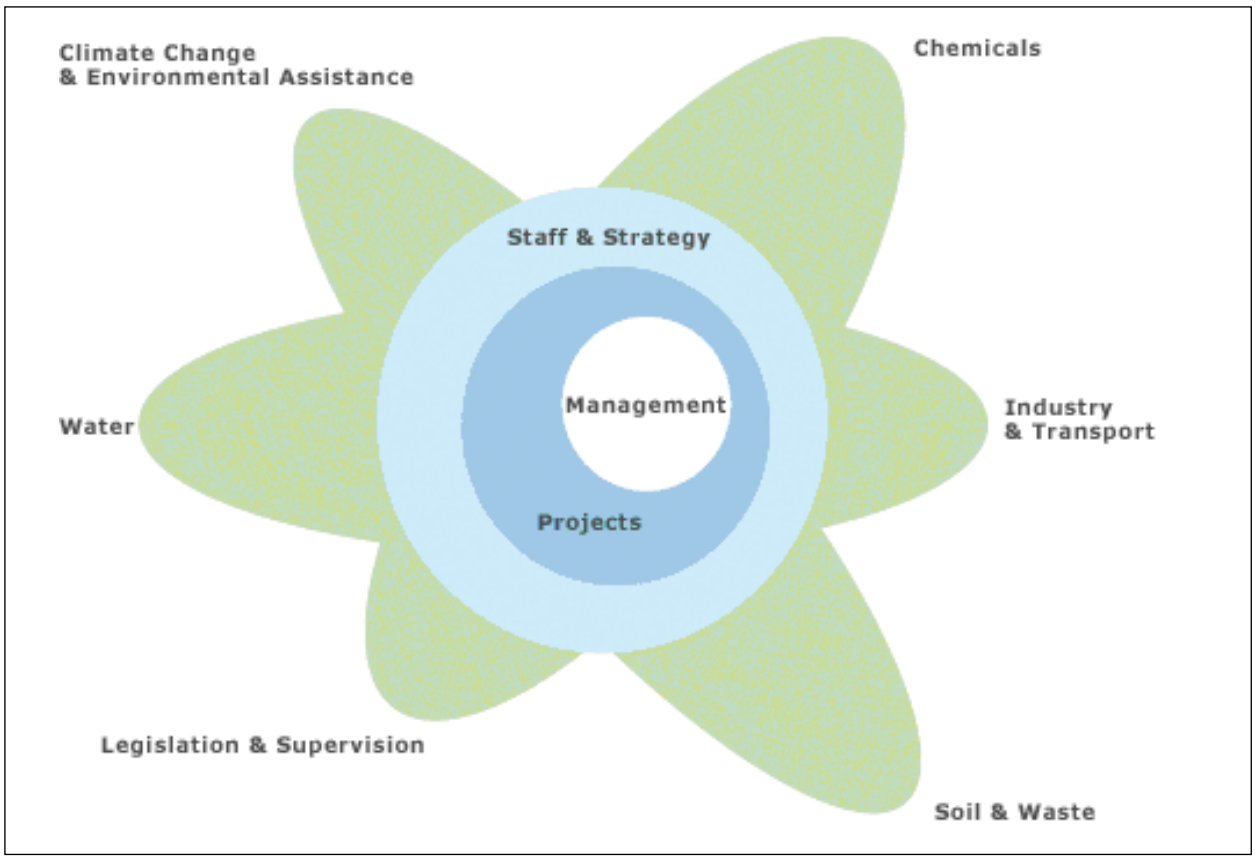
The Ministry has three agencies, one corporate management center and two independent research institutes. Two independent appeal boards and one Environmental Assessment Institute are linked to the Ministry.

The Ministry consists of:

- Minister
- Department
- Danish Environmental Protection Agency
- Danish Forest and Nature Agency
- National Survey and Cadastre Denmark
- Centre for Corporate Management
- National Environmental Research Institute
- Geological Survey of Denmark and Greenland (GEUS)
- Environmental Assessment Institute

The *Danish Environmental Protection Agency* administers environmental legislation and prevents and combats the pollution of water, soil and air in Denmark. An important task is monitoring the state of the environment and disseminating information related to this. With the assistance of other





Organizational structure Danish Environmental Protection Agency

national and local authorities, the Agency gathers information on such environmental hazards as the emission of chemical substances to the air and the use of pesticides in Denmark. The Agency belongs under the Danish Ministry of the Environment and has some 300 employees.

3.3 Egypt – Ministry of State for Environmental Affairs / Egyptian Environmental Affairs Agency

Source: http://www.eeaa.gov.eg/

The Egyptian Environmental Affairs Agency (EEAA) was first established in 1982 as the authority responsible for promoting and protecting the environment in Egypt. In 1994, EEAA was re-established in accordance to the Law for the Protection of the Environment, and was restructured with a new mandate to substitute the initially established Agency. Based on this Law, EEAA has a public juridical personality and is to be affiliated with the competent Minister for Environmental Affairs, who heads EEAA's governing board. At the central level, EEAA represents the executive arm of the Ministry.

The overall objectives of EEAA are to protect the environment and promote the different environmental activities. These objectives are realized by integrating environmental issues into all national policies, plans and programs. The specific activities and functions of EEAA, necessary to fulfill these objectives, are clearly defined within the Environmental Law of 1994. One of the most significant activities of EEAA is the enforcement of the Environmental Law and its executive regulations. Moreover, EEAA together with the Ministry of Foreign Affairs plays an important role in coordinating and fostering the environmental partnerships at bilateral, regional and international levels.

The Principal Functions of the Agency include:

- Formulating environmental policies
- Preparing the necessary plans for Environmental protection and Environmental development

projects, following up their implementation, and undertaking Pilot Projects

- The Agency is the National Authority in charge of promoting environmental relations between Egypt and other States, as well as Regional and International Organizations.

The Administrative Council of the Agency is in accordance with the 1994 Law composed of the Minister of Environmental Affairs as Chairman and the following as members:

- The Chief Executive Officer of the Agency, who also acts as Vice Chairman

- Representatives from the ministries concerned with environmental experts, Non-Governmental Organizations (NGOs), the State Council, the Public Business Sector, the Universities and Scientific Research Centers.

An Environmental Protection Fund will in accordance with the "Environment Act of 1994" be set up at the Agency. The Fund will receive the amount specifically allocated to it in the General State Budget by way of support, donations and grants presented by national and foreign organizations concerned with environmental protection, fines and compensation awarded by courts of law or via out-of-court settlements for damage caused to the environment, as well as revenues from the protectorates fund. The financial resources of the Fund shall be exclusively used for the purpose of realizing its objectives.

There are six departments under the current structure:

Financial & Administrative Affairs

Setting up of goals, general policy and planning Financial and administrative affairs, follow up and supervision of their implementations to cover EEAA receivables and rationalize expenditure, on its activities and projects, sound administrative of personnel affairs and administration services, and preparing EEAA Budget, final accounts and financial reports according to financial regulations.

Branches Affairs

Acting as Liaison Officer between EEAA and Branches in different governorates, coordinating its environmental activities and facilitating their contact with different sectors of EEAA.

Environmental Information and Public Awareness

Development of Public awareness campaigns of environment protection issues, through different media. Coordinating, integrating different public education programs with environment awareness programs, and preparing and follow-up of training programs and activities internally and externally.

Environmental Quality

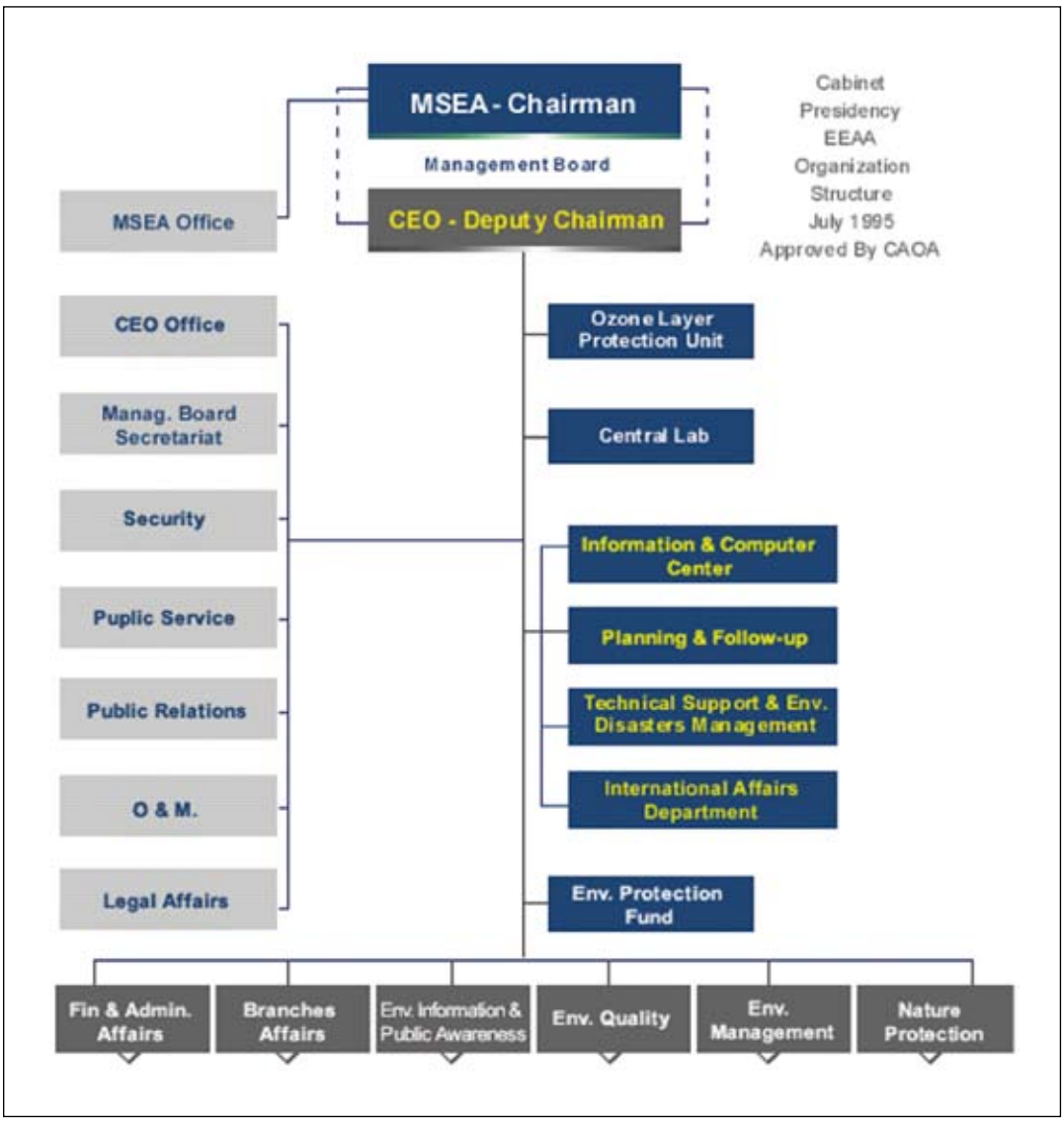
Environmental monitoring and research, design and implementation of environmental vulnerability assessments, definition of ambient quality and pollution emission standards, monitoring relevant national and international professional developments, state of environment reports, environmental specific pilot projects on environmental quality.

Environmental Management

Setting up Environmental Impact Assessment and auditing system, follow up, encouraging the use of recent technology in management of hazardous substances and industrial, hospital and solid waste, setting up standards and planning of environment development, management of coastal and maritime zones, and supporting of pilot projects in this field.

Nature Protection

Management of protection of nature and preservation of biodiversity in coordination with concerned and responsible authorities, planning of running and monitoring of natural protectorates, encouraging and follow up of new individual initiatives, implementation of international agreements and conventions on biodiversity, and public awareness about regulations and means of nature protection.



Organizational Structure Egyptian Environmental Affairs Agency (EEAA)

3.4 Estonia – Ministry of Environment

Source: http://www.envir.ee and http://www.unece.org/env/epr/studies/estonia_2

In Estonia the Ministry of Environment has the responsibility at national level for the protection of nature and environment, issues related to land-use (with keeping the national land cadastre), including co-ordination of the elaboration of regional plans, managing the use, protection and accounting of the natural resources, as well as surveillance over the use of environmentally hazardous compounds. Through its various programmes, the Ministry of the Environment organises environmental monitoring, meteorological, geological, constructional and geodetic surveys and research in natural history. It arranges the environmental impact assessments of the projects of national importance and co-ordinates international relations in environmental matters. The Ministry of the Environment formulates national policies in its field of activities and prepares the bills of respective legal acts.

The Ministry of the Environment is led by the Minister of Environment, whose primary responsibility is to guarantee the accordance of the work of the Ministry with the Constitution and other laws and legal acts. The chief executive of the Ministry is the Secretary General who is in charge of managing the work of the subunits of the Ministry and co-ordinating the activities of the institutions governed

by the Ministry. Directly subjected to the Secretary General are four Deputy General Secretaries, having special fields of competence.

The Ministry counts 150 staff at the national level and 300 staff in the 15 county authorities. The Ministry consists of different departments:

- **Nature conservation**: responsible for coordination and management of protection activities in protected areas. Primary tasks include preparation of legal grounds for protected areas, i.e. harmonization of the protection rules with applicable laws and preparation of management plans as well as managing actual protective activities

- **Forestry**: responsible for coordination and management of forest and hunting areas, protection of valuable habitats in forest areas, counselling of private forest owners and support to private forestry, as well as preparation of the State's forest policy, preparation and financing of forestry programmes and development strategies, including hunting

- **Waste**: responsible for general waste handling management, development of hazardous waste handling systems, issuing waste handling permits and packaging recovery issues

- **Water**: Water Department ensures the good condition and sustainable exploitation of Estonia's ground water layers and bodies of water including the sea

- **Fish resources**: manages and coordinates research, assessment, exploitation, reproduction and protection of fish resources. As of March 2001, the fisheries matters are divided between two ministries: the Ministry of the Environment and Ministry of Agriculture

- **International co-operation**: responsible for the Ministry's European integration activities and the steps toward development and conclusion of international agreements. The Department's tasks include survey of implementation of the obligations under international bi- and multilateral agreements, foreign aid accounting as well as counselling the Ministry's structural units in the field of foreign relations

- **Environmental management and technology:** tasks include ambient air and radiation protection, activities related to environmental impact assessment and environmental auditing, development of environmental provisions, regulating the use and protection of surface areas, promotion of sustainable technologies, counselling on persistant organic compounds, counselling on the national environmental monitoring programme, crises management in the Ministry's area of administration, including risk assessments to ascertain possible emergencies and development of the Ministry's crises regulation programme

- **Strategy and investment**: is active in the field of sustainable development and in developing and implementation of a sustainable development strategy. Its objective is to lay down a framework of long-term sustainable development principles to interconnect the social, economic and environmental fields and help to adjust the mutual interests

- **Legal affairs**: deals with co-ordinating legislative drafting in the Ministry's field of administration, checks compatibility of the acts drafted in the Ministry's field of administration with the Constitution, all in accordance with rules of legislative drafting. The Department gives legal advice to the Ministry's officials and subordinate state agencies. It also keeps records on state agencies, state enterprises and government invested enterprises in the Ministry's field of administration

- **15 county environmental departments**

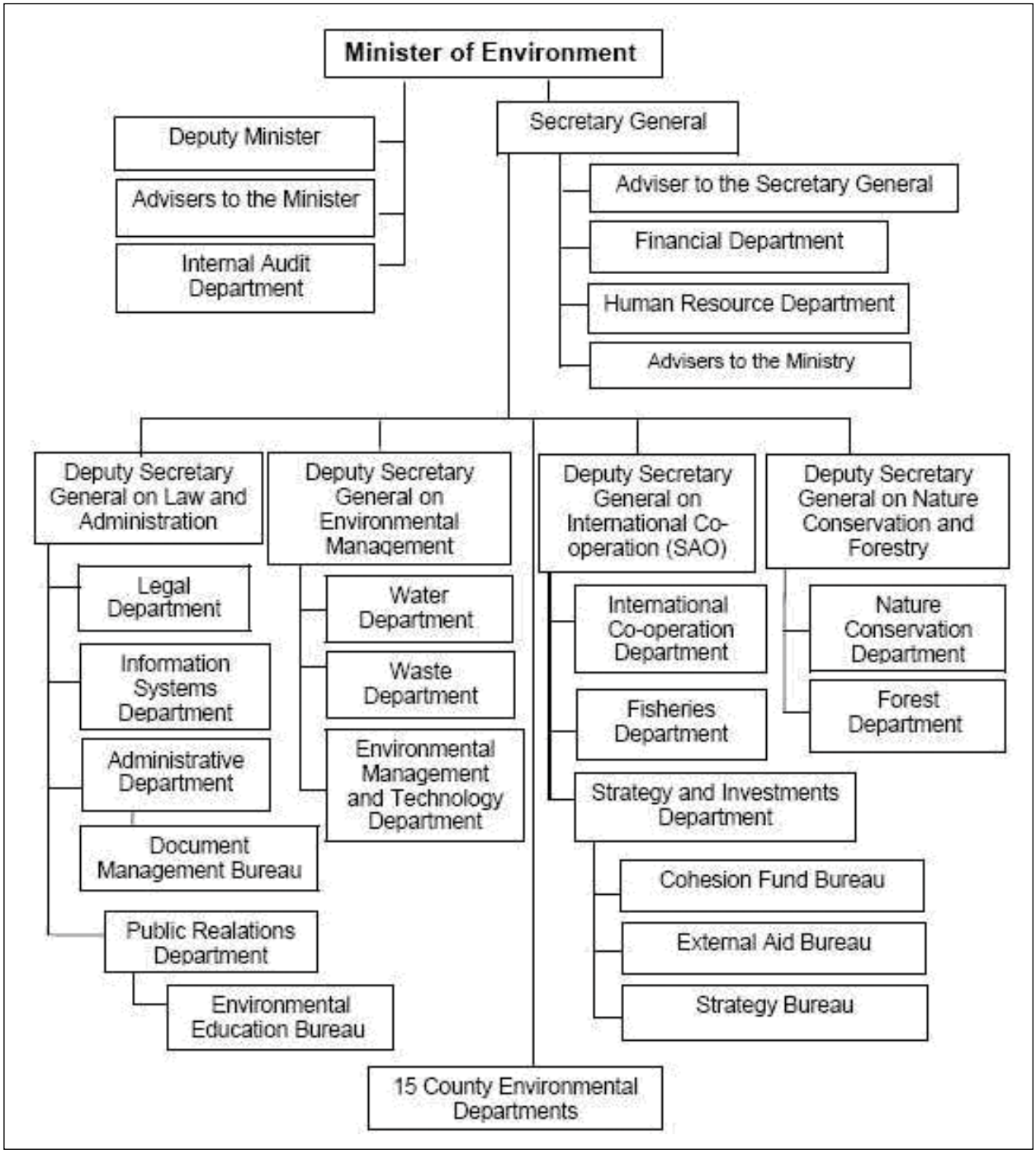
The implementation of environmental monitoring and control also involves the counties, the Meteorological and Hydro-meteorological Institute, environmental laboratories, the Environmental and Nature Protection Inspectorate, the Environmental Inspectorate and the Environmental Information Centre.

The Environmental Inspectorate employs 270 staff and has a national office in the capital and several regional departments in the country.

3.5 Finland – Ministry of Environment

Source: http://www.vyh.fi/

The Finnish Ministry of the Environment is responsible for ensuring that the environmental perspective is given proper consideration in international cooperation and society, and at all levels of government. The Ministry formulates environmental policies, carries out strategic planning and makes decisions in its own sphere of interest. It is also responsible for preparing legislation and drawing up its own budget, and for result management and setting binding standards.



Organizational structure Ministry of Environment of Estonia

*) The *Ministry of Agriculture and Forestry* is responsible for the overall supervision of the regional environment centres and the Finnish Environment Institute as regards use and management of water resources.

**) The *Forest and Park Service* works under the auspices of the Ministry of Agriculture and Forestry. The Ministry of the Environment is responsible for the overall supervision of the Forest and Park Service as regards nature conservation.

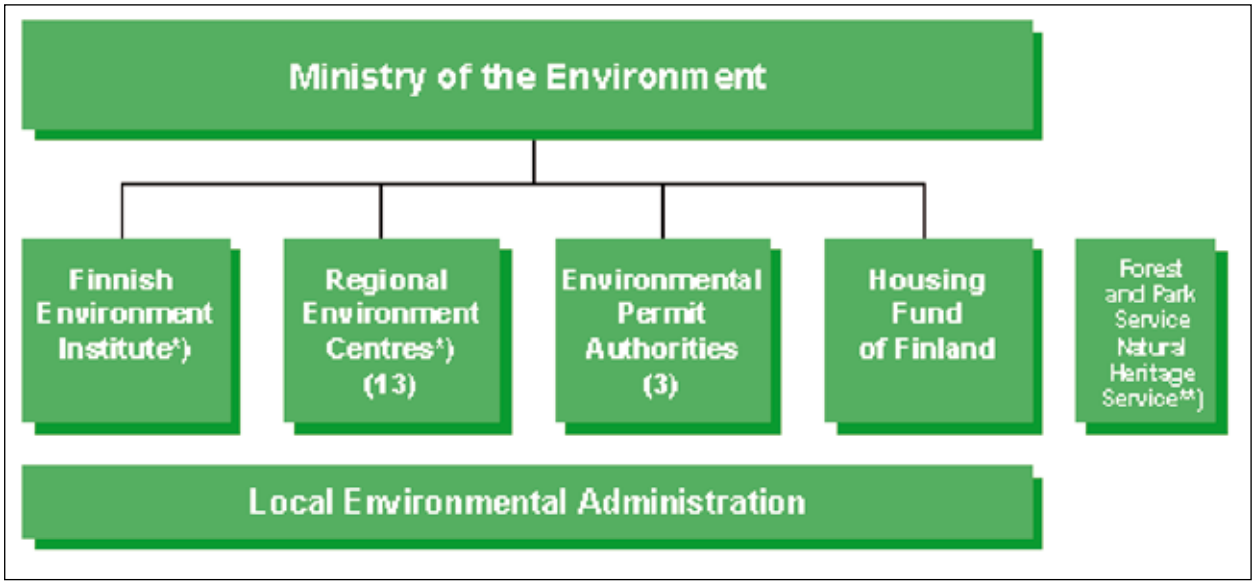
The administrative sphere of the Ministry of the Environment encompasses the Finnish Environment Institute, Finland's 13 regional environment centres, 3 environmental permit authorities, and the Housing Fund of Finland. The Ministry also supervises the nature conservation work of Metsähallitus Natural Heritage Services and the Finnish Forest Research Institute. Municipalities are responsible for environmental and housing issues at local level.

In their work related to the use and management of water resources, the Finnish Environment Institute and the regional environment centres are supervised by the Ministry of Agriculture and Forestry. The Ministry of Justice participates in the development of the environmental permit authorities. Local environmental and housing issues are handled by the local authorities.

Ministry of Environment

The Ministry is headed by the Minister of the Environment and a minister responsible for housing. The most senior official in the Ministry is the Permanent Secretary.

The administrative work is done in the departments and unit of the Ministry, namely, the Land Use Department, the Housing and Building Department, the Environmental Protection Department, the Administrative Unit, the Unit for International Affairs, and the Information Unit.



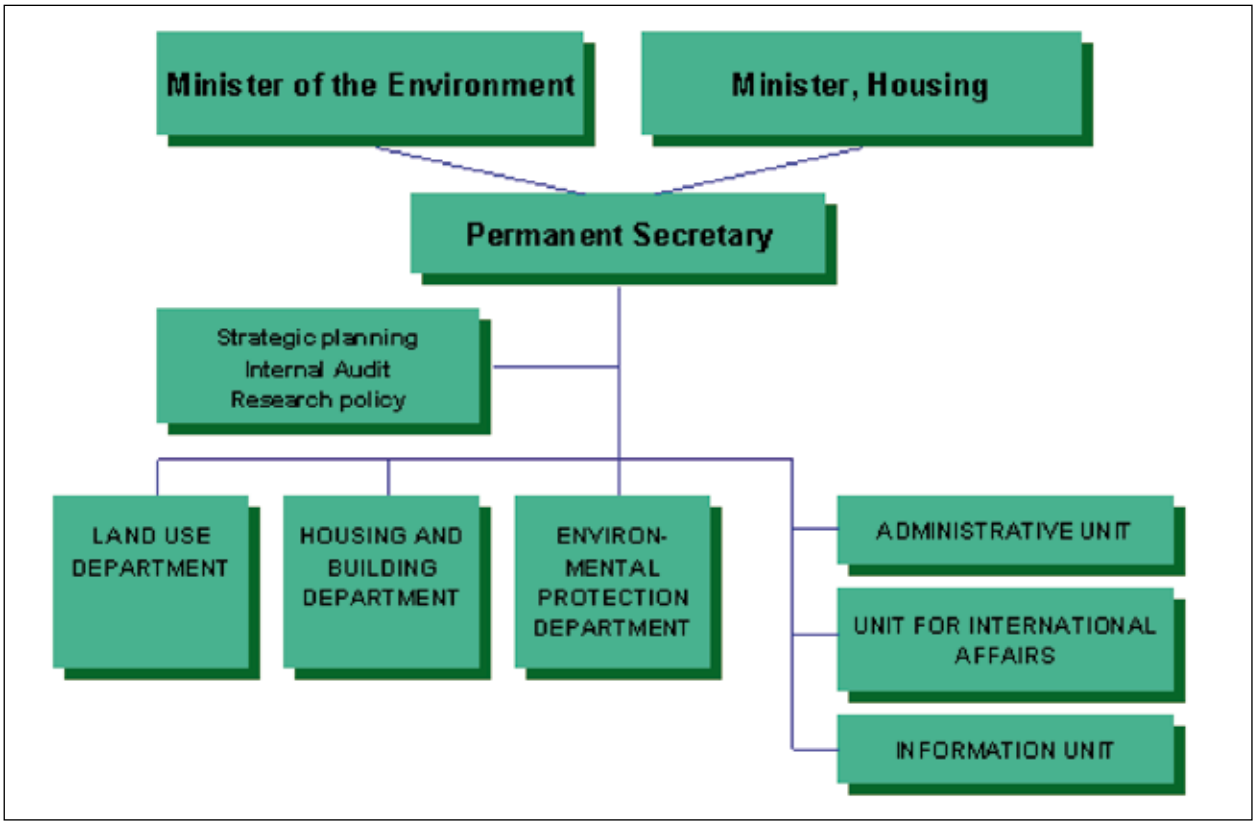
Environmental administration

The *Finnish Environment Institute (SYKE)* is the national environmental research and development centre of the environmental administration. Research and development in the SYKE deals with changes in the environment, cause and effect relationships, means of resolving environmental problems and effects of policy measures. SYKE is the national environmental information centre and provides expert services and takes care of certain national and international statutory tasks.

The *Regional Environment Centres* work on environmental protection and nature conservation, supervise land use and construction, and ensure the preservation of Finland's architectural heritage and valuable landscapes. The centres compile and provide information on pollution and the state of the environment, and work to increase awareness of environmental issues in their respective regions. Their work pertaining to the use and management of water resources is supervised by the Ministry of Agriculture and Forestry.

Environmental Permit Authorities decide on environmental permits for activities having major environmental impacts, taking place under the Water Act, or which have been initiated or promoted by a regional environment centre. The environmental permit authorities will also deal with most water pollution compensation claims.

The *Housing Fund of Finland (ARA)* is responsible for state-subsidized housing production including cost and quality guidance. State-subsidized housing is financed by a budget-external fund. Financing comes from interest, amortizations and securitiation of outstanding ARAVA loans and from loans taken by the fund.



3.6 India - Ministry of Environment and Forests

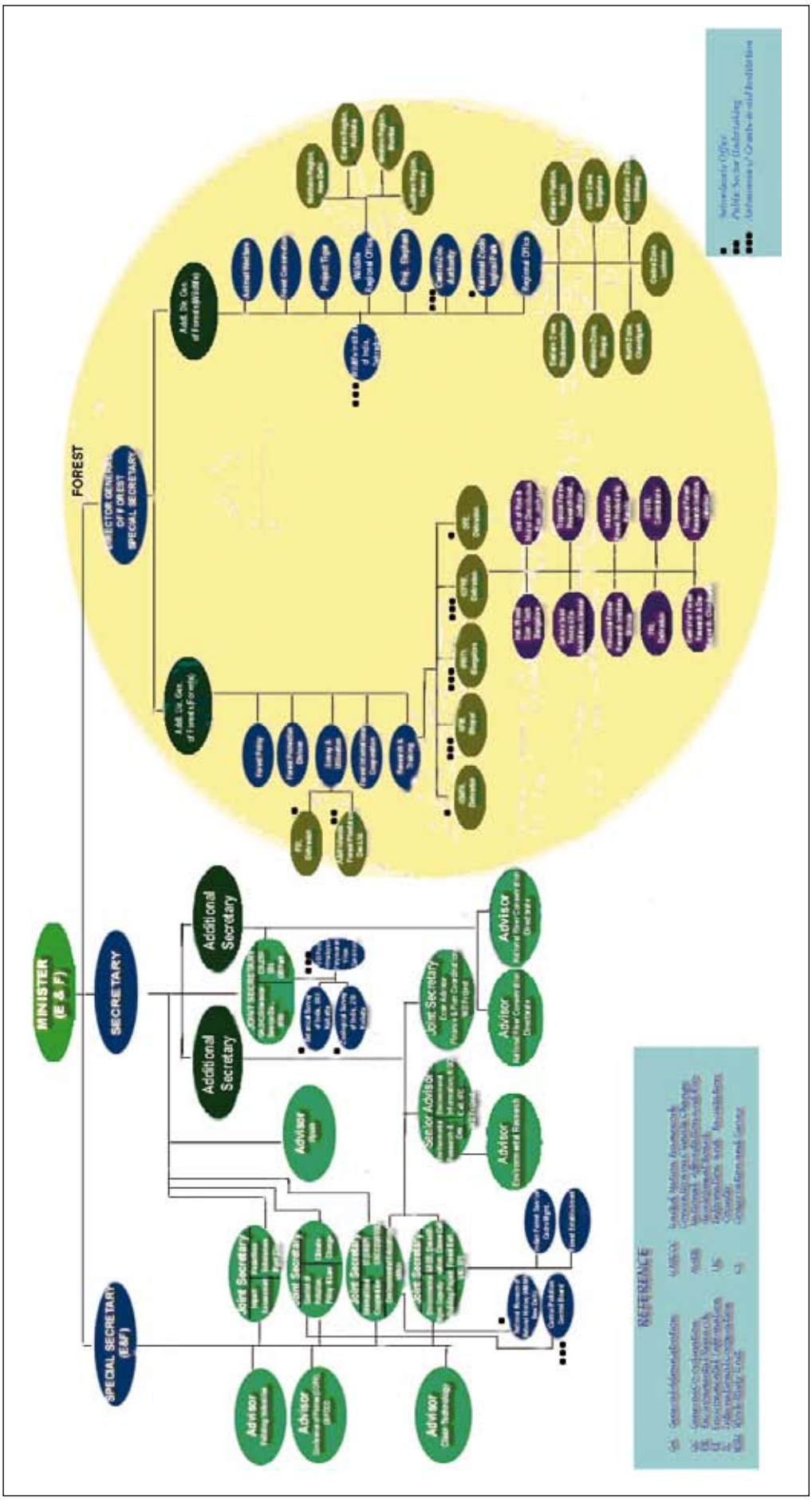
Source: www.envfor.nic.in

In India, the Ministry of Environment and Forests is the nodal agency in the administrative structure of central government for the planning, promotion and coordination of environment and forestry programmes. The Ministry has a wide range of responsibilities in environmental management, including technical research and education through its various associated research and training institutes. As is often the case in countries with a federal system of government, some of the environment related responsibilities (for example, irrigation and water resources, power generation, forests, and road transport) are given to the provincial or state governments. Consequently, there are various ministries of each state government handling these matters parallel to the corresponding ministries of central Government. Therefore, the Ministry of Environment and Forests is given a role of vertical coordination in addition to horizontal coordination in the hierarchical structure.

The principal activities undertaken by Ministry of Environment & Forests, consist of conservation & survey of flora, fauna, forests and Wildlife, prevention & control of pollution, afforestation & regeneration of degraded areas and protection of environment, in the frame work of legislations.

The main tools utilized for this include surveys, impact assessment, control of pollution, regeneration programmes, support to organizations, research to solve solutions and training to augment the requisite manpower, collection and dissemination of environmental information and creation of environmental awareness among all sectors of the country's population.

The organizational structure of the Ministry covers number of Divisions, Directorate, Board, Subordinate Offices, Autonomous Institutions, and Public Sector Undertakings.


MINISTER (E & F)
SECRETARY
SPECIAL SECRETARY (E&F)
FOREST
Additional Secretary
Additional Secretary
Joint Secretary
Joint Secretary
Joint Secretary
Joint Secretary
Advisor
Advisor
Advisor
Advisor
Advisor
Advisor
Advisor
REFERENCE

3.7 Iran – Department of Environment

Source: http://www.irandoe.org/

As in many countries, there have been significant environmental degradation and over-exploitation of natural resources in Iran in the past few decades. The accelerated pace of this trend prompted the formation of the Iranian Wildlife Association in 1956, in an attempt to deal with this developing crisis. The IWA was an independent body overseeing the protection and preservation of the country's wildlife as well as compliance with pertinent laws.

Following the approval of the Hunting and Fishing Bill in 1967, the Hunting and Fishing Organization replaced the IWA. The law stipulated that the GFO was to be supervised by a director and its activities monitored by the High Council of Hunting and Fishing composed of the ministers of agriculture, treasury and defense along with six experts.

As stipulated in Paragraph 6 of the Hunting and Fishing Bill, the GFO mandate went beyond administration and enforcement of the hunting and fishing laws to include research activities in the areas of national wildlife, wildlife breeding, wildlife preserves, designation of regions as wildlife parks and setting up zoological museums.

In 1971, the GFO was transformed into the Department of the Environment. The High Council of Hunting and Fishing was reformed into the High Council for Environment Protection. The reorganization added environmental activities such as preventing actions detrimental to environmental balance to its mandate.

The Environment Protection and Enhancement Act of June 1972 made the DOE an entity affiliated with the Prime Minister's Office.

Following the exclusion of the position of Prime Minister during the review of the Constitution of the Islamic Republic of Iran in 1989, and pursuant to the 1992 amendment to the Environment Protection and Enhancement Act of 1972 and the change in the composition of members of the High Council for Environment Protection, the DOE became affiliated with the Office of the President.

The President chairs the Council and the Vice-president heads the DOE.

The most important duties of the DOE are as follows:

- Fulfillment of Article 50 of the Constitution of the Islamic Republic of Iran to protect the environment and ensure legitimate and sustainable utilization of natural resources to guarantee a sustainable development process.

- Prevention of the destruction and pollution of the environment.

- Preservation of Iran's biodiversity

The DOE consists of the following Departments:

Division of Education and Planning:

This Division is charged with coordination and planning of the policies needed for development of training, information and pooling of public collaboration. It emerged from its early form as the Office of Environmental Education within the present DOE management system. Its aim is to cultivate and develop public cooperation and participation in environment initiatives and to expand specific cooperation with educational centers both in Iran and abroad, as well as to implement an efficient information system.

Division of the Human Environment:

The Department of Human Environment is responsible for conducting environment impact assessment and monitoring the stressful effects inflicted on the environment from human activities and intervention. In other words, setting policies, drafting regulations, establishing standards and assessment of development processes within the agricultural, industrial and service sectors to prevent and control the extent of environmental degradation, including water, air, soil and noise pollution form the mission profile of the Division of the Human Environment.

Division of the Natural Environment and Biodiversity:

Given the wide variety and expanse of Iran's geographical biomes, and the region's importance in terms of natural habitats and extensive biodiversity, this department has been entrusted with the task of planning and adopting measures necessary for preservation of the country's natural diversity. Utilizing the services provided by its four Bureaus, the division carries out executive and research activities within Iran's many special ecosystems, especially in the areas under direct DOE supervision. Presently, the secretariat for the Iranian Wetlands Comprehensive Management Project is affiliated with this division.

Division of Administrative and Parliamentarian Affairs:

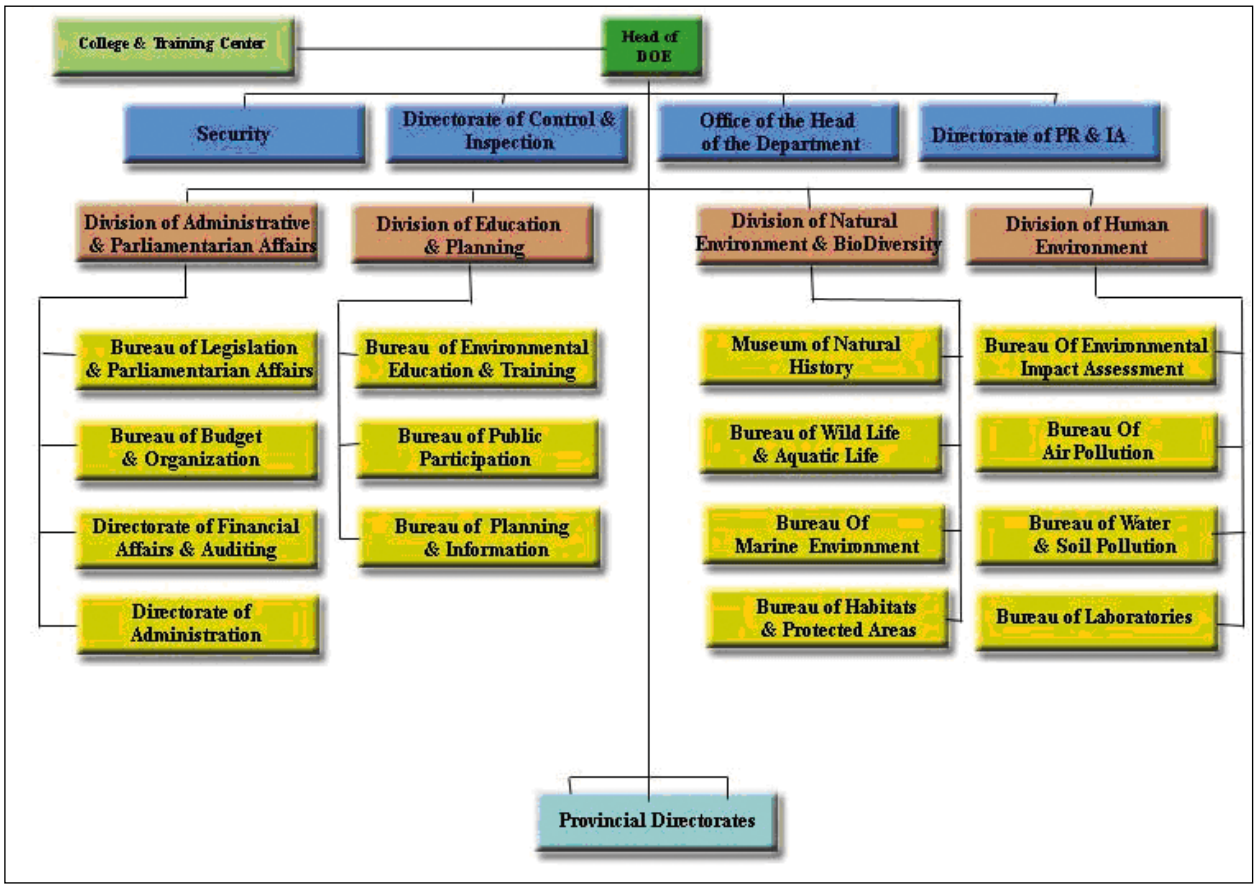
This division is responsible for provision of administrative, accounting, budgeting, organizational support and coordination necessary for more effective operation of DOE sectors and achievement of success in attainment of organizational tasks and goals. In addition to the logistical support element, the division is generally charged with the task of managing legal affairs and serving as the DOE's liaison with the Parliament. The division is also responsible for implementing any administrative change within the DOE in compliance with general Iranian administrative developments.

Bureau of the Marine Environment:

This bureau is responsible for natural geographic characteristics, conservation of marine ecosystems in the Persian Gulf, Sea of Oman and Caspian Sea. The Bureau has five marine environmental monitoring stations under its supervision.

Provincial Directories:

According to the year 2001 division of the country there are 28 provinces and 252 townships in Iran. Each has a DOE provincial directorate that monitors all aspects of environmental protection and the implementation of Department programs.



Organizational structure of Department of Environment Iran

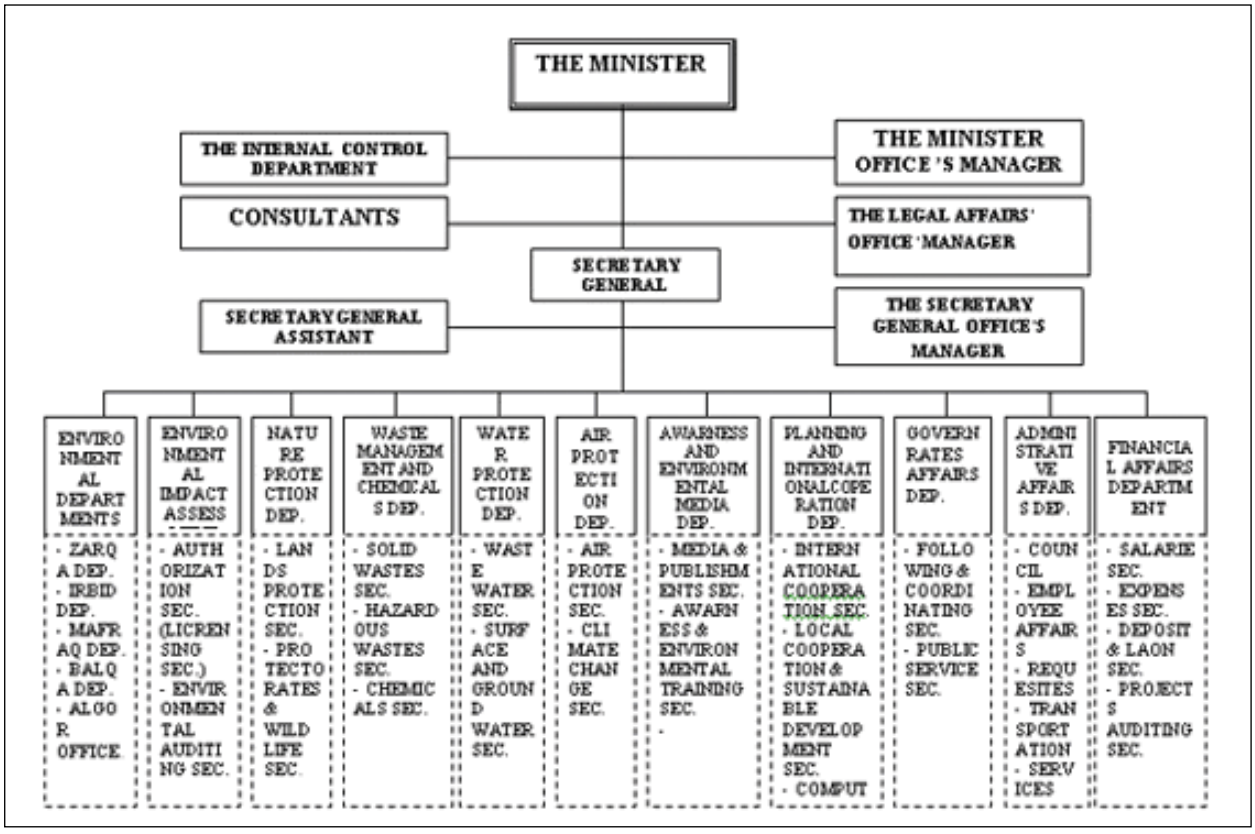
3.8 Jordan – Ministry of Environment

Source: http://www.MoEnv.gov.jo/

The Ministry Of Environment was officially announced by His Majesty King Abdullah the Second in the Speech from the Throne which H.M. delivered in 2003. Based on the Royal decree, the Environmental Protection Law of 2003 was written and is now in its final stages of ratification by the Members of the House of Parliament. Based on the Environmental Protection Law the Ministry is currently developing various by-laws that are called for in the law and at the same time conducting the necessary capacity building and developing the Institutional structure necessary to implement the law. One of the major strengths of The Environmental protection Law # is that it includes very strong provisions that call for the strengthening coordination and cooperation with related and responsible civil society organizations and institutions including the Private sector. This has led to the signing of key agreements with several NGOs. The Ministry seeks to increase the number of partners that are officially recognized as capable, legitimate and reliable to undertake such responsibilities. The Ministry will not only continue to oversee and monitor the partners work and progress but more importantly the Ministry will insure that the law and subsequent Bylaws are enforced and adhered to at all times.

The Ministry consists of the following departments:

- Environmental Directorates in Governorates
- Environmental Impact Assessment Department
- Nature Protection Department
- Waste Management and Chemicals Department
- Water Protection Department
- Air Protection Department
- Awareness and Environmental Media Department
- Planning and International Cooperation Department
- Governorates Affairs Department
- Administrative Affairs department
- Financial Affairs Department



Organizational structure Ministry of Environment of Jordan

3.9 Latvia – Ministry of Environment

Source: http://www.varam.gov.lv/

The Ministry of the Environment is one of the "youngest" ministries in Latvia. It was established in summer 1993, when after the 5th Parliamentary elections new state administration structure was introduced. The Ministry was the successor of the Environmental Protection Committee. Problems regarding regional planning and development hadn't been dealt with so far. In the process of improving the state administration structure, the Ministry incorporated a number of other institutions with the specific functions. Then the Ministry was called the Ministry of Environmental Protection and Regional Development.

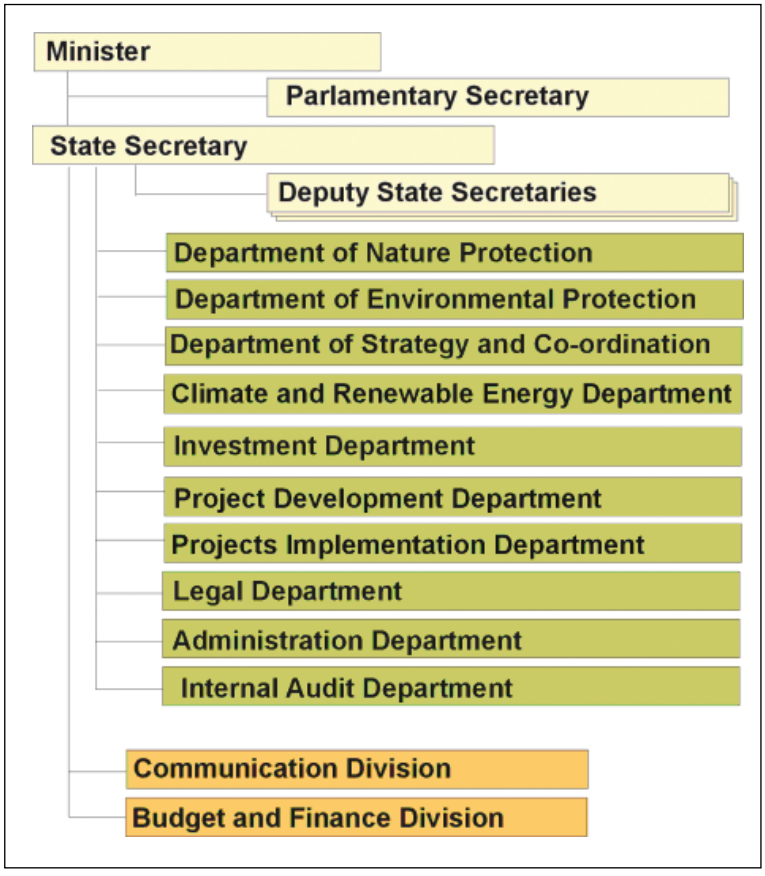
At the time, when the new Ministry was created, it took over the following functions of the eliminated Ministry of Architecture and Construction: construction, housing facilities and public utilities, geology and tourism. Functions regarding local municipalities were taken over from the bygone Ministry of State Reform.

In order to fulfill Latvia's incorporation in the network of European Environmental Agencies and to consolidate the environmental institutions that fulfill similar functions, the Latvian Environmental Agency was established on October 1, 2000, merging the Latvian Centre of Environmental Data and the Centre of Environmental Consultations and Monitoring.

Since January 2004, handing the functions of regional development, construction and tourism over to other Ministries of the Republic of Latvia, the Ministry of Environmental Protection and Regional Development became the Ministry of the Environment with the main functions – environmental protection, nature protection and environmental investments.

In February 2003 with the instruction of the Ministry, the Environmental Advisory Council was established – it is a consultative and coordinating institution which adopts advisory decisions in the fields of environmental protection and sustainable development. The members of the Environmental Advisory Council are delegated by the public environmental organizations, professional associations, local municipalities, as well as educational and science institutions. The Environmental Advisory Council has submitted proposals for the amendments of laws, including Law on Protected Belts, Law on Environmental Protection and Environmental Policy Plan.

At the moment there are ten departments and two independent divisions in the structure of the Ministry of the Environment. The Ministry is managed by the Minister of the Environment. Chief state civil servant in the Ministry is a State Secretary.



Organizational structure Ministry of Environment of Latvia

3.10 Malaysia – Department of Environment within Ministry of Natural Resources and Environment

Source: http://www.doe.gov.my and http://www.nre.gov.my/

The Ministry of Natural Resources & Environment (NRE) was established due to an announcement of new cabinet formation by the Prime Minister in 2004.

The Ministry has been formed out of several departments from 4 Ministries:

- Ministry of Land and Co-operative Development
- Ministry of Science Technology and Environment
- Ministry of Primary Industries
- Ministry of Agriculture

The Ministry consists of the following departments:

- Department of Director General of Lands and Mines, Department of Survey & Mapping Malaysia and National Institute of Land and Survey from Ministry of Land and Co-operative Development
- Forestry Department Peninsular Malaysia, Forest Research Institute Malaysia and Minerals and Geo-science Department Malaysia from Ministry of Primary Industries
- Department of Environment and Department of Wildlife & National Parks Peninsular Malaysia from Ministry of Science Technology and Environment
- Department of Irrigation and Drainage from Ministry of Agriculture
- National Hydraulic Research Institute of Malaysia

The supervisory agency in charge of environmental administration in Malaysia is the Department of Environment (DOE) which was established in 1975 under the provision of the Environmental Quality Act 1974. Presently, the Department is empowered with 1568 staffs (on full operation), extending its operation through 15 States Offices and 26 Branch Offices. The Department's main role is to prevent, control and abate pollution through the enforcement of the Environmental Quality Act of 1974 and its 34 subsidiary legislation made there under.

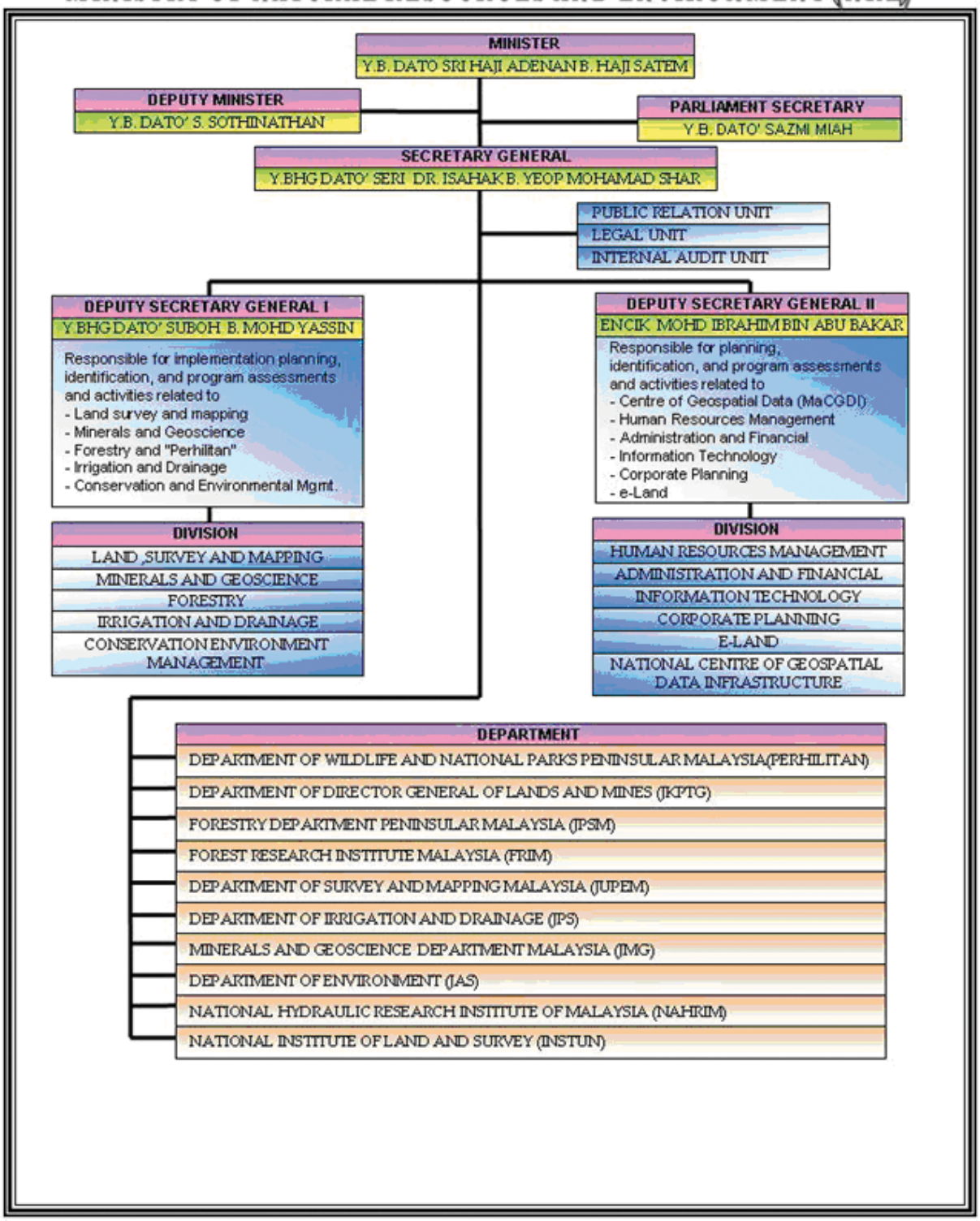
The Department of Environment (DoE) is the primary authority with regard to the environment in Malaysia. It comprises of five Divisions; 1) Administration Division, 2) Control Division, 3) Development Planning Division, 4) Assessment Division, and 5) Information Technology Division. It also includes 13 other State offices, one of which is the Federal Territory of Kuala Lumpur.

The DOE has comprehensive jurisdiction over environmental administration and is charged with formulating environmental rules and regulations, enforcing legislation and carrying out monitoring in relation to water pollution, air pollution and hazardous substances; conducting environmental impact assessment of proposed development projects, and carrying out Site Suitability Evaluation of proposed factories.

The DOE headquarters has the following divisions: Administration & Finance, Information and Technology, Environmental Institute of Malaysia (EIMAS), Strategic Communication and Environmental Assessment.

ORGANIZATION CHART

MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT (NRE)



4. Key Observations

Environmental policies, to be effective, require capable public institutions. Enacting comprehensive legislation is of limited value if institutions are incapable of implementing the policies and actions that will address priority environment problems. One of the important functions of the framework legislation is to define the mandate for environmental agencies in relation to other government bodies. Because environmental problems cut across sectoral boundaries and may involve many different agencies, clearly delineating institutional arrangements is crucial for effective implementation.

Institutions generally do not have adequate resources, the needed incentives, and trained staff to carry out environmental management functions properly. A significant move has been made by the individual countries, beginning in the early 1990s – that of establishing a ministry or a cabinet-level coordinating organization to address natural resources and environment management issues. However, an apparent major weakness of the current institutional frameworks is the lack of horizontal and vertical coordination, resulting in dispersed sector-specific policy orientations and concomitant difficulties in trying to harmonize diverse national, local and sectoral interests.

In general, the effectiveness of the institutional mechanisms and the interaction between them is dependent to a large degree on: (i) the powers and functions delegated to each agency with well-defined tasks; (ii) the scope of the tasks specified; (iii) the resources, both financial and human, available for executing the tasks; and (iv) the degree of commitment and political will exhibited by the leadership.

According to the Guidelines on Integrated Environmental Management (UNECE & UNEP, 1994), a coherent system of environmental authorities with a clear vision of competence should be established at the national, regional and local levels to develop and implement effective environmental policies. At the national level, the main tasks of the environmental authorities (ministry of environment) should generally centre on:

- Formulation of environmental objectives, policies, plans and programmes, and following them up
- Preparation of relevant legislative proposals and setting standards
- Development of environmental policy and management instruments
- Promotion of the integration of environmental and sectoral policies
- Coordination and supervision of environmental monitoring, and maintaining environmental data and information centres
- Promotion of environmental research and development
- Coordination of environmental education and public information
- International cooperation

Opportunities should be explored for establishing agencies subordinated to the ministries of the environment. Such agencies can coordinate and carry out such functions as the management of water basins and nature conservation areas, monitoring, preparation of reports on the state of the environment, environmental research and development, and dissemination of information.

APPENDIX IX: List of books and equipment provided to the Ministry of Environment by UNEP

A. List of books

Ref :	Title	Publisher	Net Price in USD
2	Access to Justice in Environmental Matters	E J Brill	197.58
9	Cartagena Protocol on Biosafety	Earthscan	129.50
15	Civil Liability for Environmental Damage	E J Brill	144.86
25	Contaminated Land	Earthscan	138.75
31	Differential Treatment in International Env.	Ashgate	99.90
37	Economic Globalization and Compliance with	Kluwer Academic Pub.	157.25
39	Ecoviolence and the Law	Transnational Pub.	186.83
40	Eco-finance	Kluwer Law Int.	110.08
50	Environment and Law	Routledge	129.50
57	Environmental Contracts	Kluwer Law Int.	165.02
60	Environmental Ethics and Law	Ashgate	216.45
73	Environmental Law of Armed Conflict	Transnational Pub.	186.83
79	Environmental Negotiator Handbook	Kluwer Law Int.	188.70
80	Environmental Policy	Ashgate	43.29
82	Environmental Policy - Implementation and E	Dartmouth	108.23
85	Environmental Regulation Through Financial	E J Brill	138.57
89	Environmental Risk	Ashgate	416.25
97	Exploitation of Natural Resources in the 21	Kluwer Law Int.	162.80
103	Global Environment	CQ Press	42.53
113	Implementing International Environmental Ag	Manchester UP	83.25
114	Implementing International Environmental La	Kluwer Law Int.	131.72
125	International Environmental Law	Transnational Pub.	186.83
127	International Environmental Law and Economi	Blackwell Pub.	120.25
129	International Environmental Law and Policy	Transnational Pub.	186.83
133	International Investments and Protection of	Kluwer Law Int.	105.45
134	International Law and Policy of Sustainable	Manchester UP	101.75
138	International marine environmental law	Kluwer Law Int.	142.45
145	Key Materials in International Environmenta	Ashgate	116.55
146	Kyoto	Kluwer Law Int.	197.58
154	Law and Economics of the Environment	Edward Elgar	133.13
165	Legal Regime of Offshore Oil Rigs in	Dartmouth	108.23
168	Liability for Damage to Public Natural Reso	Kluwer Law Int.	157.99
169	Liberalization of Electricity and Natur	Kluwer Law Int.	138.57
173	Multilateral Development Banking	Kluwer Law Int.	92.13
179	New Instruments of Environmental Governance	Frank Cass Pub.	129.50
183	Organization of Global Negotiations	Earthscan	101.75
189	Policing International Trade in Endangered	Earthscan	40.61
197	Protecting the Ozone Layer	Earthscan	64.75
200	Public Environmental Law in the European Un	E J Brill	197.58
202	Public Interest Environmental Litigation in	Kluwer Law & Tax	220.15
231	Yearbook of International Co-operation on E	Earthscan	148.00
236	Accounting for the Environment	Paul Chapman Pub.	46.23
237	Achieving a Sustainable Global Energy Syste	Edward Elgar	99.83
239	Advances in Forest Inventory for Sustainabl	Kluwer Academic Pub.	161.51
241	Aesthetics and the Environment	Routledge	35.13
242	Aesthetics, Well-being and Health	Ashgate	99.90
246	Agroecological Innovations	Earthscan	42.53
247	Air Pollution	Spon Press	49.93

Ref :	Title	Publisher	Net Price in USD
248	Air Pollution and Health in Rapidly Develop	Earthscan	42.46
249	Air Pollution and Plant Life	John Wiley Ltd	63.83
250	Air Pollution Modeling and Simulation	Springer-Verlag Berl	192.31
253	Air Quality Assessment	Spon Press	66.60
254	Air Quality in Cities	Springer-Verlag Berl	114.89
256	Alternative Perspectives on Livelihoods, Ag	Ashgate	91.58
257	Amenity Value of the Global Climate	Earthscan	42.46
259	Analytical Tools for Environmental Design a	Kluwer Academic Pub.	140.69
260	Applied Contaminant Transport Modeling	John Wiley & Sons	136.88
263	Applied Ethnobotany	Earthscan	55.41
264	Applied Geomorphology	John Wiley Ltd	308.95
265	Applying Ecological Principles to Land Mana	Springer-Verlag NY	70.76
266	Applying Landscape Ecology in Biological Co	Springer-Verlag NY	70.76
268	Approaches to Handling Environmental Proble	Kluwer Academic Pub.	76.59
271	Archaeology of Drylands	Routledge	175.75
272	Architecture and Nature	Routledge	55.48
275	Assessing Impact	Earthscan	83.25
276	Assessment and Management of Environmental	Kluwer Academic Pub.	85.75
278	Atlas of Endangered Species	Earthscan	24.03
279	Atlas of Water	Earthscan	24.03
284	Baltic Coastal Ecosystems	Springer-Verlag Berl	128.21
285	Banking on the Environment	The MIT Press	29.51
290	Bioassessment of Freshwater Ecosystems	Kluwer Academic Pub.	93.24
292	Biodiversity	Springer-Verlag Berl	154.01
294	Biodiversity and Ecological Economics	Earthscan	36.98
295	Biodiversity and Traditional Knowledge	Earthscan	73.91
298	Biodiversity in the Balance	Edward Elgar	123.14
304	Biotechnology, Agriculture and the Developi	Edward Elgar	114.81
305	Bringing Society Back in	The MIT Press	33.21
306	Bringing the Biosphere Home	The MIT Press	20.26
309	Business of Global Environmental Govern	The MIT Press	29.51
312	Capacity Building in National Environmental	Springer-Verlag Berl	134.03
313	Capturing Carbon and Conserving Biodiversit	Earthscan	46.16
317	Cartagena Protocol on Biosafety	Earthscan	46.16
318	CBI Environmental Management Handbook	Earthscan	120.25
319	Challenges of a Changing Earth	Springer-Verlag Berl	122.38
320	Changing Atmosphere	Springer-Verlag Berl	128.21
321	Changing by Degrees	Ashgate	99.90
322	Changing Landscapes	Earthscan	46.16
323	Changing Roles in Natural Forest Management	Ashgate	83.25
324	Changing the Atmosphere	The MIT Press	35.06
326	Chaos in Ecology	Academic Press	85.01
328	Chemical Concepts in Pollutant Behavior	John Wiley & Sons	110.91
330	Children and nature	MIT Press	33.21
331	Chiral Environmental Pollutants	Springer-Verlag Berl	178.99
332	Choice Modeling Approach to Environmen	Edward Elgar	103.23
333	Chromatography of Natural, Treated and Wast	Spon Press	283.05
335	Cities and Climate Change	Routledge	148.00
336	Citizens at Risk	Earthscan	138.75
337	Citizenship, Sustainability and Environment	Edward Elgar	79.85
338	Civil Corporation	Earthscan	35.13
339	Clearing the Air	Ashgate	98.24
341	Climate Change and Carbon Markets	Earthscan	138.75
342	Climate Change and Developing Countries	Kluwer Academic Pub.	64.10

Ref :	Title	Publisher	Net Price in USD
343	Climate Change and Power	Earthscan	46.16
344	Climate Change and Sustainable Development	Earthscan	36.98
346	Climate Change and the Mediterranean	Edward Elgar	123.14
352	Climate Policy in a Globalizing World	Springer-Verlag Berl	102.40
353	Climate Variability and Change in High Elev	Kluwer Academic Pub.	121.55
356	Coastal Conservation and Management	Kluwer Academic Pub.	76.59
357	Coastal Monitoring Through Partnerships	Kluwer Academic Pub.	114.89
360	Color of Inland and Coastal Waters	Springer-Verlag Berl	128.21
361	Commercial Use of Biodiversity	Earthscan	92.41
363	Commons in the New Millennium	The MIT Press	33.21
365	A Community Manifesto	Earthscan	31.43
366	Compact Cities	Spon Press	83.25
368	Comparative Environmental Economic Assessme	Edward Elgar	138.20
370	Compatible Forest Management	Kluwer Academic Pub.	192.31
371	Complete Book of Pesticide Management	John Wiley & Sons	135.03
372	Complexity and Ecosystem Management	Edward Elgar	123.14
374	Computers and the Environment	Kluwer Academic Pub.	36.63
376	Conflict Prevention and Resolution in Water	Edward Elgar	324.68
377	Confronting Consumption	The MIT Press	35.06
383	Conserving Biodiversity in Arid Regions	Kluwer Academic Pub.	121.55
388	Contingent Valuation of Natural Parks	Edward Elgar	114.81
389	Controlling Global Warming	Edward Elgar	114.81
391	Corporate Environmental Management	Earthscan	40.61
394	Corporate Social Responsibility in the Extr	Ashgate	99.90
395	Corporate Strategies for Managing Environme	Ashgate	224.78
397	Countryside Planning	Earthscan	46.16
398	Countryside Recreation Site Management	Routledge	51.78
399	Critical Political Ecology	Routledge	44.38
401	Cultural landscapes and land use	Kluwer Academic	86.58
403	Current Problems of Hydrogeology in Urban A	Kluwer Academic Pub.	89.91
404	Dams and Development	Earthscan	66.51
405	Decision Making Under Uncertainty	Springer-Verlag NY	102.40
406	Decision Methods for Forest Resource Manage	Academic Press	77.68
407	Decolonizing Nature	Earthscan	36.98
408	Defense And The Environment	Kluwer Academic Pub.	69.93
409	Deliberative Democracy and the Environment	Routledge	35.13
410	Democracy's Dilemma	The MIT Press	18.41
412	Design for Sustainability	Earthscan	46.16
413	Design Professionals and the Built Envi	Academy Editions	192.40
414	Detecting and Modeling Regional Climate Ch	Springer-Verlag Berl	217.28
416	Developing Principles and Models for Sustai	Kluwer Academic Pub.	185.65
418	Development and Security in South East Asia	Ashgate	83.25
419	Dictionary of Environmental Economics	Earthscan	36.98
420	A Dictionary of Environmental Economics, Sc	Edward Elgar	41.63
422	Dioxins and Health	John Wiley & Sons	187.78
425	Discounting and Environmental Policy	Ashgate	166.50
426	Divided Natures	The MIT Press	29.51
427	Does Environmental Policy Work?	Edward Elgar	99.83
428	Domestic Wastewater Treatment in Developing	Earthscan	55.41
429	Don't Worry (It's Safe to Eat)	Earthscan	35.13
430	Dynamic Landscape	Spon Press	100.73
431	Dynamic Modeling for Marine Conservation	Springer-Verlag NY	89.91
433	Dynamics of Freight Transport Developme	Ashgate	83.25
434	Dynamics of the Eco-efficient Economy	Edward Elgar	88.25

Ref :	Title	Publisher	Net Price in USD
435	Earth Policy Reader	Earthscan	31.43
436	Earth Summit 2002	Earthscan	42.46
437	Earth System	Springer-Verlag Berl	121.55
438	Earth System Analysis for Sustainability	The MIT Press	40.61
439	Earthly Politics	The MIT Press	29.51
440	Earthquake Risk Reduction	John Wiley Ltd	165.58
442	Earth's Biosphere	The MIT Press	23.96
443	Earthscan Reader in Business and Sustai	Earthscan	46.16
444	Earthscan Reader in Environment,Develop	Earthscan	36.98
445	Earthscan Reader in International Trade	Earthscan	42.46
446	Earthscan Reader on World Transport Pol	Earthscan	42.46
448	Eco Design Pilot	SPRINGER-VERLAG GMBH	67.43
450	Ecological and Environmental Economics	Edward Elgar	113.22
453	Ecological Economics of Biodiversity	Edward Elgar	71.52
454	Ecological Engineering and Ecosystem Restor	John Wiley & Sons	117.48
458	Ecological Informatics	Springer-Verlag Berl	114.89
459	Ecological Modeling for Resource Management	Springer-Verlag NY	102.40
463	Ecological Relations	Routledge	129.50
467	Ecology, Civil Society and the Informal Eco	Ashgate	92.41
469	Ecology Genetics and Evolution of Metapopul	Academic Press	68.43
471	Econometrics Informing Natural Resources Ma	Edward Elgar	133.13
472	Economic Analysis of Environmental Poli	Edward Elgar	113.22
473	Economic Change, Governance and Natural Res	Earthscan	29.58
474	Economic Costs and Consequences of Environm	Dartmouth	158.18
475	Economic Dynamics of Environmental Law	The MIT Press	27.66
476	Economic Globalisation	Edward Elgar	116.48
477	Economic Growth and Valuation of the Enviro	Edward Elgar	138.20
478	Economic Instruments of Pollution Control i	Edward Elgar	113.22
479	Economic Theories of International Environm	Edward Elgar	114.81
483	Economic Theory for the Environment	Edward Elgar	131.54
484	Economic Valuation of the Environment a	Edward Elgar	98.16
485	Economic Valuation with Stated Preference T	Edward Elgar	58.28
486	Economic Value of Water Quality	Edward Elgar	98.16
489	Economics and Liability for Environmental P	Dartmouth	158.18
490	Economics and the Environment	John Wiley WIE	46.16
492	Economics as Political Muse	Kluwer Academic Pub.	119.05
493	Economics, Ethics and Environmental Policy	Blackwell Pub.	40.68
494	Economics of Biodiversity Conservation	Dartmouth	158.18
496	Economics of Conserving Wildlife and Na	Edward Elgar	114.81
497	Economics of Environmental Monitoring a	Ashgate	192.31
499	Economics of Forestry	Ashgate	171.50
500	Economics of Household Garbage and Recy	Edward Elgar	98.16
501	Economics of Hydroelectric Power	Edward Elgar	78.26
502	Economics of Industrial Ecology	The MIT Press	53.56
503	Economics of Industrial Water Use	Edward Elgar	213.12
505	Economics of Land Use	Ashgate	191.48
507	Economics of Managing Biotechnologies	Kluwer Academic Pub.	164.00
508	Economics of Nature and the Nature of E	Netlibrary Inc	113.22
509	Economics of Non-convex Ecosystems	Kluwer Academic Pub.	23.31
510	Economics of Residential Solid Waste Ma	Ashgate	183.15
512	Economics of Sustainable Energy in Agricult	Kluwer Academic Pub.	114.89
513	Economics of the Environment	Springer-Verlag Berl	102.40
514	Economics of the Environment and Natura	Blackwell Pub.	48.08
515	Economics of Water Management in Develo	Edward Elgar	113.22

Ref :	Title	Publisher	Net Price in USD
516	Economics of Water Resources	Ashgate	199.80
518	Economy - Energy - Environment Simulation	Kluwer Academic Pub.	173.16
520	Ecoregion-based Design for Sustainability	Springer-Verlag NY	50.78
521	Ecosystem Approaches to Landscape Managemen	Springer-Verlag Berl	243.92
522	Ecosystems, Evolution and Ultraviolet Radia	Springer-Verlag NY	111.56
523	Ecotourism	Routledge	44.38
524	Eco-Economy	Earthscan	31.43
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1214	Solar Economy	Earthscan	35.13
1215	Solid Waste Management and Recycling	Kluwer Academic Pub.	133.20

Ref :	Title	Publisher	Net Price in USD
1219	Spatial Modeling in Forest Ecology and Man	Springer-Verlag Berl	114.89
1220	Spatial Uncertainty in Ecology	Springer-Verlag NY	80.75
1221	Spatially Explicit Landscape Simulation Mod	Springer-Verlag NY	95.74
1223	Stakeholders, the Environment and Society	Edward Elgar	124.88
1224	State Making and Environmental Cooperation	The MIT Press	31.36
1226	State of the World	Earthscan	27.73
1230	Statistical Methods for Detection and Quant	John Wiley & Sons	129.41
1232	Strategic Environmental Assessment	Springer-Verlag Berl	166.50
1233	Strategic Environmental Assessment in Actio	Earthscan	46.16
1234	Strategic Environmental Assessment in Trans	Earthscan	42.46
1237	Submarine Mass Movements and Their Consequences	Kluwer Academic Pub.	154.85
1239	Survival for a Small Planet	Earthscan	42.46
1240	Sustainability and Degradation in Less Deve	Ashgate	84.08
1241	Sustainability and Endogenous Growth	Edward Elgar	98.16
1244	Sustainability Assessment	Earthscan	42.46
1245	Sustainability Curriculum	Earthscan	36.98
1247	Sustainability in Action	Edward Elgar	119.88
1248	Sustainability, Innovation and Participator	Ashgate	100.73
1250	Sustainability of Long-term Growth	Edward Elgar	131.54
1251	Sustainability of Rural Systems	Kluwer Academic Pub.	64.10
1252	Sustainability on Campus	The MIT Press	25.81
1253	Sustainable Banking and Finance	Earthscan	92.50
1255	Sustainable Coastal Management	Kluwer Academic Pub.	76.59
1257	Sustainable Consumption	Edward Elgar	74.93
1258	Sustainable Development	Earthscan	33.28
1259	Sustainable Development and Geographical Sp	Ashgate	99.90
1260	Sustainable Development and Learning	RoutledgeFalmer	36.61
1261	Sustainable Development in Rural China	RoutledgeCurzon	129.50
1268	Sustainable Farm Forestry in the Tropics	Edward Elgar	114.81
1270	Sustainable Forest Management and Global Cl	Edward Elgar	139.86
1271	Sustainable Forestry Handbook	Earthscan	73.91
1273	Sustainable Management of Wetlands	Sage Pub.	73.98
1274	Sustainable Urban Design	Spon Press	48.27
1275	Sustainable Urban Development Reader	Routledge	49.93
1278	Sustaining Agriculture and the Rural Enviro	Edward Elgar	124.88
1279	Sustaining Architecture in the Anti-machine	Academy Editions	48.08
1281	Synthetic Musk Fragrances in the Environmen	Springer-Verlag Berl	198.14
1282	Synthetic Planet	Routledge, Inc	33.28
1283	Systems Analysis in Forest Resources	Kluwer Academic Pub.	161.51
1284	A systems analysis of the Baltic Sea	Springer	178.99
1287	Taking Sustainable Cities Seriously	The MIT Press	31.36
1288	Tapping the Green Market	Earthscan	74.00
1289	Technological Change and the Environmental	Edward Elgar	88.17
1290	Technological Choices for Sustainability	Springer-Verlag Berl	128.21
1291	Technology Transfer for Renewable Energy	Earthscan	42.53
1292	Theory and Practice of Command and Cont	Ashgate	166.50
1293	A Theory of the Environment and Economic Sy	Edward Elgar	114.81
1294	This Sacred Earth	Routledge	51.78
1295	A Thousand Shades of Green	Earthscan	55.48
1296	Threatened Landscapes	Spon Press	70.76
1299	Tools for Drought Mitigation in Mediterrane	Kluwer Academic Pub.	134.03
1300	Tourism and Development in Tropical Islands	Edward Elgar	106.49
1301	Tourism and Economic Development	Ashgate	83.18
1304	Tourism Economics, the Environment and Deve	Edward Elgar	123.21

Ref :	Title	Publisher	Net Price in USD
1305	Towards Sustainable Aviation	Earthscan	40.68
1306	Towards Sustainable Cities	Ashgate	91.58
1307	Towards Sustainable Development in Industry	Edward Elgar	113.22
1311	Trade in Wildlife	Earthscan	40.61
1312	Transactions in International Land Manageme	Ashgate	83.25
1313	Transboundary Risk Management	Earthscan	51.71
1314	Transformation, Land Use and Agricultural D	Ashgate	108.23
1316	Transnational Environmental Policy	Routledge	148.00
1318	Transport and Chemical Transformation in th	Springer-Verlag Berl	140.69
1319	Transport and Environment	Edward Elgar	119.88
1320	Transport and Information Systems	Edward Elgar	258.08
1321	Transport Infrastructure	Edward Elgar	266.40
1322	Transport Logistics	Edward Elgar	274.73
1323	Treatment of Contaminated Soil	Springer-Verlag Berl	192.31
1324	Trouble in Paradise	Routledge, Inc	29.58
1325	Tsunami Research at the End of a Critical D	Kluwer Academic Pub.	119.05
1327	Uncertainty and the Environment	Edward Elgar	114.81
1328	Uncertainty, Climate Change and Internation	Routledge	111.00
1329	Uncovering the Hidden Harvest	Earthscan	55.41
1331	Understanding Active Noise Cancellation	Spon Press	51.78
1332	Understanding Environmental Policy Processe	Earthscan	35.13
1334	Understanding Green Consumer Behaviour	Routledge	46.23
1335	Understanding Our Environment	Sage Pub.	27.73
1336	Understanding Sustainable Architecture	Spon Press	34.95
1337	Understanding the Earth System	Springer-Verlag Berl	166.50
1340	University Architecture	Spon Press	125.71
1341	Unveiling Wealth	Kluwer Academic Pub.	114.89
1342	Uranium in the Aquatic Environment	Springer-Verlag Berl	383.78
1343	Urban Air Pollution and Forests	Springer-Verlag NY	154.01
1346	Urban Avant-Gardes and Social Transformatio	Routledge	44.38
1348	Urban Environmental Governance	Ashgate	91.58
1349	Urban Governance, Institutional Capacity an	Ashgate	91.58
1350	Urban Infrastructure in Transition	Earthscan	36.98
1351	Urban Land	Springer-Verlag Berl	128.21
1352	Urban Planning and Management	Edward Elgar	216.45
1353	Urban Water Management Science Technology a	Kluwer Academic Pub.	76.59
1354	UV Radiation and Arctic Ecosystems	Springer-Verlag Berl	114.89
1355	Valuing Environmental and Natural Resources	Edward Elgar	47.45
1356	Valuing the Environment in Developing Count	Edward Elgar	58.28
1357	Variability of Air Temperature and Atmosphe	Kluwer Academic Pub.	121.55
1360	Vegetation, Water, Humans and the Climate	Springer-Verlag Berl	166.50
1363	Vital Signs	Earthscan	27.66
1367	Voluntary Agreements in Climate Policy	Edward Elgar	108.23
1368	Voluntary Standards in Global Trade, Enviro	Ashgate	91.58
1369	Warming the World	The MIT Press	27.66
1370	Waste in Ecological Economics	Edward Elgar	103.23
1371	Waste Management and Planning	Edward Elgar	243.09
1374	Water Development and Poverty Reduction	Kluwer Academic Pub.	140.69
1375	Water for Agriculture	Spon Press	66.60
1377	Water in the Macro Economy	Ashgate	92.41
1378	Water in the Middle East and in North Africa	Springer-Verlag Berl	114.89
1379	Water Quality	John Wiley & Sons	197.95
1380	Water Resources and Climate Change	Edward Elgar	216.45
1381	Water Resources and Coastal Management	Edward Elgar	224.78

Ref :	Title	Publisher	Net Price in USD
1382	Water Resources and Economic Development	Edward Elgar	213.12
1383	Water Resources Quality	Springer-Verlag Berl	216.45
1384	Water Stress	Ashgate	91.58
1385	Waves and tidal flat ecosystems / E. Baba .	Springer	124.04
1387	Welfare, Inequality and Resource Depletion	Ashgate	92.41
1393	World Directory of Environmental Organizati	Earthscan	138.75
1394	World Energy and Transitions to Sustainable	Kluwer Academic Pub.	121.55
1395	World Energy Resources	Springer-Verlag Berl	280.55
1396	World in Transition	Earthscan	138.75
1397	World Water Actions	Earthscan	46.25
1402	Young People and the Environment	Kluwer Academic Pub.	95.74
1403	Age of Cities and Organizations of the	IIED	19.57
1405	Certification's Impacts on Forests, Stakeho	IIED	27.47
1406	Civil Society in Action	IIED	19.98
1407	Community Power, Participation, Conflict an	IIED	14.99
1408	Community-based Wildlife Management	IIED	5.00
1410	Diversity Not Adversity	IIED	34.13
1413	Ecological Surveys, Monitoring and the Invo	IIED	14.99
1414	Environmental Effects of Tax Differenti	IIED	19.98
1420	Financing for Development - 9122IIED	IIED	5.83
1424	Future is Now, the - 9000IIED	IIED	5.83
1427	Ilo a City in Transformation - 9053IIED	IIED	9.99
1429	In the Hands of the People	IIED	24.98
1430	Integrating Community-based Fisheries Co-ma	IIED	9.99
1431	Integrating Conservation and Development Ex	IIED	13.32
1432	Joint Forest Management	IIED	24.98
1436	Let Us Build Cities for Life	IIED	9.99
1437	Living Off Biodiversity	IIED	49.95
1439	Making Woodland Management More Democratic	IIED	9.16
1441	Measuring the Effects of Environmental Regu	IIED	19.98
1442	National Strategies for Sustainable Develop	IIED	74.93
1444	New Foresters	IIED	24.98
1445	Nutrients on the Move	IIED	20.81
1446	Participation and Sustainability in Social	IIED	19.57
1448	Participatory Approaches to Research and De	IIED	10.82
1449	Partnerships in Conservation	IIED	9.99
1451	Poverty Reduction and Urban Governance - 70	IIED	29.56
1452	Poverty Reduction in Action	IIED	19.57
1454	Public Policies and Participation for Agric	IIED	24.98
1455	Raising the Stakes	IIED	24.98
1456	Resource Tenure and Power Relations in Comm	IIED	9.99
1457	Rethinking Aid to Urban Poverty Reduction	IIED	29.56
1459	Rhetoric or Reality? A Review of Community	IIED	26.64
1460	Rural Livelihoods and Carbon Management - 7	IIED	24.98
1461	Rural Planning in the Developing World with	IIED	66.60
1463	Source Book on Community-based Conservation	IIED	14.99
1466	A Summary of Durban's Local Agenda 21 Progr	IIED	13.32
1468	Sustainable Cities Revisited III - 7060IIED	IIED	29.56
1469	Towards Sustainable Co-management of Mekong	IIED	14.99
1470	Urban Environmental Improvement and Poverty	IIED	20.81
1472	Where Communities Care. Community Based Wil	IIED	24.98
Sub	Planning & Installing Solar Thermal Systems	Earthscan	138.75
Sub	Planning & Installing Photovoltaic Systems	Earthscan	138.75
Sub	Planning & Installing Bioenergy Systems	Earthscan	138.75

Ref :	Title	Publisher	Net Price in USD
Sub	Daylight Designs of Buildings	Earthscan	129.50
Sub	A Green Vitruvius	Earthscan	51.71
Sub	Handbook of Sustainable Building	Earthscan	64.75
Sub	Natural Ventilation in Buildings	Earthscan	111.00
Sub	Passive Cooling in Buildings	Earthscan	111.00
Sub	Photovoltaics in Buildings	Earthscan	111.00
Sub	Solar Air Systems	Earthscan	111.00
Sub	Solar Energy in Building Renovation	Earthscan	46.25
Sub	Stay Cool	Earthscan	55.41
Sub	Designing with Solar Power	Earthscan	92.50
Sub	Geothermal Energy	Earthscan	101.75
Sub	Energy from the Desert	Earthscan	129.50
Sub	Brilliance of Bioenergy	Earthscan	92.50
Sub	Understanding Renewable Energy Systems	Earthscan	157.25
Sub	Financing Urban Shelter	Earthscan	46.16
Sub	Water & Sanitation in the World's Cities	Earthscan	55.41
Sub	Challenge of Slums	Earthscan	51.71
Sub	Limits to Privatization	Earthscan	46.16
Sub	State of the World's Cities 2004/5	Earthscan	36.98
Sub	Documents Internat. Environ. Law	CAMBRIDGE UNIVERSITY	116.55
Sub	International Climate Change Regime	CAMBRIDGE UNIVERSITY	133.20
Sub	Pollution and Property	CAMBRIDGE UNIVERSITY	28.29
Sub	Principle Intl. Environmental Law	CAMBRIDGE UNIVERSITY	183.15
Sub	Agriculture: Potentl. Conseq. Climate	CAMBRIDGE UNIVERSITY	41.61
Sub	Applied Ecology Natural Res. Mgmt	CAMBRIDGE UNIVERSITY	39.94
Sub	Applied Environmental Economics	CAMBRIDGE UNIVERSITY	74.93
Sub	Atmospheric Pollution	CAMBRIDGE UNIVERSITY	49.95
Sub	Background Ecology	CAMBRIDGE UNIVERSITY	49.95
Sub	Biodivers. Sustain. Human Communities	CAMBRIDGE UNIVERSITY	28.29
Sub	Biological Diversity	CAMBRIDGE UNIVERSITY	63.27
Sub	Conservation Biology	CAMBRIDGE UNIVERSITY	49.95
Sub	Conservation of Exploited Species	CAMBRIDGE UNIVERSITY	58.28
Sub	Conserving Bird Biodiversity	CAMBRIDGE UNIVERSITY	133.20
Sub	Conserving Living Natural Resources	CAMBRIDGE UNIVERSITY	41.61
Sub	Controversies Environ. Sociology	CAMBRIDGE UNIVERSITY	38.28
Sub	Corporate Environmentalism	CAMBRIDGE UNIVERSITY	33.28
Sub	Cost Benefit Analysis Environment	CAMBRIDGE UNIVERSITY	33.28
Sub	A Critique for Ecology	CAMBRIDGE UNIVERSITY	49.95
Sub	Ecohydrology	CAMBRIDGE UNIVERSITY	63.27
Sub	Ecological Census Techniques	CAMBRIDGE UNIVERSITY	39.94
Sub	Ecological Experiments	CAMBRIDGE UNIVERSITY	49.95
Sub	Ecology & Control Introduced Plants	CAMBRIDGE UNIVERSITY	49.93
Sub	Ecology, Community & Lifestyle	CAMBRIDGE UNIVERSITY	33.28
Sub	Economic Theory & Global Warming	CAMBRIDGE UNIVERSITY	83.25
Sub	Economic Value of Weather & Climate	CAMBRIDGE UNIVERSITY	91.58
Sub	Empire Forestry Origin Environment	CAMBRIDGE UNIVERSITY	74.93
Sub	Environmental Dilemmas & Design	CAMBRIDGE UNIVERSITY	28.29
Sub	Environmental Politics & Change	CAMBRIDGE UNIVERSITY	33.28
Sub	Environmental Toxicology	CAMBRIDGE UNIVERSITY	58.28
Sub	Evolutionary Conservation Biology	CAMBRIDGE UNIVERSITY	91.58
Sub	Facilitating Sustainable Agric.	CAMBRIDGE UNIVERSITY	91.58
Sub	Global Change & Local Places	CAMBRIDGE UNIVERSITY	99.90
Sub	Global Crises, Global Solutions	CAMBRIDGE UNIVERSITY	33.28
Sub	Global Warming	CAMBRIDGE UNIVERSITY	41.61

Ref :	Title	Publisher	Net Price in USD
Sub	Global Water Resource Issues	CAMBRIDGE UNIVERSITY	39.94
Sub	Green Imperialism	CAMBRIDGE UNIVERSITY	39.94
Sub	Health Policy in Globalising World	CAMBRIDGE UNIVERSITY	31.62
Sub	Human Impact on the Earth	CAMBRIDGE UNIVERSITY	38.28
Sub	Maintaining Biodi. Forest Ecosystems	CAMBRIDGE UNIVERSITY	66.60
Sub	Making of Green Knowledge	CAMBRIDGE UNIVERSITY	26.62
Sub	Navigating Social-Ecological System	CAMBRIDGE UNIVERSITY	124.88
Sub	Negotiating Climate Change	CAMBRIDGE UNIVERSITY	38.28
Sub	People and the Earth	CAMBRIDGE UNIVERSITY	49.95
Sub	Phys Principles Remote Sensing	CAMBRIDGE UNIVERSITY	49.95
Sub	Politics of the Environment	CAMBRIDGE UNIVERSITY	29.95
Sub	Price. Principle Environment	CAMBRIDGE UNIVERSITY	29.95
Sub	Primer Conservation Genetics	CAMBRIDGE UNIVERSITY	33.28
Sub	Pub.lic Particip. Sustainability	CAMBRIDGE UNIVERSITY	29.95
Sub	Risks Dec. Cons. Environ. Management	CAMBRIDGE UNIVERSITY	58.28
Sub	Science of Sustainable Development	CAMBRIDGE UNIVERSITY	43.29
Sub	Science Society & Power	CAMBRIDGE UNIVERSITY	28.29
Sub	Searching for Sustainability	CAMBRIDGE UNIVERSITY	39.94
Sub	Skeptical Environmentalist	CAMBRIDGE UNIVERSITY	31.62
Sub	Soils Land & Food	CAMBRIDGE UNIVERSITY	34.95
Sub	Spatial Data Analysis	CAMBRIDGE UNIVERSITY	133.20
Sub	State of the Nations Ecosystem	CAMBRIDGE UNIVERSITY	33.28
Sub	Sustainability & Policy	CAMBRIDGE UNIVERSITY	33.28
Sub	Sustaining Abundance	CAMBRIDGE UNIVERSITY	26.62
Sub	Timber Production & Biodiversity	CAMBRIDGE UNIVERSITY	33.28
Sub	Underdevelopment	CAMBRIDGE UNIVERSITY	66.60
Sub	Understand Environmental Pollution	CAMBRIDGE UNIVERSITY	49.95
Sub	Water & Power	CAMBRIDGE UNIVERSITY	44.96
Sub	Water for Life	CAMBRIDGE UNIVERSITY	44.96
Sub	Wildlife Population Growth Rates	CAMBRIDGE UNIVERSITY	54.95
Sub	Worlds Largest Wetlands	CAMBRIDGE UNIVERSITY	124.88
Sub	Urban Traffic Pollution	SMI (Distr.)	58.28
Sub	Toxic Cyanobacteria in Water	SMI (Distr.)	58.28
Sub	Frontiers of Nutrition & Food Security	SMI (Distr.)	41.63
Sub	Phosphorus Requirements for Sustain. Agric	SMI (Distr.)	41.63
Sub	Systems Approaches for Agric. Deve.	SMI (Distr.)	58.28
Sub	Sharing Innovation : Global Perspectives	SMI (Distr.)	41.63
Sub	Planning Agricultural Research	SMI (Distr.)	49.12
Sub	Globalization & the Developing Countries	SMI (Distr.)	45.79
Sub	Core Collections of Plant Genetic Res.	SMI (Distr.)	45.79
Sub	Remote Sensing in Water Resources Managemen	SMI (Distr.)	45.79
Sub	Dilemmas of Water Division	SMI (Distr.)	45.79
Sub	Urban Health Critis	SMI (Distr.)	20.81
Sub	Decision Making in Environmental Health	SMI (Distr.)	66.58
Sub	Upgrading Water Treatment Plants	SMI (Distr.)	58.28
Sub	Regional Environmental Management Plan	SMI (Distr.)	39.96
Sub	Transition to a Liberalized Environment	SMI (Distr.)	99.90
Sub	Small Scale Food Processing	SMI (Distr.)	49.88
Sub	Science Ethics & Food	SMI (Distr.)	16.65
Sub	Operation & Maintenance of Rural Water Supp	SMI (Distr.)	83.25
Sub	Evaluating Capacity Development	SMI (Distr.)	24.98
Sub	Supporting Development Action	SMI (Distr.)	16.63
Sub	Managing Plant Genetic Diversity	SMI (Distr.)	124.88

B. List of portable equipment procured for the Iraqi Ministry of Environment

Date of Purchase (Order)	Equipment Details	Ref. No.	Qty Purchased
9/11/2004	Interface meter	004/04	3
	Standard dip-meter		5
	Bailer box (24)		9
9/11/2004	Auger set	008/04	2
	Single Edelman auger		10
	Packing		1
1/11/2004	Troll 9000	005/04	3
	P/h ORP sensor		3
	Conductivity Sensor		3
	Dissolved oxygen sensor		3
	Quick cal kit		3
	Troll Quick Connect cable		3
	Rugged reader		3
	Win Situ software		3
	Hard carry-case		3
26/11/2004	Field test kits		
	Contents are filed		
1/11/2004	PID analyser	009/04	2
	PID analyser		2
	PID analyser		2
1/11/2004	Landfill gas analyser	010/04	2
	GA 2000 Intrinsically safe infra redgas analyser		2
	GA 4.1 Inlet port filter		2
	GA 4.2 Inline water trap		2
16/11/2004	Hard disk		1
	PC		1
	Computer accessories (six each)		1
30/11/2004	Iraq map	003/04	1
	Plan (map) printouts	001/04	30
24/09/2004	Sony DSC-P73		6
22/10/2004	Laptops		6
	Software		6
	Camcorders		5
	GPS		5
19/12/2004	Data show type	011/04	1
20/11/2004	Hard Hat		11
	Safety goggles		11
	Safety shoes		11
	Safety gloves		11
	Coveralls		11

APPENDIX X: List of laboratory equipment on order by UNEP

Major laboratory equipment items

	Item	No.	Analysis/ Parameters	Detection limits for soil
1	ICP OES with ultra sonic nebuliser	1	Metals - Al, As, Be, Cd	Between 0.5 - 5 mg/kg
			Cr, Cu, Ca, Mg, Mn, Fe,	
			Ni, Pb, Se, Si, Zn, Hg,	
			Sn, Na, K, Co	
2	MSD plus liquid injector	1	PAHs	10 ug/kg
			PCBs	10 ug/kg
			Pesticides	10 ug/kg
			Chlorophenols	10 ug/kg
3	MSD plus headspace unit	1	BTEX	1 ug/kg
			Volatile chlorinated	
			Volatile aromatics	
			GRO	
			SVOCs	Between 10 and 1000 ug/kg
4	GC system plus liquid injector and FID	1	TPH (speciated)	1 mg/kg
5	HPLC system, plus detectors (different for different analyses)	1	Amides, nitrites	10 mg/kg
			Explosives	Various
			Phenols	100 ug/kg

Minor laboratory equipment items

	Item	No.	Purpose
1	Infrared spectrophotometer	1	TPH screen
2	Hotplate	2	Acid digestion for metals analysis
3	4 place balance	1	Analytical balance for preparing standards
4	Ultra sonic bath	1	Solvent extraction of soils
5	Small lower temp hotplate and	1	Reducing solvent volume
	evaporating lines plus pump (Mini vap)		
6	Filter papers	1000	Removing suspended solids
7	Potentiometer plus electrodes:	1	Anion analysis
	cyanide, fluoride, nitrite, sulphide, ammonia	10	(two of each)
8	Fume hood plus:	2	Safety of staff
	filters for solvents	2	
	filters for acids	2	
9	Water purification system (basic)	1	Removing ions from tap water
10	Water purification system (high purity)	1	Removing ions from tap water
11	Flame photometer	1	Analysis of Na and K
12	COD apparatus	1	Analysis of COD in waters
13	Cool boxes and ice packs	50	Cooling and storing samples
14	Certified Reference Materials for:		
15	Soil - metals		Validating methods
	Soil - PCBs		Validating methods
	Soil - EPH		Validating methods
	Soil - pesticides		Validating methods
	Soil - PAHs		Validating methods
	Soil - cyanide		Validating methods
	Liquid standards for		
16	- metals	2	Calibrating instruments
	- VOCs		Calibrating instruments
	- PCBs		Calibrating instruments
	- EPH		Calibrating instruments
	- pesticides		Calibrating instruments
	- PAHs		Calibrating instruments
	- cyanide		Calibrating instruments
	Centrifuge - up to 3600 rpm		Separating solids
17	plus accessories		Rotor, buckets etc.
	Gastight syringes for GC and GCMS	10	Measuring small volumes for injection
18	Refrigerators	6	Storing samples and standards
19	40 ml vials for volatile sampling	1000	Sampling waters for VOCs
20	Misc. sampling bottles (1 year)		Sampling
21	Vials for GC and GCMS system		Crimp capped vials
22	Solvents for extraction DCM	50	2.5 l winchesters
23	Solvents for extraction hexane	50	2.5 l winchesters
24	Misc. glassware		Sample prep
25	Misc. chemicals/consumables		Analysis
26	Inverted microscopes	2	Bacteriological work
27	Hydrogen gas generator	1	Instrument carrier gas
	Bottled Carrier Gas - separate sea freight only		
28	Purified compressed air		Instrument carrier gas
29	Nitrogen		Instrument carrier gas
30	Argon		Instrument carrier gas
31	Helium		Instrument carrier gas

APPENDIX XI:
Training received by the Ministry of Environment since 2003

SL #	Topic	When	Where	Provided by
1	Environmental emergencies	March 2004	Amman	UNEP
2	Environmental impact assessment	March-April 2004	Amman	WB
3	Site inspections	May 2004	Geneva	UNEP
4	Environmental laboratory analyses	May 2004	Spiez	UNEP
5	????????????			
6	GPS ERST	June-August 2004	Amman	ERS
7	WHO techniques used in drinking water treatment	February 2004	Amman	WHO
8	WHO solid waste management	February 2004	Amman	WHO
9	WHO biobacteriology pollution of drinking water	May 2004	Amman	WHO
10	WHO biobacteriology pollution of drinking water	May 2004	Amman	WHO
11	WHO environmental impact assessment	June 2004	Amman	WHO
12	WHO environmental impact assessment	May-June 2004	Amman	WHO
13	WHO protection from radiation	July 2004	Amman	WHO
14	WHO protection from radiation	July 2004	Amman	WHO
15	WHO protection from radiation	July 2004	Amman	WHO
16	WHO solid waste management	September 2004	Amman	WHO
17	WHO protection from radiation	October 2004	Amman	WHO
18	Water quality management	December 2004	Osaka	UNEP/IETC
19	Sustainable sanitation	December 2004	Osaka	UNEP/IETC
20	Phytotechnology	December 2004	Cairo	UNEP/IETC
21	Wetlands remote sensing	February 2005	Amman	UNEP/IETC
22	Marshland information system	March 2005	Amman	UNEP/IETC
23	Integrated water resource management	April 20005	Osaka	UNEP/IETC
24	Environment sound technology for drinking water	June 2005	Osaka	UNEP/IETC
25	Community-level initiatives	June 2005	Alexandria	UNEP/IETC
26	Wetland management	June 2005	Cairo	UNEP/IETC
27	Environmental impact assessment	September 2004	Tunis	UNEP/PCoB
28	Environmental site assessment	October 2004	Amman	UNEP/PCoB
29	Field planning and health & safety	November 2004	Amman	UNEP/PCoB
30	Sampling and analyses	December 2004	Geneva	UNEP/PCoB
31	Environmental impact assessment	January 2005	Amman	UNEP/PCoB
32	Environmental law	March 2005	Amman	UNEP/PCoB
33	Depleted uranium	June 2005	Amman	UNEP/PCoB
34	Multilateral environmental agreements	July 2005	Amman	UNEP/PCoB
35	Oil spill management	June 2005	Aqaba	UNEP/PCoB
36	Management of biodiversity	September 2005	Jordan	UNEP/PCoB
37	Depleted uranium fieldwork	August 2005	Geneva	UNEP/PCoB
38	Environmental information management	December 2005	Nairobi	UNEP/PCoB
39	Site risk assessment	September 2005	Amman	UNEP/PCoB
40	Office management	June 2005	Amman	UNEP/PCoB

Further information

Further technical information may be obtained from the UNEP Post-Conflict Assessment Unit website at: http://postconflict.unep.ch/


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