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**Egyptian Environmental Policy Program
Program Support Unit**

**WORK ASSIGNMENT REPORT
Tranche 1, Objective 9**

***Promotion and Adoption of Environmental
Management Systems in 10th of Ramadan
Industrial City***

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December 2000

PSU-20

for
U.S. Agency for International Development–Cairo

by
**Environmental Policy & Institutional Strengthening
Indefinite Quantity Contract (EPIQ)**

A USAID-funded project consortium led by International Resources Group, Ltd.

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**PROMOTION AND ADOPTION OF
ENVIRONMENTAL MANAGEMENT SYSTEMS**

10TH OF RAMADAN INDUSTRIAL CITY

FINAL REPORT AND ACTION PLAN

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PSU-20

December 12, 2000

**For
USAID / Egypt**

By
**Environmental Policy and Institutional strengthening Indefinite Quantity contract
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Preface

The Egyptian Environmental Policy Program (EEPP) is a joint program between the Government of the United States, acting through the U.S. Agency for International Development (USAID), and the Arab Republic of Egypt, acting through the Egyptian Environmental Affairs Agency (EEAA) of the Ministry of State for Environmental Affairs, the Ministry of Petroleum's Organization for Energy Planning (OEP), and the Ministry of Tourism's Tourism Development Authority (TDA). Representatives from these institutions signed a Memorandum of Understanding in 1999, whereby the Government of Egypt would seek to implement a set of environmental policy measures, using technical support and other assistance provided by USAID. EEPP is a multi-year activity to support policy, institutional, and regulatory reforms in the environmental sector, focusing on economic and institutional constraints, cleaner and more efficient energy use, reduced air pollution, improved solid waste management, and natural resources managed for environmental sustainability.

The Environmental Policy and Institutional Strengthening Indefinite Quantity Contract (EPIQ) is a USAID program that supports the development and implementation of environmentally sound strategic planning, and strengthening of environmental policies and institutions in countries where USAID is active. A team managed by the International Resources Group, Ltd. (IRG) implements EPIQ. USAID has engaged the EPIQ team to provide a Program Support Unit (PSU) for EEPP. The PSU has key responsibilities of providing overall coordination of EEPP technical assistance, limited cross-cutting expertise and technical assistance to the three Egyptian agencies, and most of the technical assistance that EEAA may seek when achieving its policy measures.

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Acronyms

AED	Academy for Educational Development
BAT	Best Available Technologies
BOT	Board of Trustees
CBS	Center for Business Support
CDA	City Development Agency
CP	Cleaner Production
EEAA	Egyptian Environmental Affairs Agency
EEPP	Egyptian Environmental Policy Program
EEPP/PSU	Egyptian Environmental Policy Program/Program Support Unit
EMAS	Eco-Management and Audit Scheme (EU)
EMS	Environmental Management System
GoE	Government of Egypt
IA	Investor's Association
IEMS	Integrated Environmental Management System
IRG	International Resources Group
ISO	International Standard Organization
ISO 9000	International Standard for Quality Management System
ISO14000	International Standard for Environmental Management System
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSEA	Ministry of State for Environmental Affairs
NASA	National Aeronautic and Space Administration
RFQ	Request For Qualification
USAID	United States Agency for International Development

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Summary

The Egyptian Environmental Policy Program (EEPP) is a joint program between the Government of the United States and the Government of Egyptian to support policy, regulatory, and institutional reforms that promote environmental quality and protect natural resources. The Program Support Unit of the EEPP (EEPP/PSU) is currently assisting the Egyptian Environmental Affairs Agency (EEAA) and three institutions in the 10th of Ramadan Industrial City – the Board of Trustees (BOT), the Investors' Association, and the City Development Agency (CDA) – to design and initiate implementation of the Integrated Environmental Management System (IEMS) for the 10th of Ramadan Industrial City. The IEMS is an integrated, city-wide system designed to improve environmental quality in the city while maintaining the financial viability of its industries.

One component of the IEMS is promotion of Environmental Management Systems (EMS) among the industries in the 10th of Ramadan. The purpose of this report is to present a simplified approach to promote the development and adoption of EMS and to propose a action plan for implementing the approach.

In preparing this report, the authors reviewed several documents on the IEMS and interviewed key stakeholders including: EEAA, BOT, CDA, 10 company owners, 11 Egyptian EMS Consulting or Certifying Companies, and USAID. From the background research and interviews, the authors arrived at six findings.

Finding 1: Egypt is experiencing a rapid growth in ISO 14001 registered companies. Although there is no central database on the number of companies with ISO 14001 certification, it appears that approximately 60 facilities in Egypt are certified to ISO 14001.

Finding 2: There are many factors motivating companies to seek ISO 14001 certification. The primary motivators are: environmental legislation, employee health and morale, safety assurance and fire protection, product quality, the presence of ISO 9000 certification, pressures from overseas parent companies, improved economic efficiency, and local facility peer pressure.

Finding 3: Small facilities need extra support. Many small facilities desire to adopt and implement some form of EMS, but lack the technical capacity to do so.

Finding 4: Large facilities have some ISO 14001 components. Many of the large facilities in the city have developed a few components of an EMS but need a management framework to tie their existing EMS components together and move towards ISO 14001 certification.

Finding 5: Many potential implementation partners exist. Many private consulting firms are capable of assisting industry in developing and implementing EMS and are willing to be partners in the 10th of Ramadan program.

Finding 6: Many companies desire benchmarking. Business leaders in the city wish to benchmark their environmental progress both internally and externally.

Based on these findings and drawing upon the experience elsewhere of the International Resources Group, Ltd. in assisting companies in developing EMS, this report proposes the development and implementation of the “ISO 14001 Preparatory Program.” The ISO 14001 Preparatory Program presents a streamlined approach to EMS adoption that will stimulate demand among industries for EMS and stimulate growth in the local environmental consulting market to deliver EMS services. Through public awareness, consultant training, workshops, direct technical assistance, and coaching, the program will assist industries in the 10th of Ramadan to develop and implement an EMS and move towards ISO 14001 certification.

The program will be implemented by the EEPP/PSU in partnership with the IEMS Secretariat and Egyptian-based EMS consulting firms (consultant partners). The consultant partners will participate in the program under contract to the EEPP/PSU and will be selected through a competitive process. The program will train the staff of the Secretariat and the consultant partners in the use of the streamlined approach to EMS adoption and give them the opportunity to work with the industries in the 10th of Ramadan to initiate EMS development and adoption.

The intention of EEPP is to make this program as participatory as possible and sensitive to the feedback received from investors in the city as well as environmental service providers. Throughout program implementation the management team, at its regular meetings, will assess the impact of the program and give direction to the EEPP/PSU and the Secretariat on the way forward, with reasonable budgetary implications.

The ISO Preparatory Program consists of five components:

- ISO 14001 awareness campaign,
- ISO 14001 environmental policy workshop,
- ISO 14001 preparatory gap analysis,
- two implementation workshops, and
- implementation support.

The **ISO 14001 Awareness Campaign** will precede implementation of the program to generate interest about ISO 14001 among industries in the 10th of Ramadan. The **ISO 14001 Environmental Policy Workshop** will teach owners and top managers from about 100 facilities the basic principals of ISO 14001 and help each participant prepare an environmental policy statement for his or her company. EEPP/PSU will train the consultant partners on how to help a company develop an environmental policy, and the consultant partners will serve as facilitators during the policy workshop.

After the first workshop, the consultant partners, under the supervision and guidance of the EEPP/PSU, will work with companies to finalize their environmental policies. The companies that finalize their policy statements and show a desire to develop an EMS will receive an **ISO 14001 Preparatory Gap Analysis** administered by the consultant partners. We anticipate that about 60 companies will participate in the gap analysis. The gap analysis compares the system elements required by ISO 14001 against those elements that the facility already has in place. The EEPP/PSU will train the consultant partners in how to conduct the gap analysis.

Those companies that desire to use the gap analysis to begin implementation of an EMS program will be invited to attend **ISO 14001 Implementation Workshops**. Because the implementation issues may vary significantly with the size of a company, the ISO 14001 Preparatory Program will design and present two workshops: one for medium and large firms and the other for small firms. The ISO 14001 Implementation workshops will provide practical guidance on how to implement the needed EMS components identified during the gap analysis.

Implementation Support will take two forms. Large facilities will be expected to continue through the implementation process to achieve ISO 14001 certification using their own resources. The IEMS Secretariat with the support of EEPP/PSU, however, will provide coaching to large industry participants at discrete intervals throughout the facilities' implementation efforts. The program may provide direct technical assistance to small facilities for ISO 14001 implementation. The cost of securing ISO 14001 certification may be prohibitive for small facilities. To address this issue, the ISO 14001 Preparatory Program will investigate the possibility of working with groups of similar small businesses or small businesses located in the same area to develop consolidated EMS programs.

The sustainability of the program will be secured through three mechanisms: 1) creation of market-based relationships between industries and EMS consulting firms, 2) increased capacity of the IEMS Secretariat, and 3) increased demand by industry for EMS. The market-based relationships forged during the program between industrial facilities in the 10th of Ramadan and the consultant partners are expected to perpetuate the expansion of Egypt's EMS consulting business. The Secretariat's involvement in program implementation will provide it with increased capacity to promote development and adoption of EMS in the city. Demand for EMS will be increased as the positive experiences of the companies involved in the program become known in the business community.

In addition, representatives of different industrial cities will be invited to participate in program workshops and receive program materials. This will be done to encourage replication of the ISO Preparatory Program in other industrial cities.

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1. Introduction

1.1 Background

As part of a United States government bilateral assistance program, the U.S. Agency for International Development (USAID) is supporting environmental development in Egypt. Since 1992, USAID's environmental portfolio has included energy efficiency and conservation, industrial pollution prevention, water and wastewater services, improvement of Cairo air quality, environmentally sustainable tourism, and environmental policy reforms.

The Egyptian Environmental Policy Program (EEPP) is a four-year program to support policy, regulatory, and institutional reforms that promote environmental quality and protect natural resources. The program is focused on accomplishing 15 policy objectives. This report and action plan have been prepared to support policy objective #9: "The Minister of State for Environmental Affairs (MSEA) and the Egyptian Environmental Affairs Agency (EEAA), in cooperation with industrial stakeholders and relevant Government of Egypt (GOE) entities, will develop pollution reduction strategies which will generate higher rates of compliance." During the first 18 months of EEPP, activities under this objective are focused on assisting EEAA, in association with the Investors' Association and relevant stakeholders, to design and initiate implementation of the Integrated Environmental Management System (IEMS) for the 10th of Ramadan Industrial City.

The IEMS is an integrated, city-wide system designed to improve environmental quality in the 10th of Ramadan Industrial City while maintaining the financial viability of its industries. The system, through financial and technical assistance, supports and improves environmental performance of industry.

The institutional structure for the IEMS is still under development, however, as currently conceived, the existing Environmental Committee of the Board of Trustees will manage the system. The Environmental Committee will be restructured to include representatives from four agencies: the Board of Trustees (BOT), the City Development Agency (CDA), the Investors Association (IA), and EEAA. The IEMS will also have a local environmental fund, which will provide limited funding for operation of the system, environmental management at individual industrial facilities, and city-wide environmental programs.

The activities of the IEMS will be implemented through the IEMS Secretariat housed in the BOT and staffed by personnel from the four agencies represented on the committee. The Secretariat will be established to provide administrative support to the Committee and the fund, promote and support the development of facility-based environmental management systems, and maintain a central database of all industries to regularly monitor environmental performance. The EMS program described in this report will be implemented by the Secretariat with support of the Program Support Unit (PSU) of the EEPP.

1.2 Purpose

The purpose of this report is to present a simplified approach to promote the development and adoption of the Environmental Management Systems (EMS) by industries in the 10th of Ramadan Industrial City and a action plan for implementing the approach.

1.3 Methodology

The program approach described in this report has been developed and based on the a review of the 10th of Ramadan Integrated Environmental Management system documentation including the:

- Memorandum of Agreement for implementation of the IEMS signed on August 18, 1998;
- Draft Industrial Guidelines for the IEMS, produced in December 1997; and
- IEMS Assessment, conducted in September 1999.

The approach was tailored for the city based upon interviews with key stakeholders including:

- EEAA;
- USAID;
- 10 company owners (individual, on-site interviews);
- City Development Authority;
- Board of Trustees;
- 11 Egyptian EMS Consulting or Certifying Companies; and
- Participants of the Roundtable meeting held in partnership with the 10th of Ramadan Industrial City's Board of Trustees. (Appendix B lists all of the individuals interviewed during the mission, Appendix C is a the list of participants at the Roundtable)
- Association of Education Development (AED)

The surveyed organizations were chosen to represent a range of industry sizes, and sectors in the 10th of Ramadan City. In the case of consulting firms, the surveyed firms were chosen to represent environmental management expertise. Appendices D and E provide a profile of the city's existing and planned industrial facilities.

In addition, the proposed program design draws upon the experience elsewhere of the contractor, International Resources Group, Ltd. (IRG) in assisting companies in developing an EMS. IRG has managed environmental services worldwide on more than 530 work assignments in over 100 countries. Current IRG clients requesting EMS and ISO 14001 readiness include major automobile makers, pharmaceutical companies, the US Postal Service and the National Aeronautic and Space Administration (NASA).

2. Findings

Based on the personal interviews at 10 industrial facilities located in the 10th of Ramadan, as well as a review of the current literature and interviews with experts and consultants working in the field of environmental management, and the EEAA and USAID, the following section outlines the major findings and provides an up-to-date snap-shot of the EMS trends developing in the 10th of Ramadan.

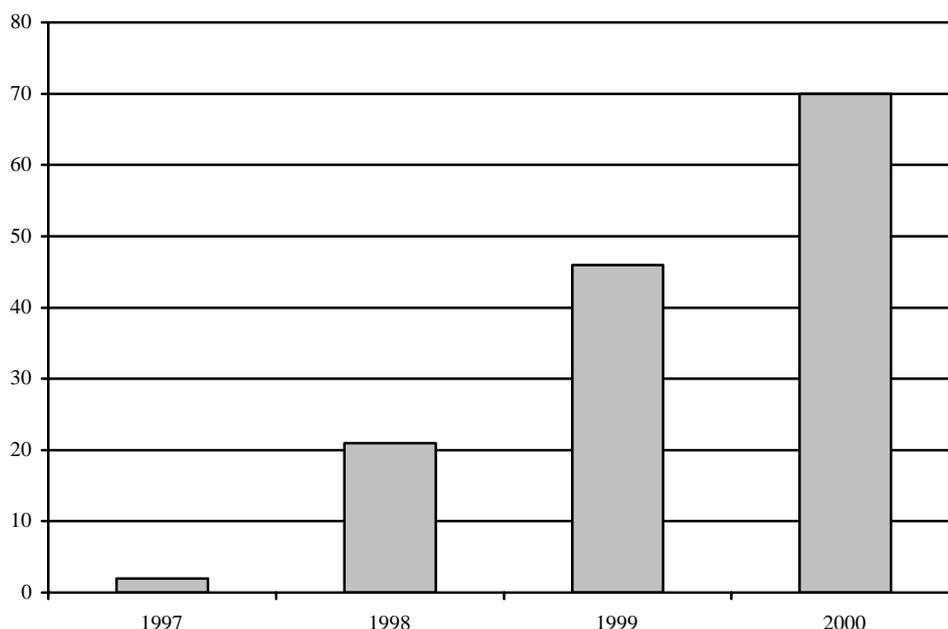
2.1 Finding 1: ISO 14001 Certification is Growing Rapidly in Egypt

Egypt is experiencing a rapid growth in ISO 14001 registered companies. Although there are countless methods to organize and implement an EMS, such systems in Egypt have largely meant ISO 14001 certified systems. From this perspective, it can be seen that the implementation of the EMSs in companies is developing dynamically in Egypt.

Facility owners and top managers are beginning to move toward the multidisciplinary thinking that business and environment have a complex and important relationship. The debate in the past about business and the environment has been framed in simplistic yes-or-no terms: “Does it pay to be green?” Business people in the 10th of Ramadan are skeptical that the answer to this is always “yes,” since they instinctively reject the all-or-nothing thinking in other business contexts: “Does it pay to hire more staff?” “Should I substitute cheaper raw materials for the more expensive high-quality materials?” “Should I increase the debt-to-equity return?” The answer is “It depends.” So it is with environmental management questions in the 10th of Ramadan. That is why facility managers are beginning to look at environmental problems as business issues. They want to make environmental investments for the same reasons they make other investments: because they expect them to deliver positive returns or to reduce risks.

In the past three years, the number of companies with an EMS certification under ISO 14001 has expanded greatly. Although there is no central database on the number of companies with ISO 14001 certification, conversations with certifying companies indicate that there are approximately 60 facilities in Egypt certified to ISO 14001, and that number is likely to grow to 70 by the end of the year. The dynamics of this process are presented in Figure 1.

Table 1 lists the facilities in the 10th of Ramadan that have already received ISO 14001 certification. These facilities can be seen as the “early-adopters” of the international standard.

Figure 1: Number of ISO 14001 Certifications, Egypt: 1997- 2000.

Sources: Author's research, ISO World, website address: <http://www.ecology.or.jp/isoworld/english/analy14k.htm>

Table 1. Companies with ISO 14001 Certificates in 10th of Ramadan (August 2000)

Company	Type of Industry	Certifying Body
Arab Contractors	Metal Formation	SGS
ARB	Pharmaceutical	TUV
B.T.M, Bishara group	Textile	GLC
Ceramica Cleopatra	Ceramics	GLC
Epico	Pharmaceutical	
Ezz Steel Mills	Steel Manufacturing	GLC
Farm Frites	Food Processing	TUV
Hasin	Textile	TUV
Hesni	Dying House	TUV
Medical Packing	Medical Packing	BSI
Multi M group	Multiple industries	BSI
Oriental Weavers	Carpets	SGS
Santamoura	Blankets	TUV

Source: Author's research and SGS – 50 Mosadak Street, El Giza – Eng. Magd El Hendi, Tel 202 – 3378967, and TUV Bayers – Egypt Branch, 4 Ben Kathier Street, Dokki, - Eng. Hossam El Garhy, Tel: 202 – 3368049 and Mr. Loius Bishara owner of BTM Facility and Head of 10th of Ramadan City Environmental Committee

The owners of these facilities would like to see increased numbers of ISO 14001 certified facilities in their city over the next two years. One owner, a local environmental champion, stated that he would like to see 100 facilities per year certified to the standard.¹ Reasons for desiring a critical mass of certified ISO 14001 facilities in the 10th of Ramadan are discussed in *Finding 2* below.

The same growth trend can be seen in the global market: since September 1996, ISO 14001 has seen exponential growth. As of May 2000, certificates worldwide totaled around 17,000.² This represents a 76% growth since April 1999, and estimates suggest that more than 20 times the number of currently known certificates is in the pipeline. Like the quality management standard, ISO 9000, the ISO 14001 standard looks set to become the accepted norm.

2.2 Finding 2: Many Issues are Motivating ISO 14001 Implementation

The issues that are motivating facilities to implement an EMS and think more systematically about the environment and its role in business decision-making include in the order of perceived significance:

- environmental legislation – Environmentally Friendly New Industrial Cities,
- employee health and morale,
- safety assurance and fire protection,
- product quality and the presence of ISO 9000 quality management certified systems,
- international corporate pressures from overseas parent companies,
- improved economic efficiency, and
- local facility peer pressure.

The level of government regulation has increased over the last five years with implementation of Law 4/1994, which regulates air, water, and solid waste. In addition to the general increase in regulation, the 10th of Ramadan City is included in the Environmentally Friendly New Industrial Cities Program (EFNIC). This program has focused attention on the 10th of Ramadan City and caused many facilities to upgrade their processes to meet environmental regulations.

Although facility employees are paid to minimize inefficiencies and costs, top managers are considering the impact that the new regulatory mechanism has had on their facilities. They can identify examples where the stricter regulatory requirements or changes in the tax code have forced their facility to uncover new and “free” opportunities to improve environmental performance in which the direct benefits to the facility exceed the costs. The environmental champions of the city would like to stay ahead of the class and prepare themselves voluntarily for what is seen to be a growing level of government environmental regulation. An EMS is seen as a management tool to cost-effectively prepare for the regulatory changes ahead.

Top management sees that effective management of environmental risk can itself be a source of competitive advantage. For many facility businesspeople, environmental

¹ Board of Trustees Roundtable meeting, 10th of Ramadan, September 6, 2000.

² *Greener Management International* (GMI), Issue 28, gleaf.info@easynet.co.uk, August 23, 2000

management means risk management. Their primary objective is to avoid the costs associated with an industrial accident, fires, a consumer boycott of a perceived risk (e.g., lead-based paint on toys, home interior paint containing carcinogenic volatile organic compounds, etc.), employee absenteeism or low-productivity due to on-the-job hazards.

Several facilities have found that environmental risk can be managed more effectively both by applying more rigorous quantitative analysis and by increasing the emphasis on employee training. It is not enough, for example, for a facility to install high-tech fire prevention equipment without including the necessary training and fire prevention management. Even if a fire erupts and the technology works to stop the fire, the damage will be devastating to the facility if the employees do not know where to go, what to do, or how to manage the crisis. Top management believes that it is a serious mistake to rely too heavily on command-and-control mechanisms. Owners and top managers are considering policies that tie a manager's performance with respect to environmental matters to that manager's incentive compensation. Owners and top managers expressed that their top managers need to communicate clearly and systematically to their employees about the benefits of safety and health and to articulate why the level and type of safety investments they have chosen are appropriate.

Business leaders that are already implementing an EMS or a quality management system like ISO 9000 believe that EMS implementation will directly result in better management of the environment and natural resources; however, they need guidance on identifying performance indicators that are tailored to their industrial sector and can be integrated into business management decisions. They are looking for additional motivating forces that encourage other facilities to integrate environmental management know-how into their traditional business decisions. They are looking for resources and evidence to help prove to their neighbors what they already know to be true: a systematic look at environmental management opportunities is worth the time.

Pressure from corporate headquarters is also seen as a large motivating factor in implementing environmental management systems in the city. Parent companies are most commonly located in Europe where the environmental regulations, consumer demands and overall environmental awareness run at a much more developed level. These business trends naturally impact the subsidiaries. 10th of Ramadan facilities whose overseas parent companies are pressuring them to improve both quality and environmental performance are reacting to the parent demand and have expressed a pride in their improved over-all business management.

Business leaders and managers in the 10th of Ramadan are beginning to think that environmental problems are best analyzed as business problems. Whether facilities are attempting to differentiate their products, tie their competitors' hands, reduce internal costs, manage risk, or even reinvent or modernize their facility with new technologies, the basic tasks laid out before them do not change when the word "environmental" is included in their business decisions. A systematic EMS approach to reconciling shareholder value with environmental management focuses not on competitors or regulations but on internal cost reductions. Some facilities' actions include reducing their solid-waste generation and cutting their water and energy use. These facilities are able to cut costs and improve environmental performance simultaneously.

Export pressures and social responsibility do not provide the same motivational force behind them for implementing an EMS as the other issues mentioned above. Only the very

largest facilities are concerned with export pressures and are more than likely focused more on product quality and traditional product marketing than in investing in products and services that will help them gain access merely due to their environmentally-friendly standing (although, this is seen as a potentially significant issue for the future).

Although seen as an important part of the greater good and investment in the health of the planet in the future, corporate social responsibility is not perceived to be a large motivating factor for building environmentally sound business strategies. Facility owners do not see themselves as being in the business of solving the world's problems. They have shareholders who want to see a return on their investments. However, the city's environmental champions are making a strong and vocal case that managers throughout the 10th of Ramadan in both small and large facilities need to bring the environment back into the fold of business problems and determine when it really pays to be green.

2.3 Finding 3: Small Facilities Need Extra Support

Small facilities in the 10th of Ramadan Industrial City desire to develop and implement EMS but lack of capacity and funds to do so. As in many other countries, small facilities (i.e., less than 50 employees) have largely not been involved in the implementation of EMS. This is due not to lack of interest, but to limited resources, including knowledge, technical skills, and the funds necessary to hire consultants to augment their limited knowledge and skills.

From the interviews with facility representatives, consultants and other experts, it was clear that there was a certain level of skepticism and unwillingness in small facilities to undertake what is seen as an expensive process with little economic benefit to be gained from the investment. Many interviewees felt that this would not change unless external funding was made available to these facilities to undertake the effort. Short of this, it was felt that it would be difficult to convince the small facilities otherwise.

2.4 Finding 4: Large Facilities Have Some ISO 14001 Components

A majority of the large facilities in the city has developed a few components of an EMS (e.g., Management Commitment to Environmental improvement, investment in "end-of-pipe" waste treatment equipment, monitoring for regulated pollution discharges, etc.). The facility owners and top managers desire a comprehensive management framework tailored to their facility to tie the disparate components together. Facilities in the 10th of Ramadan are already developing the EMS components (Appendices E and F provide a list of some facilities that monitor environmental aspects), but they need a management framework to use as a roadmap to make strategic business decisions and maintain long-term monitoring and management programs.

The 10th of Ramadan facility decision-makers need guidance on developing comprehensive management systems to tie their existing EMS components together and ensure the long-term sustainability of their system as a business management decision tool. For example, facilities that have implemented a Quality Management System like ISO 9000 have improved their productivity and product quality because of improved "good housekeeping" and disciplined production practices. These firms wish to incorporate their

improved quality management practices into a holistic EMS to realize greater operational efficiencies.

The owners and top managers are looking for a customized implementation strategy that is continuous, operates across functions and helps reduce costs and improves productivity. They would like to provide a “just-in-time” schedule (work sessions covering only the milestones in the current phase) to their employees in order to ensure that their staff has sufficient knowledge, understanding, and materials to lead their individual and team implementation efforts in completing the systematic environmental management approach to doing good business.

2.5 Finding 5: Many Potential Implementation Partners Exist

Many private organizations have capabilities to assist in developing and implementing the EMS and are willing to be partners in the 10th of Ramadan IEMS Program. The local EMS consultancy market is developing in Egypt. There is a selection of EMS consulting services including local, national and international companies and non-profit organizations, operating in 10th of Ramadan. Egyptian EMS consultancy firms interviewed are actively searching for opportunities to partner in the 10th of Ramadan on EMS-related training projects. Like the owners of the industrial facilities, the owners and principals of the consultancy firms are searching for entrepreneurial scenarios that will give them access to larger markets and profit margins, long-term contracts, satisfied clients and an ability to win contracts throughout Egypt. Building strategic partnerships and alliances are seen by the firms as wise business strategies: partnerships allow firms to leverage existing local resources to improve their market position at low- or no-cost.

In order to improve and secure their market position in Egypt, local EMS consulting firms are searching for a critical resource – EMS training materials. Most EMS materials available in the Egyptian market are copies from various international EMS training programs and vary widely in content, scope and quality. Firms require materials with specific Egyptian examples of practical EMS implementation as well as practical examples of the causality of environmental degradation to business, health and local environmental quality.

In light of their need for training materials, the natural partner for the local firms are educational institutions like the 10th of Ramadan High Technology Institute. This institute has invested in developing its staff, curriculum, and infrastructure in order to provide more reliable quality environmental management and monitoring services. In addition, the High Technology Institute’s school of management is in the process of developing curriculum to address environmental economics, management and business. The school of management intends to forge a stronger partnership with the school of environmental engineering. This natural partnership is an indicator that environmental issues are becoming an important component of business in the 10th of Ramadan. The institute and the consulting firms both expressed an openness to work together to provide the facilities in the 10th of Ramadan expanded pollution monitoring services, more reliable and frequent environmental performance data along with the environmental management curriculum and training services needed to educate facility owners and top managers.

The cooperation of local facilities with other local organizations would have a great impact on the promotion and stakeholder buy-in of EMS implementation at the 10th of Ramadan. Local firms and educational institutes are positioned to empower the facilities to

voluntarily incorporate the environment into their bottom line. Strategic partnership initiatives will support further development of regulatory reform, environmental stewardship and compliance. These initiatives have the potential public benefit of introducing environmental stewardship principles, over time, to the citizens that work and live in the city. The results of these cooperative relationships can be replicated in cities throughout Egypt. These city-wide and multi-disciplinary partnerships are seen as a necessary ingredient to maintain the momentum to keep the EMS initiatives running smoothly and effectively in the 10th of Ramadan.

Facilities themselves can leverage knowledge and resources from each other. The most important factor seen by those interviewed in maintaining the EMS momentum after a facility commits itself to implementation is top managements' continued interest and commitment to the initiatives success. While it is true that employees in the facilities implementing an EMS will continue to be a driving force behind the EMS as most of them will respond sympathetically and often enthusiastically to environmental care, ultimately, if top management lose interest, the EMS initiative will begin to falter. Facility Management must, therefore, arrange long-range strategic alliances with each other to make their EMS initiatives sustainable realities.

2.6 Finding 6: Many Companies Desire Benchmarking

To respond to facility needs for environmental management, the 10th of Ramadan facility owners and top managers want to maximize business value through environmental benchmarking and compliance management. Business leaders in the city wish to benchmark their progress both internally and externally. Benchmarking environmental progress *internally* is seen as a modern business technique to better understand where the facility was at one point in the time horizon (the baseline) and where it needs to go in the future. The internal data and reports generated during a performance review are seen as a powerful tool for illustrating to government officials, parent companies, and potential markets that the facility is making significant strides toward improving its environmental responsibility which may lead to improved business valuation and higher profit margins. The facility owners and top managers would like to use this information to maintain employee interest and momentum in EMS implementation. For example, facilities would post displays that keep track of the facility's progress in meeting its environmental objectives and targets. This visual technique will be a constant reminder and challenge to the facility to beat the set targets. Many individuals will take up the challenge and become personally motivated to surpass the goals.

Facilities expressed a desire to compare and benchmark themselves against each other (i.e., *external* benchmarking). They would use the database hosted by the Secretariat to store their progress and share good ideas and information as long as the information will provide them a business gain. Environmental engineering techniques and good housekeeping practices that reduce costs and risks and improve efficiencies are two examples of skills and information that the facilities would be willing to benchmark externally. Facilities would then create workgroups, share lessons learned, and promote their successes to vendors, suppliers, and parent companies.

Examples given of the best venues to communicate and benchmark with each other include password-protected website chats, newsletters and seminars. Brochures and mailings of fragmented pieces of information were not seen as reliable or valuable.

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3. Proposed Program Components

This section of the report presents the components of a program to promote adoption of environmental management systems. The program is called the “ISO 14001 Preparatory Program.” It is designed to promote adoption by industries in the 10th of Ramadan of a voluntary environmental management tool based on the international, consensus-based standard -- ISO 14001. The program is based upon IRG’s “ISO Lite” approach, but modified to reflect the findings of this mission regarding the institutional capacity of the industries in the 10th of Ramadan City in terms of existing knowledge, human resources, industrial and facility demand and potential prospects for the future.

ISO 14001 establishes an environmental management framework within a firm that relies on process management and the continual improvement of processes to imbed an environmental ethic into corporate culture over time and to ensure that environmental objectives are met. Traditionally, the first response of industry to environmental concerns is not to protect the environment but rather to comply with the law. This response neither leads to optimum environmental protection nor realization of potential operational efficiencies. ISO 14001 requires a firm to change its focus from mere compliance with law to making environmental protection an integral component of business management. To do that, the firm must change focus, get employees involved, build the infrastructure to support them, and make them aware, competent, and responsible for managing processes to meet environmental objectives. Such changes cannot be done overnight. ISO 14001 is a long-term process that relies on continual improvement as the operative engine that transforms the enterprise.

The ISO 14001 Preparatory Program will prepare industrial facilities in the 10th of Ramadan to embark on the road to long-term environmental improvement. The program presents a streamlined approach to EMS adoption that will stimulate demand among industries for EMS and stimulate growth in the local environmental consulting market to deliver EMS services. Through public awareness, consultant training, workshops, direct technical assistance, and coaching, the program will assist industries in the 10th of Ramadan to develop and implement the EMS and move towards ISO 14001 certification.

The program will be implemented in partnership with the IEMS Secretariat and Egyptian-based EMS consulting firms. The participating firms will be selected through a competitive process. The program will train the staff of the Secretariat and the participating firms in the use of the streamlined approach to EMS adoption and give them the opportunity to work with the industries in the 10th of Ramadan to initiate EMS development and adoption.

The sustainability of the program will be secured through three mechanisms: 1) creation of market-based relationships between industries and consulting firms, 2) increased capacity of the IEMS Secretariat, and 3) increased demand by industry for EMS. The market-based relationships forged during the program between industrial facilities in the 10th of Ramadan and the participating Egyptian-based EMS consulting firms (consultant partners) are expected to perpetuate the expansion of Egypt’s environmental consulting business in both large and small facilities in the 10th of Ramadan as well as in other cities. The

Secretariat's involvement in program implementation will provide it with increased capacity to promote development and adoption of EMS in the city and to provide information and support to firms on EMS development and implementation. It is expected that, as a result of the program, facility owners and their employees will see environmental protection and natural resources conservation as profitable management practices to incorporate into their day-to-day business activities and transactions. As their positive experiences become known in the business community, it is anticipated that the demand for EMS by other firms will increase.

In addition, representatives of different industrial cities will be invited to participate in program workshops and receive program materials. This will be done to encourage replication of the ISO Preparatory Program in other industrial cities.

The components and activities described in this section of the report comprise the proposed ISO Preparatory Program for the 10th of Ramadan Industrial City. The intention of EEPP is to make this program as participatory as possible and sensitive to the feedback received from investors in the city as well as environmental service providers. Throughout program implementation the management team (see section 3.2.1), at its regular management meetings, will assess the impact of the program and give direction to the EEPP/PSU and the Secretariat on the way forward, with reasonable budgetary implications. Perhaps some good points in time to do this kind of reassessment would be after the Environmental Policy Workshop and before the Implementation Support.

Figure 2 illustrates the program overview with chronological milestones including workshops, training, and the preparatory ISO 14001 gap analysis. The line drawn vertically down the graphic after "Implementation Training" indicates the point at which the facilities themselves take on more responsibility to implement their EMS. The line is similar to the point in a relay race where one runner "passes the baton" off to the next runner to take it across the finish line. This program component is critical for the sustained buy-in from the facility owner and top managers.

The ISO 14001 Preparatory Program consists of nine tasks to be implemented from November 2000 through August 2001. The nine tasks are shown in Table 2, and elaborated in the following sections of this report.

3.1 Task 1: Develop Final Action plan

This Task began with the mission to prepare this report and will culminate by the end of November 2000. Section four of this report presents the action plan proposal.

The final action plan is to be approved by the 10th of Ramadan City Environment Committee, EEAA and USAID. It will serve as a guide for the IEMS to implement the ISO 14001 Preparatory Program through workshops, direct Technical Assistance, and coaching with a cost-share structure to gain buy-in and sustainability.

Responsibility: EEPP/PSU

Expected Results: Final Action plan

Figure 2: ISO 14001 Preparatory Program

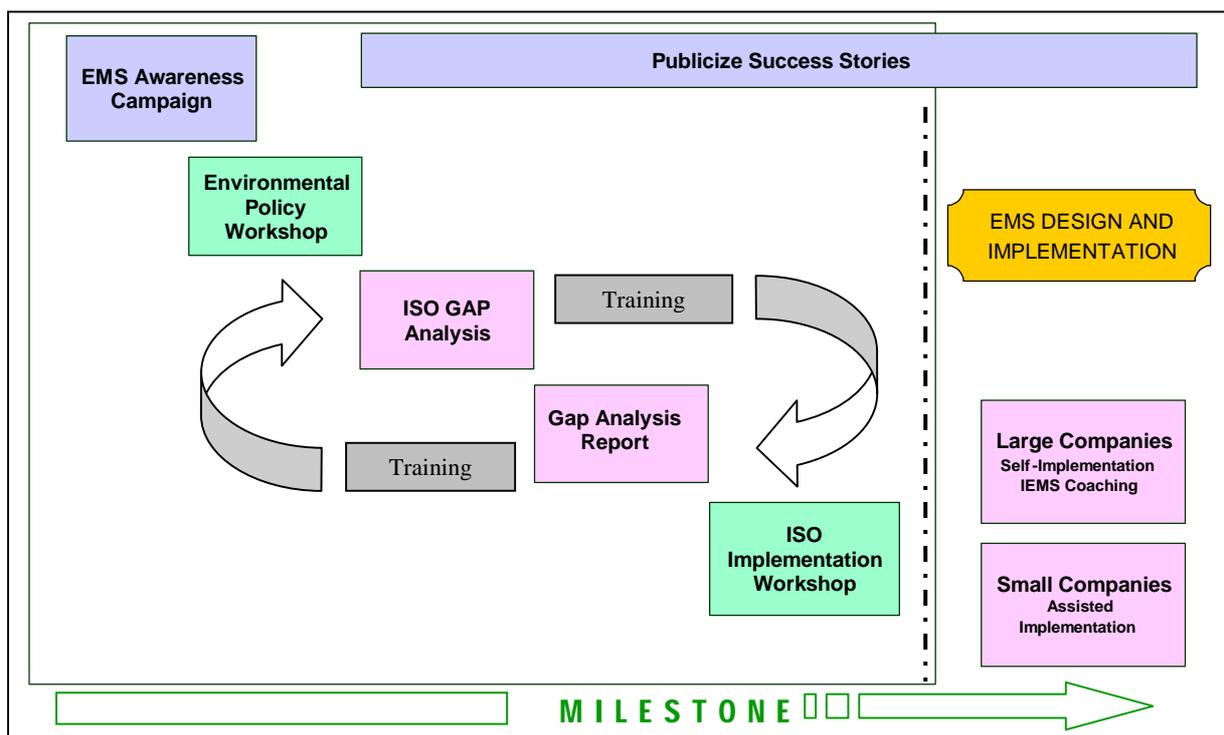


Table 2: ISO 14001 Preparatory Program Activity Tasks

Task Number	Task Description
1.	Develop Final Action plan
2.	Design Program Management System
3.	Assist the IEMS in Creating an EMS Communication Program
4.	Identify and Select Egyptian-Based EMS Consultant Partners
5.	Design and Conduct an ISO 14001 Environmental Policy Workshop
6.	Design and Conduct On-site Gap Analysis
7.	Design and Conduct ISO 14001 Implementation Workshops
8.	Provide ISO 14001 Implementation Support
9.	Conduct Program Evaluation

3.2 Task 2: Design Program Management System

The cornerstone of the management approach for the program is to effectively communicate with EEAA, the IEMS Secretariat, the 10th of Ramadan Environment Committee, and USAID and to deliver the program activities in a smooth and uncomplicated

manner. As such, we are using a Management Team approach, which ensures that all involved organizations participate in the management of the project.

Responsibility: EEPP/PSU, Secretariat

Expected Results:

- efficient resource planning;
- periodic planning and progress meetings;
- file maintenance and deliverables tracking;
- ability to monitor facility movement towards ISO 14001 certification;
- appropriate management oversight; and
- thorough quality reviews of all deliverables to ensure accuracy and consistency with general USAID program and specific project objectives.

3.2.1 Implement Management Team Approach

The EEPP/PSU will work with the 10th of Ramadan Environmental Committee, EEAA, and USAID to develop an organizational structure for the program within the existing structure of the EEPP to insure appropriate participation by all decision-makers (EEAA, the IEMS Secretariat, the 10th of Ramadan Environment Committee, and USAID). During design of the organizational structure, the EEPP/PSU will work with the stakeholders to identify opportunities for other 10th of Ramadan entities, such as the Higher Institute for Technology, to participate in and gain experience from the implementation of the program.

Initially, EEAA and USAID will meet bi-weekly with the EEPP/PSU to review and direct implementation. As the Secretariat and the Environmental Committee become operational, these meetings will be expanded and adjusted to include them.

3.2.2 Develop the Program Management Tracking System

The EEPP/PSU will develop a program management tracking system in Microsoft Project to allow the EEPP/PSU, the Secretariat, EEAA, and USAID to track program progress.

3.2.3 Design the 10th of Ramadan Industrial Database

The ISO 14001 Preparatory Program is designed to be as inclusive as possible; therefore, the total number of operating facilities (estimated at approximately 700) working in the 10th of Ramadan will be entered into a database. The database will be designed to include the EMS program fields such as, *ISO 14001 certification, ISO 9000 certification, Environmental Management Policy, Pollution Discharge Monitoring*, etc., as well as indicators tailored specifically for the facilities in the 10th of Ramadan. The database will be designed by the EEPP/PSU in cooperation with the Secretariat and EEAA using the IRG-proprietary Microsoft-based software, BenchMetrix™. The design will take into consideration the existing database for the city developed by the Environmentally Friendly New Industrial Cities program. The EEPP/PSU will train the IEMS Secretariat's staff to use the database software so that it can manage and update the database.

3.2.4 Develop a 10th of Ramadan Facilities Mailing List

The EEPP/PSU will work with the Investors Association, City Development Authority, the Environmentally Friendly New Industrial Cities program, and the IEMS

Secretariat to ensure the development of a complete mailing list for the facilities in the 10th of Ramadan. The mailing list will be maintained by the IEMS Secretariat as a part of the database and used for various IEMS activities including promotion of the ISO 14001 Preparatory Program.

3.3 Task 3. Assist the IEMS in Creating an EMS Communication Program

Some owners and top managers of the 10th of Ramadan City are familiar with the EMS, but many are not familiar with it. The purpose of this task is to identify EMS awareness needs and develop a communications program to reach potential program participants and keep participants informed throughout program implementation.

Responsibility: EEPP/PSU, Secretariat

Expected Results:

- program design to best suit current conditions;
- awareness and interest by industries in developing EMS;
- greater participation in the program by industries; and
- mechanisms to maintain communications with industries throughout program implementation.

3.3.1 Design and Conduct an EMS Awareness Survey

Choosing the best communication methods for the 10th of Ramadan industries is very critical. EEPP/PSU will conduct a survey to identify the most suitable communication methods in addition to measuring the current awareness of Environment Management Systems by industry owners and top managers. This activity will be conducted by EEPP/PSU with technical assistance from the Academy for Educational Development (AED). This survey will cover 10-15% of the industrial facilities in the 10th of Ramadan (about 120 industries). The surveyed industries will be randomly selected from a stratified sample of all industrial sectors in the city.

EEPP/PSU will use a survey team of six professionals to conduct the survey. Prior to the survey the selected team will attend a one-day training session conducted by an AED expert to explain the goals and objectives of this survey and train the surveyors how to administer the questionnaire. After receiving all of the completed questionnaires, the AED expert will prepare a report identifying the best EMS communication methods to use with the 10th of Ramadan industries, their level of EMS awareness, and their willingness to participate in the ISO 14000 Preparatory Program.

Responsibility: EEPP/PSU, AED

Expected Results: identify most effective methods for EMS communication and level of EMS awareness among 10th of Ramadan industries.

3.3.2 Create and Implement an ISO 14001 Awareness Campaign

To inform industry owners and top managers about the benefits of EMS and to generate interest in participating in the ISO 14001 Preparatory Program, the EEPP/PSU will conduct an awareness campaign. The results of the survey will be used to help design the

campaign. The EEPP/PSU will work with an Egyptian professional Public Relations firm to develop an awareness campaign to ensure that the campaign message conforms to IEMS requirements, and melds with local Egyptian cultural dimensions. Activities that the firm may undertake on an as-needed basis include:

- developing a promotional strategy to provide ideas to increase facility and community awareness regarding the EMS implementation effort; and
- providing EMS talking points on an as-needed basis to the IEMS, City officials, executives, and other parties supporting the implementation effort.

3.3.3 Create an Interactive System for Communication with Program Participants

Maintaining communication with program participants will be critical to program success. The EMS awareness survey will identify the preferred means of communication among industry owners and top managers. Using the information from the survey, the Secretariat with support from the EEPP/PSU will develop mechanisms for interactive communications. The mechanisms may include establishing program telephone and fax numbers, a web page or a simple newsletter.

3.3.4 Develop and Disseminate Case Studies

Three to four case studies describing the practical experiences gained by 10th of Ramadan facilities implementing ISO 14001 will be developed during implementation of the ISO 14001 Preparatory Program. These case studies might be referred to as “Success Stories.” The approach in the case studies will be to investigate the issues arising from EMS implementation rather than simply the implementation process itself.

The ISO 14001 case studies will be distributed through fax, the Internet, and/or brochures. The most effective way of distribution will be determined by the survey. The networks of all stakeholders (e.g., Investor’s Association, Board of Trustees, CDA, EEAA, etc.) will be utilized in order to leverage the dissemination process.

3.4 Task 4. Identify and Select Egyptian-Based EMS Consultant Partners

The ISO 14001 Preparatory Program will provide individual industrial firms with direct consulting services to develop and refine EMS environmental policies and conduct gap analyses. These services will be provided by Egyptian-based EMS consulting firms (consultant partners) trained by and under contract to the EEPP/PSU. Through a competitive process (described below), approximately 10 consultants from five to seven firms will be selected to be implementation partners. Through the program, the consultant partners will be encouraged to develop business relationships with the 10th of Ramadan facility owners and top managers in order to build the local market-based foundation of environmental management consulting services.

Responsibility: EEPP/PSU

Expected Results: A trained cadre of consultants from Egyptian-based EMS consulting firms.

3.4.1 Develop Criteria for Consultant Participation

In order to identify the most appropriate partners to work with, a procedure with approved selection criteria will be developed. Examples of the type of profile the partner will have include:

- experience working with ISO 14001 and other voluntary EMS standards;
- experience working with industry;
- ability to communicate both written and verbally in English and Arabic, and
- ability to simplify multi-task issues.

The criteria for selecting consultant partners will be discussed with and approved by all IEMS stakeholders.

3.4.2 Select and Invite Consultant Partner

The EEPP/PSU, in preparation for program implementation, has already developed a list of Egyptian-based EMS consulting firms that may be qualified and interested in participating in the program. Working with EEAA, the EEPP/PSU will finalize this list and send a Request for Qualifications (RFQ) to each firm on the list by the end of December, 2000. In early 2001 the respondents to the RFQ will be screened, interviewed, and selected using the approved selection criteria.

3.5 Task 5. Design and Conduct an ISO 14001 Environmental Policy Workshop

The ISO 14001 standard requires a firm to create an environmental policy that is distributed to employees and made available to the public. The policy must be appropriate to the nature, scale and environmental impacts of the organization's activities, products or services, and must explicitly commit to compliance with all applicable regulations, prevention of pollution and continual improvement of the EMS. It should also provide the framework for setting environmental objectives and targets.

The environmental policy gives weight to management's decision to implement the EMS. It serves to initiate and drive the EMS creation and implementation. It needs to reflect reality, be true to the culture and character of the organization and yet motivate and perhaps inspire employees to begin the cultural transformation.

The "kick-off" event of the ISO 14001 Preparatory Program will be a one-day EMS Environmental Policy Workshop. The objective of the workshop will be to teach the industry owners and top managers the basic principals of ISO 14001 and give them the skills needed to write an environmental policy in conformance with their facilities' operations and the ISO 14001 standard requirements.

The workshop will be interactive, using the consultant partners as facilitators of small groups. The goal of the workshop will be to have the participants draft environmental policies. Following the workshop, the staff of the Secretariat and the consultant partners, with assistance from EEPP/PSU, will review and refine the environmental policies with those participants interested in pursuing development of an EMS at their facilities.

Responsibility: EEPP/PSU, Secretariat, Consultant Partners

Expected Result: Participants from 100 facilities at the workshop, at least 60 of which will produce final environmental policies and meet the qualifications to participate in the next stage of the program. Those that do not complete their policies will be asked to continue their efforts on their own and encouraged to remain active in communicating with the program and its participants.

3.5.1 Design a One-day ISO 14001 Environmental Policy Workshop

The EEPP/PSU, drawing upon IRG's experience in assisting companies to secure ISO 14001 certification and in coordination with the Secretariat, the consultant partners, and EEAA, will design the curriculum for the EMS Environmental Policy Workshop. The workshop curriculum will be written in English and translated to Arabic. Supporting materials may include a generic sample of an EMS environmental policy and copies of the policies of the ISO 14001-certified facilities in the 10th of Ramadan.

3.5.2 Train Consultant Partners in Development of an ISO 14001 Environmental Policy

Once the consultant partners have been identified, the EEPP/PSU will begin training them in application of the ISO 14001 Preparatory Program approach. The first, one-day training session will introduce them to the ISO 14001 Preparatory Program approach. They will learn the difference between the preparatory program and the traditional approach to ISO 14001 consulting. The training will cover some critical components of the approach such:

- process management concepts;
- systems integration concepts;
- employee involvement and management leadership; and
- continual improvement.

During this first course, the consultant partners will be trained in how to assist a company in preparing an EMS environmental policy. The training will also prepare the consultant partners to be facilitators at the workshop.

EEPP/PSU will provide each consultant partner with easy-to-follow ISO 14001 Environmental Policy Implementation Guidelines and support documents. The guidelines will be structured to follow a tailored presentation and will include sample documents to enable the consultant partners to discuss real-world scenarios and to begin thinking about the structure, resources, logistics and documentation needs for 10th of Ramadan ISO 14001 implementation.

3.5.3 Develop Workshop Invitation and Background Information

The EEPP/PSU, in coordination with the IEMS Secretariat, the PR Firm and the consultant partners, will design the EMS Environmental Policy Workshop invitation for the owners and top managers of the 10th of Ramadan facilities. The invitation will specify the following participant criteria:

- only owners or top managers will be able to attend; and
- top managers, if they attend in place of the owner, must have the authority to develop a draft EMS environmental policy.

Background promotional material will be included in the invitation so that the owners will understand the general purpose and operation of the ISO 14001 Preparatory Program and

the opportunities to participate. In addition, the invitation will specify criteria for participation (e.g., materials that must be brought to the workshop and willingness to follow-through with the ISO Preparatory Program).

3.5.4 Conduct the ISO 14001 Environmental Policy Workshop

The EEPP/PSU in coordination with the Secretariat and the consultant partners will conduct the EMS Environmental Policy Workshop. The presentations will be in Arabic, with simultaneous translation from English to Arabic for those presentations made by expatriates. The workshop will lead participants through general EMS awareness issues and teach them how to develop their own environmental policy. The workshop will be interactive with small group sessions facilitated by the consultant partners, during which the participants will work on their environmental policies. Of the approximate 700 facilities in 10th of Ramadan, we anticipate that 100 will send participants to the workshop.

During preparation of his or her company's policy, each workshop participant will be encouraged to address the following needs at the beginning of program implementation to ensure appropriate expedient implementation procedures and management plans that minimize the chances of unexpected obstacles:

- clarify organizational and communication issues, roles, responsibilities, and authorities of all parties involved and establish clear lines of communication; and
- assure management involvement and commitment of project participants.

We expect that 80 of the participating firms will complete draft environmental policies as a result of the workshop.

3.5.5 Conduct a quality review of each draft environmental policy and issue invitations for continuation

After the workshop, the IEMS Secretariat and the consultant partners, with support from the EEPP/PSU, will conduct a desktop quality and conformance review of each draft environmental policy. They will then contact the facility representatives who prepared the environmental policies and work with those that demonstrate a commitment to the program to revise and finalize their policies. The policies will then be sent back to the participants with comments and suggestions for improvements if needed.

The facilities that successfully produce final environmental policies and desire to continue in the program will be required to distribute the final environmental policy to employees and inform them of employees of the new focus on environmental protection. Top management must also appoint a management representative to be the EMS Coordinator, who will be, in effect, the designated "champion" for the EMS implementation. We expect that 60 firms will reach this stage in the program.

3.6 Task 6. Design and Conduct On-site Gap Analysis

The first step for organizations contemplating the implementation of an EMS is to prepare an EMS environmental policy. The next step is to conduct a gap analysis. The gap analysis compares the system elements required by the ISO 14001 standard against those elements that the facility already has in place. This does not include an evaluation of the organization's environmental performance or of its environmental aspects. That will be performed later in the implementation stage of ISO 14001.

The ISO 14001 Preparatory Program will have a streamlined approach to gap analysis that will be applied at the facilities that have finalized their environmental policies and indicated their willingness to continue in the program. The analysis will be applied by the consultant partners and staff of the Secretariat under the direction of EEPP/PSU. We anticipate that 60 facilities will want to participate in the gap analysis, and we have budgeted accordingly.

Responsibility: EEPP/PSU, Consultant partners, Secretariat

Expected Results: Gap analyses for 60 firms clearly indicating what they need to do to secure ISO 14001 certification.

3.6.1 Develop Gap Identification and Assessment Form

The “ISO 14001 Preparatory Program” gap analysis will be conducted using a gap identification and assessment form designed to allow the consultants to collect the necessary information to answer the following questions:

- 1) Has top management made a commitment to develop and implement an EMS and have they communicated this intent to their employees?
- 2) How well are the organization and its existing environmental programs performing?
- 3) What standards of environmental performance does the organization hope to achieve?
- 4) What are the gaps between objectives and performance?
- 5) What existing programs and activities (structure, training programs, policies, and procedures) conform to the EMS requirements and can serve as the best foundation for improved environmental performance?

In addition to the use of the form by the consultants for the initial gap analysis, the firm’s staff can also use it during their Management Review. It is also a useful tool for the team implementing the EMS and other employees to learn how each department’s activities link together within the system.

The gap identification and assessment form lists those system elements required by ISO 14001 and provides space to note the current degree of conformance and a brief description of the effort that will be required to bring that element into full conformance. EEPP/PSU, in cooperation with the Secretariat and the consultant partners, will develop the gap identification and assessment form based on the sample shown in Figure 3.

3.6.2 Design and Conduct Gap Analysis Training for Consultant Partners

EEPP/PSU will provide a two-day training seminar for the consultant partners and the staff of the Secretariat. This two-day session will be a continuation of the training on the ISO 14001 Preparatory Program approach with special emphasis on how to conduct gap analysis. Components covered in the training may include:

- ISO 14001 requirements -- how to conform;
- identifying and documenting EMS program components;
- implementation considerations (including resources and costs);
- tasks and timeframes;
- EMS and regulation -- how they fit together;

- preparing required EMS procedures; and
- structuring environmental management programs.

EPP/PSU will provide each participant in the course with ISO 14001 Environmental Gap Analysis Guidelines and support documents. The guidelines will be structured to follow a tailored presentation and will include sample documents to enable the consultant partners to discuss real-world scenarios and to begin thinking about the structure, resources, logistics and documentation needs for 10th of Ramadan ISO 14001 implementation.

The training will continue during the initial gap analyses, as an experienced IRG EMS consultant will accompany each training participant during the first two gap analyses. The IRG EMS consultant will provide on-the-job coaching and advise to reinforce the classroom training the participants will have received.

Figure 3: Sample Gap Identification and Assessment Form

Sample ISO 14001 Gap Identification Form		
Procedure/Element	Yes / No / Partial	Effort Assessment
Environmental Policy		
Environmental Aspects Identification		
Legal Requirements		
Setting Objectives and Targets		
Interested Parties		
A. Responding to Inquiries		
B. Obtaining Views		
Awareness Training		
Internal Communication		
Communication to Suppliers and Contractors		
Performance Tracking Procedure		
Calibrating Monitoring Equipment		
Evaluating Compliance Status		
Document Control and Record Keeping		
EMS Audit		
Non-Conformance		
Management Reviews		

3.6.3 Conduct the Gap Analyses

A consultant partner or a staff member of the Secretariat will conduct the gap analysis at each participating firm. The consultant will work with the firm's EMS Coordinator and Implementation Team, appointed by the owner or top management. The EMS Coordinator must be available and committed to the EMS implementation. Similarly, building the Implementation Team is critical to successful project implementation. The Implementation Team should be composed of key personnel who have the knowledge and authority to diagnose environmental impacts, develop management programs to address those impacts, and keep the lines of communication open to all areas of the facility.

The gap analysis will be conducted at the facility in working session with the EMS Coordinator and the Implementation Team. The gap analysis can be done in one to four hours if knowledgeable members are on hand to be questioned about the existing system in the organization.

The gap analysis is not a compliance audit, but rather a snapshot of the organization's management processes. During the analysis, managers will have the opportunity to discuss how they could make environmental investments similar to traditional business investments and how those investments would deliver positive returns or reduce risks.

3.6.4 Prepare Gap Analyses Reports

The consultant partner who produces the Gap Analysis at each facility will write up his or her findings and submit a Gap Analysis Report to the facility within 14 days of the on-site review. The format of the report will be concise and easy-to-follow so that employees at all levels of the implementation effort will have the opportunity to understand their individual role in "ramping-up" to the standard's requirements and making the commitment to implementing their EMS. Supporting documents will include guidelines called a "Roadmap" to help employees identify milestones to achieve ISO 14001 certification and the gap analysis questionnaire so that facilities can perform their own EMS review in the future.

3.7 Task 7. Design and Conduct ISO 14001 Implementation Workshops

Once the program participants have received and reviewed their Gap Analyses reports and have assembled their EMS implementation team, the EMS Coordinators, top managers, and engineers will be invited to an ISO 14001 Implementation workshop. Because the implementation issues may vary significantly with size of a company, the ISO 14001 Preparatory Program will design and present two workshops: one for medium and large firms and the other for small firms.

The implementation of an ISO 14001 EMS requires a series of tasks. These tasks traditionally vary in the length of time necessary to accomplish goals depending on factors such as time and resources allocated, as well as any pre-existing experience in the organization with the implementation of an ISO 9000 Quality Management System. The following is a brief description of some of the major tasks that need to be tackled:

- select and allocate resources for an environmental team;
- identify environmental aspects;
- write the required procedures to address each environmental aspect; and

- develop an environmental management program to implement and monitor the procedures.

The ISO 14001 Preparatory Program is designed to make these tasks easier for the facility managers in the 10th of Ramadan, so that participants can accomplish them using their own resources. The workshops will provide practical guidelines for implementing an ISO 14001 program. For instance the participants will be given a checklist of all the certification requirements and will be provided strategic guidance as to where and when outside local consulting will be necessary.

The EEPP/PSU will provide each participant an easy-to-follow ISO 14001 Implementation Manual and support documents. This manual will be structured to follow a tailored presentation and will include sample documents to encourage the facilities' program participants to discuss real-world scenarios and to begin thinking about the structure, resources, logistics and documentation needs for their own, "home-grown" EMS. Elements of the training that will likely be present to one degree or another include:

- identifying environmental aspects;
- determining if an aspect is significant;
- identifying and documenting regulatory requirements;
- working the operational controls;
 - operating criteria
 - operation during maintenance; and,
- emergency response.

The consultant partners and the staff of the Secretariat will also participate in the workshops. The workshops will provide an opportunity for the consultant partners to solidify relations with individual firms and create business opportunities for implementation consulting.

The implementation training will be augmented by the ISO 14001 training in the EEPP training plan, including an overseas study tour for some of the industry owners and top managers on EMS programs in United States industries and ISO 14001 lead auditor training for some of consultant partners.

Responsibility: EEPP/PSU

Expected Results: Participating companies will receive enough information to be able to begin implementation of their programs to secure ISO 14001 certification. Business opportunities will be created for the consultant partners to continue assisting the companies in implementation, without funding from the EEPP/PSU.

3.8 Task 8. Provide ISO 14001 Implementation Support

Large facilities will be expected to continue through the implementation process to achieve ISO 14001 certification using their own resources. The IEMS Secretariat with the support of EEPP/PSU, however, will provide coaching to large industry participants at discrete intervals throughout the facilities' implementation efforts. The consultant partners,

via their own private relationships with the facilities, will help them cross the finish line, but the EEPP/PSU will be there to provide the big picture roadmap to help the facilities stay focused on their goal and motivated to make the changes.

The EMS coaching will provide the means for the IEMS to give the facilities the strategic guidance they will need so that they stay focused on certification requirements rather than spending needless time and other resources on extraneous activities. "Coaching" will come in the form of Internet messages of encouragement and success stories from participating facilities, on-site visits with the facilities' technical consultant partners to check on progress and provide problem-solving techniques to implementation barriers.

The program may provide direct technical assistance to small facilities for ISO 14001 implementation. The cost of securing ISO 14001 certification may be prohibitive for small facilities. To address this issue, the ISO 14001 Preparatory Program will investigate the possibility of working with groups of similar small businesses or small businesses located in the same area to develop consolidated EMS programs. This technique is being developed in Europe and the United States and may be applicable in Egypt. The Program will work with the Secretariat and the consultant partners to deliver these services.

Responsibility: EEPP/PSU, Secretariat, Consultant Partners

Expected Results: More companies will eventually receive ISO 14001 certification. Medium and large companies will receive ISO 14001 certification faster and more efficiently because of coaching. Many small companies that would be incapable of gaining ISO 14001 certification on their own will be able to become certified or at least develop EMS systems by working in partnership with other small companies.

3.9 Task 9. Conduct Program Evaluation

Structured procedures will be developed to allow the IEMS, EEAA, and USAID to review the function and continual progress of the program. Successful program implementation requires that management have a realistic understanding of how much additional effort the program will require in order to further the program, replicate it in other cities and monitor its progress.

The program evaluation will be conducted for the EEPP/PSU by a team of consultants from outside of the program implementation team.

Responsibility: EEPP/PSU

Expected Results: A replicable program design.

4. Proposed Action plan

The previous section of this report presented the proposed components of the ISO 14001 Preparatory Program. This section presents the action plan (Table 3) for implementing those components, including the deliverables, schedule, responsible party, and level of effort (LOE) for short-term consultants. The action plan covers the period September 2000 through August 2001.

The LOE in the action plan is for short-term consultants only. The total LOE for Egyptian consultants is 317 days, and the total LOE for US consultants is 208 days. These LOE are preliminary.

The ISO 14001 Preparatory Program will be implemented by the Secretariat of the IEMS, with technical support from the EEPP-PSU. Currently the IEMS Secretariat is not a functioning body. The 10th of Ramadan City BOT, with support from the PSU and EEAA, drafted the necessary letters and decrees to the Minister of Housing and the Minister of State for Environment to initiate the Secretariat. The current schedule calls for the Secretariat to be established in November 2000 and to begin to function in December 2000. In case this does not happen, other institutions will need to be identified to implement the program. The two most likely alternative candidates are the 10th of Ramadan City BOT and IA. Neither of these institutions currently have full-time staff that can fulfill the responsibilities of the ISO 14001 Preparatory Program; therefore if they undertake implementation, the program will have to include additional activities to develop and fund a staff that will carry out the work.

The EEPP-PSU has two full-time staff members that provide technical support to the IEMS. One is responsible for supporting activities directed at the development and adoption of EMS by industry. The other is responsible for supporting institutional components of the IEMS. IN addition, an Industrial Pollution Policy Advisor at EEPP-PSU is responsible for all activities under Objective 9, and will also be providing support for implementation of the ISO 14001 Preparatory Program.

In addition to the long-term staff, the PSU will provide short-term technical assistance to implement many of the program tasks. Several experts from IRG's Environmental Management Group will provide recurrent short-term technical assistance for program implementation and will supervise many of the tasks. Other short-term consultants, both Egyptian and American, will be secured as needed to assist in program implementation.

When photocopying, replace this page and the following three pages with Table 3, which is in a separate Word File (“Table 3”).

Table 3: Action Plan for ISO 14001 Preparatory Program

Appendices

- A. Interview List, August – September 2000**
- B. Attendees to the Board of Trustees EMS Briefing Meeting, September 2000**
- C. Profile of City Factories**
- D. Facilities Under Construction**
- E. Facilities with Self-Monitorin**
- F. Facilities Monitoring Water Quality**

