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PREFACE

GLOSSARY OF TERMS

CARICOM	Caribbean Community
CCA	Caribbean Conservation Authority
CEHI	Caribbean Environmental Health Institute
EAST	Environmental Audits for Sustainable Tourism
ECO-O.K.	Economically Okay Programme
EMA	Environmental Management Authority
EMS	Environmental Management Systems
EPA	Environmental Protection Agency
GNBS	Guyana National Bureau of Standards
ISO	International Organization for Standardization
JAS	Jamaica Agricultural Society
JBS	Jamaica Bureau of Standards
JEA	Jamaica Exporters' Association
JMA	Jamaica Manufacturers' Association
NRCA	Natural Resources Conservation Authority
PSOJ	Private Sector Organization of Jamaica
QMS	Quality Management System
SRC	Scientific Research Council
TTBS	Trinidad & Tobago Bureau of Standards
WRA	Water Resources Authority

ACKNOWLEDGEMENT

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EXECUTIVE SUMMARY

The Table below summarizes the findings of the Benchmark Countries research regarding EMS implementation and its implications for Jamaica.

Status of Implementation	Drivers	Obstacles	Government Policy	Capacity to Implement	Sectors Implementing	Companies Implemented
Costa Rica						
Has been implementing EMS systems for over 10 years	Educated population, environmental advocacy, marketing tool, competitiveness issues	Unawareness of cost/benefits, need to retool	Policy essential promotional	Adequate capacity due to experience	Agricultural, agro-industry	Several individual farms in coffee, banana and citrus
Cuba						
Has been implementing own version of EMS	Educated population, trade sanctions; competitiveness issues	None reported	Government policy in form of support to environmental practices	Adequate capacity due to educated population	Agriculture, food and medical products	Mainly farms
Barbados						
Started in rum and hotel sectors	Global competition, anticipated Government policy, marketing tool, cost control	Unawareness of cost/benefits, no experience	Currently preparing policy papers for EMS	Very Little capacity	Hotel, rum	Mount Gay Rum Refinery; Casarina and Treasure Beach Hotels have commenced
Guyana						
Started in the mining and timber industries	International non-tariff barriers, marketing tool, and reduction of negative environmental impacts	Cost, unawareness, lack of technology, no institutional capability, lack of skills	No policy, only support through GNBS and EPA	Poor institutional capacity and very little skills	Mining and forestry	Omai (Gold Mining) Demerara Timber certified

Status of Implementation	Drivers	Obstacles	Government Policy	Capacity to Implement	Sectors Implementing	Companies Implemented
Trinidad & Tobago						
Started in the hotel and rum industry	Increased awareness, understanding of the benefits, OMS experience	Unawareness (perceived high cost/benefits)	None – support given	Adequate capacity in private sector consulting firms	Hotel, rum	Blue Waters Hotel (Tobago) is certified. CARIRI Carib and Angostura have commenced.
CARICOM Secretariat						
N/A	National and regional competitiveness	None reported	Supports environment protection, but not EMS specific	None	N/A	N/A

CARICOM Secretariat

The CARICOM Secretariat has no policy framework dealing with Environmental Management Systems. Other regional bodies such as the Caribbean Development Bank and the Caribbean Export Development Project likewise have no such policy framework.

Sector Organizations in Jamaica

Discussions were held with representatives of the Private Sector Organization of Jamaica (PSOJ), Jamaica Manufacturers Association (JMA), Jamaica Agricultural Society (JAS) and the Jamaica Exporters Association.

The general response is that everyone agrees that EMS is a key strategy in improving environmental management while improving internal efficiencies. However, there are no explicit promotional programs originating within the organizations.

Suggested Approach for Jamaica

The position of Government regarding EMS should be one of promotion and encouragement through its technical arms such as the NRCA, JBS and SRC, rather than by using legislative and/or economic incentives. This promotion should take the form of awareness programs aimed mainly at key decision-makers in companies rather than at technocrats. This promotion, together with the current regulations on the one hand and market forces on the other should be enough to drive the process.

COSTA RICA

Status of EMS Implementation

Environmental management systems are not new to Costa Rica, as implementation commenced over 10 years ago. Substantial advances have been made in agroindustry such as sugar, coffee, bananas and citrus and citrus.

Drivers to Implementation

Education

The population of Costa Rica is highly educated (95-98% literacy rate), and as a result there is greater environmental awareness among the people. So, education is a major driver.

Environmental Advocacy

The consciousness of the people and their willingness to act is also vital. Bauxite exists in Costa Rica but it is not mined. Thirty year ago Alcoa wanted to invest in the country, but the people demonstrated against it because they felt there would be a negative effect on the environment. The government respected the wish of the people and rejected Alcoa's proposal.

Improving Market Image

There is a growing demand around the world for green products, particular edible products. Agricultural products such as banana, coffee, flowers and citrus play a major role in Costa Rica's export economy. It is therefore important that the export produce meet the demands of the world markets.

Increasing Competitiveness

Environmental Management Systems when carefully planned and effectively implemented increases internal efficiencies and increase competitiveness.

Obstacles to EMS Implementation

The unawareness of the cost/benefits effects of EMS is the major obstacle to implementation.. Older companies believe they have to re-tool, however long-term and short-term credit is available for retooling.

Government Policies and Support to EMS

There are regulations governing environmental protection which are administered by the Ministries of Conservation & Environment and of Health. Tax concessions have been used to allow agroindustrial companies to re-tool

Capacity Within the Country

Having had over 10 years experience in the implementation of EMS', there exists a significant capacity within the country to implement. If and when the notion of EMS is bought by the wider industry, Costa Rica will not need any major external assistance.

Sectors Implementing EMS

The main sector implementing EMS is the agricultural/agro-industry and tourism sectors.

1. In the sugar industry, compost and other by-products are now manufactured from waste. The issue of burning cane persists however.
2. The Conservation Coffee Project was developed to provide market incentives for the conservation of forested coffee farms. Incentives are provided to farmers to maintain their shade-grown coffee farms, thus providing an important habitat and encouraging coffee farming that protects worker health and safety.
3. The Better Banana Project was initiated in 1991 in an effort to reduce the negative environmental impacts of banana cultivation. Farms, which comply with the environmental and social guidelines, are awarded with the Better Banana seal of approval. These farms have no deforestation, protect the safety of workers, minimize the use of agrochemicals and are working to reduce soil erosion. Approximately 30% of banana production in Costa Rica have been awarded certification with the ECO-OK label.
4. In 1992, the U.S. Adventure Travel Society claimed that Costa Rica was the number one ecotourism destination in the world. Costa Rica offers the ecotourist a wide range of ecotourism experiences. Costa Rica's ecotourism industry is built on its national park system.

CUBA

Status of EMS Implementation

Environmental Management Systems seem to have taken root in Cuba, particularly in agriculture, food production and medicinal products. The economic sanctions imposed by the United States and the loss of Soviet support following the collapse of the socialist bloc, have forced Cuba to adopt alternative methods to achieve output that efficiently utilizes natural and local resources. These methods promotes ecologically sustainable production by replacing the dependence on farming equipment and chemical inputs with animal traction, crop and pasture rotation, soil conservation, organic soil inputs, biological pest control and biofertilizers.

Drivers to Implementation

Education

The population of Cuba is highly educated (15% of the scientists in Latin America are Cubans, however the country has only 2.5% of the population).

Political/Economic Environment

Economic sanctions, combined with the collapse of the socialist bloc, has led to an estimated 85% drop I exports, imports and foreign aid. In response, Cuba, with a high proportion of scientists and researchers, has initiated alternative and ecologically sustained methods for medicinal products, food and crop production.

International Competitiveness

The alternative approach reduces the input cost into production.

Obstacles to EMS implementation

Not much information was gleaned on obstacles to EMS implementation.

Government policies and support to EMS

The Government, through its various programs surrounding the theme "Greening of Cuba", has supported and promoted improved environmental practices, particularly in agriculture and food production.

Capacity within the Country

Because of the investment in education in general and in scientific research in particular, and with its experience in EMS', Cuba has adequate capacity to drive the implementation of EMS.

Sectors Implementing EMS

The main sectors implementing EMS are agriculture, food and medicinal products.. Agro-ecological practices have been developed using alternatives that follow the trend of the rational use of resources. These include:

1. Urban agriculture which uses thousands of gardens in the major urban areas to reduce fuel and other transportation resources.
2. Organic Farming
3. The use of organoponics provides high yields using very little externally derived input such as fertilizers, pesticides and energy.

BARBADOS

Status of EMS Implementation

There is very little happening in Barbados regards EMS implementation. One of the few examples is the Mount Gay Refinery, a rum distillery, which is at a very early stage of developing its EMS having commenced in March 1999. The company has projected that substantial savings will be achieved by treating and recycling wastewater. The hotel industry has also commenced EMS implementation. Generally there is greater awareness among large enterprises than among medium and small enterprises.

Drivers to Implementation

The main drivers to implementing environmental management systems include global competition, public recognition, anticipated government policy, marketing and cost control

Obstacles to EMS Implementation

The main obstacles appear to be lack of awareness of the benefits of EMS, lack of a clear national or sector policies, dearth of experience and cost/benefit of implementation.

Government Policies and Support to EMS

At present the regulations involving the environment and related matters are found in eight (8) separate Acts:

- The Health Act
- The Customs Act
- The Spirits Act
- The Town & Country Planning Act
- Barbados Water Authority Act
- Underground Water Control Act
- Accidents and Occupational Diseases (Notification) Act
- Factories Act

The Government, through its Permanent Secretary in the Ministry of Natural Resources, Energy and the Environment, has reported that the Ministry is currently in the process of shaping its approach to the environment and drafting of an Environmental Act.

In March 1998 the Barbados National Standards Institution (BNSI) issued the Barbados National Standard Specification for Environmental Management Systems. The Standard seeks to enable organizations to formulate policies and objectives taking into account legislative requirements and information about significant environmental impacts.

Capacity Within the Country

There is inadequate capacity in Barbados to drive the EMS implementing process. Mount Gay Rum for example is unable to find adequate assistance locally and has to look externally for assistance.

Sectors Implementing EMS

The hotel industry has commenced implementation of Green Globe EMS. Two properties (Casarina Beach Club, Treasure Beach Hotel) have been audited with the expectation for implementation and certification in the future. Almond Beach Hotel has signed a statement of intent (SOI) to implement. Mount Gay Rum has commenced implementation, and expects to seek certification.

GUYANA

Status of EMS Implementation

EMS implementation in Guyana has been limited to the mining and forestry industries. A program focusing on 10 companies in Forestry, Mining, Petroleum and the Manufacturing sectors is at present being implemented by the Guyana National Bureau of Standards (GNBS) in collaboration with the Environmental Protection Agency (EPA).

Drivers to Implementation

The driving forces towards the implementation of EMS are:

- International non tariff barriers,
- Marketing advantages gained by certification
- The need to reduce the negative impacts of existing industries on the environment

Obstacles to EMS Implementation

Main obstacles to implementation are:

- A lack of financial resources,
- Lack of clean technology and lack of information on same
- Unawareness of the benefits of EMS,
- Poor institutional capacity to support EMS implementation and the
- The lack of technical skills

Government Policies

There are no policies or regulatory requirements regarding EMS. However, the Government, through the GNBS and the EPA promotes the benefits of implementing EMS. The EPA October 1999 Strategic Plan calls for the use of EMS as an integral component of its Natural resources Management Strategy. EMS along with Capacity Building, Training & Awareness, plus the Promotion of Economic Opportunities form the bases for optimising benefits from sustainable use of natural resources.

Capacity Within the Country to Support Implementation

There is poor institutional capacity and very little skills in Guyana to facilitate the implementation of EMS.

Sectors Implementing EMS

Large firms in the Mining and Forestry sectors have commenced implementation. Examples are Omai (gold mining) and Demerara Timber Limited.

TRINIDAD & TOBAGO

Status of EMS Implementation

There are very few companies in Trinidad & Tobago that have implemented Environmental Management Systems. There has been a significant increase in the awareness of environmental management in industry over the past 4-5 years and, as such, agencies like the Environmental Management Authority have been bombarded with requests for assistance.

Drivers to Implementation

The main drivers to implementation are the increased awareness of the environment generally, an understanding of the benefits that can arise out of improved environmental practices and the benefits already realized from implementing a QMS.

Obstacles to EMS Implementation

The only obstacles to implementation appear to be the perceived high cost of implementation. This can however be corrected by increased awareness of the benefits in relation to costs.

Government Policies

The Environmental Management Authority (EMA) has prepared a draft National Environmental Policy (NEP). The main policy goal and objectives, which the NEP seeks to achieve, are:

- The prevention, reduction or elimination of various forms of pollution;
- To encourage cooperation with other countries, organizations and agencies at regional and international levels in preventing or controlling transboundary pollution and achieving optimal use of common natural resources.

The Trinidad Bureau of Standards (TTBS) provides training in EMS and expects to commence certifying under ISO 14000 in a short period of time.

Capacity Within the Country to support Implementation

There is adequate capacity within the country to support EMS implementation. In addition to the TTBS, several consulting firms offer this service.

Sectors Implementing EMS

There is no specific sector that has adopted EMS as a policy, however large firms such as Carib Brewery, Angostura and CARIRI have commenced implementation. Blue Waters in Tobago has been certified to Green Globe.

CARICOM

The CARICOM Secretariat's Sustainable Development policy has been encouraging member countries to adopt policies and practices to improve environment practices. Similar encouragement is found within other regional bodies such as the Caribbean Development Bank and the Caribbean Export Development Agency.

The first CARICOM Ministerial Conference on the environment held in Port of Spain, May31-Jun02, 1989 produced The Port of Spain Accord on the Management and Conservation of the Caribbean Environment. The accord outlined 14 principal areas in which the member states should organize themselves at the national and regional levels. Among the 14 areas were solid and liquid waste management; and management of toxic and hazardous substances. Eight (8) strategic approaches were identified in order to solve the problems inherent in the 14 principal areas. One of these strategic approaches dealt specifically with the development of legislative framework adequate to the requirements of sound environmental management, and the required machinery for the enforcement. Based on the 14 principal areas and the 8 strategic approaches, the Ministers agreed to and approved the following:

- (a) That a Standing Committee of Ministers responsible for the Environment be established, and that they should meet at appropriate intervals for the purpose of conducting policy and programme review and establishing the goals and guidelines for action.
- (b) The establishment of a regional consultative forum that will pursue the identification of, and the allocation of, responsibility for action on programmes, projects and studies relating to the priority problems and strategies approaches identified.
- (c) Reiterate the Community's commitment to the effective development of the Caribbean Environment Health Institute (CEHI) as a regional technical, advisory and project implementing facility in the environmental field.

The Caribbean Law Institute reported that the Commonwealth Caribbean countries have yet to establish viable national waste management policies based on comprehensive functionally integrated national waste management plans.

Sector Organizations In Jamaica

Discussions were held with representatives of the Private Sector Organization of Jamaica (PSOJ), Jamaica Manufacturers Association (JMA), Jamaica Agricultural Society (JAS) and the Jamaica Exporters Association.

The general response is that everyone agrees that EMS is a key strategy in improving environmental management while improving internal efficiencies. However, there are no explicit promotional programs originating within the organizations. Furthermore, the use of EMS should be encouraged and promoted by Government rather than be legislated in any form.

Evaluation of Findings

EMS implementation is much further advanced in Costa Rica and Cuba than it is in the CARICOM countries researched. The drivers and obstacles have common threads among all countries in the need to be competitive and unawareness of the benefits respectively.

While there are various Government policies relating to the protection of the environment, as there is indeed in Jamaica, there are no specific policies relating to EMS.

The capacity for implementation varies from a high in Costa Rica and Cuba to a low in Barbados and Guyana, with Jamaica somewhere in between.

The sectors that have already implemented EMS' are agriculture/agro-processing, mining (bauxite/alumina, gold) and tourism, with all companies being large.

Based on the experience throughout the region, the position of the Jamaican Government regarding EMS should be one of promotion and encouragement through its technical arms such as the NRCA, JBS and SRC, and by economic incentives, rather than by using legislative measures. This promotion should take the form of awareness programs aimed mainly at key decision-makers in companies rather than at technocrats. This promotion, together with the current regulations on the one hand and market forces on the other should be enough to drive the process.

COLOMBIA

The Use of Environmental Management Systems in Government Policy

Background

The National Environmental Policy (1994-1998), contemplated among other actions and programs, promoting clean *production*, and it establishes there that the *environmental policy will also encourage that the manufacturing sector adopts voluntary performance codes for environmental protection*"

In the aforementioned context evolved the outline Agreement for Clean *Production*, signed on June 5, 1995 between the Ministry of the Environment (MMA), and Colombia's main productive guilds and the mining-energy public sector, this agreement has provided a framework to enter into regional and sectoral agreements on clean production, between the private sector and the government, contemplating actions related to entrepreneurial environmental management Systems (SGA).

However, the Ministry of the Environment developed in the Environmental National framework of President Ernesto Samper (1994-1998), the National Policy on Clean *Production*, which contemplates as one of its strategies promoting entrepreneurial self-performance and self-regulation practices; therefore, it proposes to establish a governmental strategy lead by the MMA, in order to acknowledge voluntary codes based on self-regulation and self-performance, promoted by different production guilds. Particularly, it proposed to promote at first ISO 14000 and Integral Responsibility.

Likewise, the following policy documents from President Samper's government, contemplated promotion of entrepreneurial environmental management:

- Modernization and Industrial Restructuring, CONPES 2762 document dated January 25, 1995;
- Science and Technology National Policy, CONPES 2739 document dated November 2, 1994;
- CONPES 2724 document dated August 1994, "For a competitive Colombia";
- CONPES 2748 de 1994 document, regarding exports issues.

In 1997, the Ministry of the Environment carried out a national survey aimed at the public and the private sector in order to know about perceptions of ISO 14001. 350 forms were sent, and a total of 146 duly filled forms (101 companies from the private sector, 10 industrial guilds, 17 environmental authorities, 7 private research and education centers, 4 non-government organizations, 4 public sector entities (not environmental authorities in nature) were received.

The results produced, among other things, the following conclusions:

1. Ignorance by the private and governmental sector about the ISO 14000 international standards.
2. The main reason to adopt 14000 was the export market.
3. The main reason not to adopt 14000 was the implementation costs.
4. It was believed that companies that were not certified with ISO 14000 should receive a greater number of inspection visits by the environmental authorities.

5. The need for the government to award some benefits for companies with ISO 14000 certifications.
6. The advisability for the government to provide some type of acknowledgement to ISO 14000 and to any other self-performance scheme applied by the Colombian private sector
7. Support to medium and small business by the government to adopt ISO 14000 standards.
8. Lack of attention given to the ISO 14000 issue by government.
9. It was perceived that the government was going to give more attention to the ISO 14000 issue in the future.

In the recent Environmental National Plan of the new government headed by President Andrés Pastrana (1998-2002), it contemplates the Proyecto Colectivo *Ambiental (Environmental Collective Project)* where cleaner production programs will continue being encouraged, and the derived actions, such as environmental management systems, and other voluntary initiatives for environmental protection will be promoted, this will be done pursuant to the actions contemplated in the Inter-ministry Agendas recently signed by the Ministry of the Environment.

Finally, the government recently developed the National Plan *to Promote Environmental Management Systems* where among other actions to be developed, it was proposed to develop pilot demo projects about the environmental management system in order to strengthen Small and Medium Businesses (S&MBs) on these issues. The result of the above consideration, in 1999, was that the MMA with its urban environmental unit of Santafé de Bogotá (the Administrative Department of the Environment) (DAMA), undertook the task of carrying out a demo pilot project with twenty (20) S&MBs. However, due to the involvement of new executives in the technical areas both in the MMA and the DAMA, this initiative was suspended.

SIC as an Accrediting Body for ISO 14001

Another aspect worth mentioning is the work carried out by the MMA with the Ministry of Development through the Commerce and Industry Superintendence (SIC), whose result was that SIC would assume the accrediting functions for ISO 14001. Currently, there is a certifying body, ICONTEC, and there are other organizations applying for accreditation before SIC.

Chart 1

Company	Activity	Certifier
Rohm & Haas	Agrarian Sector	BVQI
Tubotec	PVC Piping	ICONTEC
Techint	Engineering and Construction	ICONTEC
Baxter	Hospital line	ICONTEC
D-olt	Banana company	SGS
Cabbot	Lampblack	ICONTEC
Eka Chemicals	Hydrogen Peroxide	ICONTEC
Café liofilizado	Coffee	ICONTEC
Colombit	Fiber Cement	ICONTEC
Griffin de Colombia	Fungicides and herbicides	ICONTEC
Bayer	Fungicides and herbicides	ICONTEC
Interqufn	Resins	ICONTEC
Sony Music	Records	ERM-CVS
Ingenio la Cabafia	Sugar	ICONTEC
BP Exploration	Oil exploitation	ICONTEC

Holasa	Tinplate	ICONTEC
Gillete	Cleaning	ICONTEC
ABB	Transformers	BVQI

Training in ISO 14000

Regarding the education and training issue on environmental audits and ISO 14000, there are consulting firms that are becoming interested on this issue. Despite the interest national capacity on this subject is still weak, and the Colombian government has not undertaken aggressive programs aimed at training, such as the regional environmental authorities in subjects such as ISO 14001, environmental audits, and cleaner production.

Interest on ISO 14000

The private sector through its industrial associations and non-government organizations (NGOs), as well as the universities, are beginning to explore and become interested in the ISO 14000 series, in addition, some companies from different industrial sectors, have been working on applying this international standard and other self-performance schemes. Regarding the above, it is worth mentioning the work being developed, for example, by the Asociationn Nacional de Industriales (National Industrialists Association) (ANDI) and the Consejo Empresarial Colombiano para el Desarrollo Sostenible (Colombian Entrepreneurial Council on Sustainable Development) (CECODES), by promoting the Responsabilidad Integral (Integral Responsibility) process, Colombia and ISO 14001, respectively.

Industry 's Expectations

There is a special expectation in the industry regarding the stand that the government might take with respect to the ISO 14000 series standard. The industry says that the application of these international standard should be voluntary, and they expect economic incentives and other incentives for those organizations that comply with ISO 14001 and/or effectively show improvement in their environmental performance.

However, the companies that have obtained certification, have done so looking to be more competitive in international markets and/or by the parent company's management policies, and prevent loosing business opportunities with Colombian and multinational companies that demand from their Colombian contractors and suppliers the ISO 14001 standard.

On the other hand, the difficult economic situation that the country is currently going through, has made the private sector postpone the environmental investments to a later date, and in this regard the ISO 14000 issue is no exception.

Obstacles to Trade and ISO 14000

Currently, the required information does not exist in order to conclude about the possible obstacles for Colombian trade due to the lack of an ISO 14001 certification. However, according to the survey carried out by the Ministry of the Environment, the entrepreneurs perceive that there could be a para-tariff barrier for not having the certification and that this international standard will become important in international markets in the future.

Promotion of ISO 14000 in Colombia

Finally, it is interesting to underline that it is important to extensively inform the industry about the benefits to be derived from the implementation of ISO 14001 and in particular to provide Through government technical assistance to SMEs.

Environmental Management System as a Tool for Regulatory Compliance

Targets

Corporaci6n Aut6noma Regional wants to define and promote a corporate strategy according to the Cleanest National Production policy and to the effective Environmental Management. It would be carried out through the comparative analysis between the elements that constitute the ISO 14000 standard series philosophy and the key management elements of companies that have a successful environmental management.

Specific Targets

1. To identify key elements for a environmentally sustainable management, either from a specific environmental system or from different elements combination.
2. To verify the ISO 14001 Environmental Management System efficiency from different dimensions such as its contribution to the environmental management improvement (through social, economic ant technical indicators), cost /benefits relation and or regulatory compliance.
3. To evaluate the possibility of economic, technical or administration incentives for companies that demonstrate an environmental management system in place. Each incentive that could be applied will be analyzed including the definition of the scenery to apply it.
4. To define a follow up and control procedure set for companies that demonstrate a sustainable environmental management.
5. To determine strength and weakness of different entities that could influence on the self-regulation promotion program such as certificating, training or financial organizations.

Background

Environmental management through regulatory compliance has not eliminated environmental matters and environmental degradation continues.

In Colombia, from the issue of Ley 99, 1.993 and Decreed 1753, 1.994, a larger integration of environmental impacts evaluation has been taking place for investment projects purposes. However, both, licensing system and follow up and control procedures, have important shortcomings that make difficult to verify regulations, licenses and permits compliance and even more the verification of environmental performance and the effective and efficient pollution decrease,

However CAR really knows that there are some companies that have "Best Management Practices" which should be analyzed as Case Studies and that serve as benchmarks for other companies that belong to the same or to another sector, from the identification and analysis of the elements that make them successful.

In Colombia, many companies have started studying and training their employees about ISO 14000 standard series and others actually have carried out audits to their Environmental Management system or have implemented ISO 14001 as THEIR Environmental Management System. EMS could be basically defined as a practices and procedures series that is designed and applied in a reliable and efficient way.

On the government' side, The Environmental Minister has elaborated the Clean Production National Policy as a part of the Environmental National Plan. This policy has as its main target "efficiently prevent and minimize impacts and risks to human beens and to the environment, guaranteeing environmental protection, economic development, social welfare and enterprises competitiveness from the adoption of environmental aspects by production sectors as a long term challenge '.

Accordingly, CAR has decided to determine some tools that allows it to optimize and to make agile its licensing and follow up and control procedures as well as it guarantees environmental pollution decrease and regulatory compliance. A methodology for finding out these tools, mechanisms or elements could be the comparative analysis of two information sources including:

Case studies cases of companies that have successful environmental management practices (see 3.1).

Studies on pilot projects on ISO 14001 implementation that had been selected, conducted and carried out with CAR (see 3.2).

It will allow to obtain valuable information for a Weakness, Opportunities, Strength and Threats analysis of each group.

In this way, CAR will select a group of companies that serves as demonstrative projects on the validity and reliability of following requirements:

Management systems implementation that achieves regulatory compliance including written procedures and protocols for non-compliance roots, identification, 2. Promoting the ISO 14031 Performance Evaluation document use and similar information to develop measurable targets goals, 3. Demonstrating how an EMS really offers an important environmental performance improvement, 4. Promoting discussions with the stakeholders during the design and implementation processes 5. Promoting and achieving consensus on EMS information including those related to its design and implementation. 6. Standardizing form and contents of environmental reports.

Methodology

Selecting Environmental Performance Indicators

(Management indicators) See attached No. 1

Case Studies on Companies with Successful Environmental Management Practices

Ten companies of those identified by CAR as having successful environmental management practices will be selected and invited to and actively participate in these projects. Another source for this selection could be the Enterprise Center for Sustainable Development (CECODES) with more than 40 affiliated companies that have been monitored according to eco-efficiency indicators. Some of these companies belong to the CAR' administrative area and could be included in the objective group.

Phases (to be developed)

Phase 1	Selection of companies with successful management
Phase 2	Records reviewing
Phase 3	Organizational and environmental management analysis
Phase 4	Key elements identification.

Pilot Cases for ISO 14001 Implementation Study

EMS implementation is able to help both environmental performance improvement and regulatory compliance. CAR will help and promote the EMS development, including those systems based on ISO 14000 that contribute to the organizations environmental responsibilities compliance as well as to the their environmental goals achievement. In this way, CAR has designed this program and hopes to develop it with selected companies which would be invited to voluntarily participate.

CAR, supported by consultants will select ten companies from different industrial sectors in order to "accompany "them during the standard implementation process. This "accompaniment" is carried out in order to allow CAR to collect information for efficiency evaluation purposes and to provide the CAR with a broad understanding of Environmental Management Systems from the regulatory agencies point of view. Additionally would CAR be able to evaluate potential and real benefits for the companies derived from the EMS implementation and to estimate the level of economic and technical incentives CAR could offer to companies that adopt an EMS.

Pilot projects constitute the main source for this information. This information would be compatible to those obtained from other sources, when possible. In order to optimize resources use and to assure a more detailed investigation, will CAR create a data basis available to the public, recognizing that an appropriate confidential level must be done.

CAR as well as another entities, believes that EMS implementation, if correctly carried out, should serve as a valuable tool for helping organizations improving their environmental performance as well as it strengths pollution prevention and regulatory compliance trends. Nevertheless, this premise has to be carefully observed and worked including public organizations. Environmental Management Systems could serve as the building block for a regulatory flexibility and for economic (customs tariffs and taxes reduction), administrative (flexible requirements for environmental licenses issuing and for projects follow up and control procedures purposes) incentives for companies that successfully implemented them.

Obstacles

The following considerations have made it difficult for the government to consider self-performance as an effective environmental policy instrument.

1. The management of environmental problem cannot be handled in an isolated manner, the national policy must be integrated from its inception.
2. Taking into account that in all productive processes there is a great affinity between globalization and sustainability, and that both processes are focused on efficiency in the use of resources and ways to compete, the government has not yet understood that standards such as the ISO 14000 can help to confront these challenges.
3. The absence of a long term Environmental Policy by the Colombian State, and proliferation of environmental policies of the governments of the day.

ISRAEL: THE STATUS OF EMS IMPLEMENTATION

An Israeli's Perspective

In 1999, Israel was very busy trying to prepare for the historical date or "the deadline" -- the changing of the Millennium. We were driven by predictions of millions of tourists to the Holy Land in 2000. Thus, we believed we needed to "rebuild everything".

Part of that, preparation was an effort to try to improve the Region's "environmental footprint". The logic behind this philosophy of course was that with "a better. Environmental image", we would have many more international guests, coming to, visit during the year 2000.

As a consequence, everybody in the environmental family -- government, business, communities was trying to "give a hand" to the common effort of "making a quantum leap" to the direction of greener, cleaner, better, managed life style and environment.

Well, the "drivers" were there, but unfortunately, the "bus" did not arrive. This resulted mainly from the other financial and security-related problems of the country. "Pushing the peace process forward" that is clearly the topic of utmost importance to the Israelis at the turn of the Millennium.

The bottom line for environmental management in Israel in 1999 was that, "the lever was there, but no Archimedes to lift it up".

*Eran Macover
Haifa Isreal*

The Sustainability Context

In Israel, "sustainability" is a concept that is taken quite seriously. Indeed, its meaning in Israel generally implies much more than only environmental protection or environmental management. It is linked in all dialogue -- public policy or the public at large -- to the concept of "survivability" which has been a constant theme throughout Israel's modern history.

Israel sees itself as something of an "island economy", one that is surrounded on all sides by hostile or at least minimally cooperative economies of the Arab states. Thus, foreign trade with major nations like the US and the UK, and at times with other politically isolated nations like South Africa and Taiwan, is vigorously pursued and protected.

Sustainability in terms of energy use and natural resources is a linked concern. Israel itself has limited oil reserves, an oddity given that its neighbors are oil rich. Until a recent agreement with Egypt on natural gas export, Israel shared in none of the Regional energy riches. The positive result for the Israeli environment has been the evolution of a requisite energy conscious ethic leading to green technologies and energy conservation practices friendly to the environment. Similarly, water is a hotly contested resource, especially in the ongoing negotiations with Syria over the return of the Golan Heights. Today the Golan area is less of a security issue than it was 20- 30 years ago, but it is much more of a resource issue as it holds the headwaters of the River Jordan.

Israel has adopted the sustainability theme in all of its environmental and planning activities in the government. Further, Israel participates in a number of United Nations and European Union sponsored sustainability initiatives. These have resulted in some excellent studies on coastal water quality in the Mediterranean and on tourism in the Red Sea area. Israel participates in certain

sustainability "compacts" such as the Mediterranean area sustainability plan. The advent of the EMS tool is expected to facilitate future activities in these areas.

Even at the community level, Israel has a history linked to sustainability. The collective or communal agricultural communities known as the "kibbutz" is run on a management systems model. The kibbutz can be seen as the forerunner of the sustainable community. In fact, for many years, the Environment Ministry has sponsored a program called the Green Kibbutz initiative which in part promotes an EMS-based regime to minimize environmental aspects and impacts.

Industry too has adopted a sustainability perspective. A number of business and environment organizations exist in Israel, including Green Shield, the local chapter of the International Chamber of Commerce, and the Environment Committee of the Manufacturers Association. The Israel Economic Forum for the Environment, another industry group, has taken a leadership role in recognizing the global dimensions of the sustainability and environmental management issues. As of 1999, the Forum became the Israeli member in INEM, the international Network for Environmental Management, a global network based in Germany. The Forum has since hosted the INEM annual meeting in Israel and has sponsored a series of training sessions on EMS and other strategic environmental management tools.

The Promise of Peace

As noted above, resources is an issue in the peace process. A regional umbrella organization, ECOPEACE (which is now officially subsumed under the Friends of the Earth - Middle East), recognized that a common understanding of environmental management tools, especially the emerging EMS international standards, could be useful in developing an accepted Regional framework for environmental protection. The goal of ECOPEACE is to use environmental awareness to advance the overall peace process. Those efforts are maintained through the visionary efforts of Palestinian, Jordanian, Egyptian and Israeli leaders of ECOPEACE. To date, ECOPEACE has sponsored EMS training at its multilateral annual meetings and intends to continue to promote the EMS tool.

Capacity Issues for EMS

If anything, Israel was too well prepared for the advent of EMS, and capacity developed well in advance of the actual need. Anticipating the inevitable shift to an EMS framework, there has been a glut of training opportunities; there are more than sufficient numbers of available, well-trained consultants and registrars; and there exists an active and motivated national standards body which has spearheaded a well-coordinated outreach effort.

What has been lacking to date in Israel are the necessary signals from the Environment Ministry. Industry, while interested in EMS from the management best practices perspective, awaited some sign from the government that EMS voluntary implementation would be appreciated in some tangible or intangible way.

Unfortunately, the Ministry itself was lagging behind the private sector in its understanding of the shifting environmental regulatory paradigm at the global level. Instead, industry leaders -- participating in international initiatives like ISO TC 207 and interacting with their international customers and suppliers -- were much more "in tune" with the emergence of the EMS model for policy and management purposes.

At present, the Environment Ministry is much better prepared at both the staff and senior management level. The Ministry's Chief Scientist's Office has been given the policy development lead on EMS, with supporting roles given to the Legal Office and to the Planning Office. Internal

training has been provided to staff, and even the Director General has been given an EMS tutorial. The results appear with positive references to the EMS tools in such recent documents as the annual lecture of the Minister of Environment on the topic of "National environmental priorities" and the recently-released "Environmental treaty for preservation of air quality" signed between the Ministry of Environment and the Israeli Manufacturers Association.

In Israel today, all the international EMS registering firms -- Lloyds, BSI, BVQI, SGS -- are active. The Israeli Standards Institute (SII), the national standards body, is itself functioning as a registrar. In fact, to date SII is dominating the market with 90% of the issued certifications. The success of SII can be attributed to the role it played in introducing ISO 9000 to the Israeli market. Israeli firms are very much into ISO 9000 quality management. They are finding it very convenient to be audited at the same time by the same auditors for 9000 and 14000 -not to mention the fact that the "combined audit" is much less expensive.

Implementation Update

The dominant EMS approach to be adopted in the Israeli market is the ISO 14000 standard (there are only 2 Green Globe certifications, and none for EMAS). Few organizations are looking at other EMS models.

Israel had a 100% growth in number of ISO 14001 certified companies for EMS over the past year:

1. Israel had 9 certified companies at the end of 1998; they have 20 certified today. The Dead Sea Bromine Works, Makteshim (chemical manufacturing), Israel Aircraft Industries, and Delkol (petroleum refining) were among the first to implement their ISO-compliant EMS.
2. An additional 5 sites have just finished and they will be getting their certificate in February 2000. Among those newly certified are 2 municipalities, Karmiel and Ashkelon.
3. An additional 30 organizations have committed to the Minister of the Environment that they will be certified to ISO 14001 by the end of year 2000. All of these are industrial companies of chemicals, high-technology, petrochemicals, electronics, and biotechnology, plus 2 hotels.

Another 50 organizations claim to be at different stages of implementation of an ISO 14001 compliant EMS; another 150 organizations have attended EMS training and are at "low stage" of showing interest and 11 watching and waiting" for further incentives, either market driven or provided by regulatory bodies. Thus, eventually, the 300 level of registered companies in Israel is not out of the question.

Incentives and Barriers

The strongest driver for EMS implementation in the Israeli market is the fact that certain EU clients and some American customers of Israeli exporters are demanding an ISO 14001 certificate within a specified time frame. For example, the largest private sector entity in Israel, Israel Aircraft Industries (IAI), was motivated to initiate its ISO implementation preparations (i.e., internal planning and training activities), because of early inquiries about EMS from General Electric, a major customer of IAI. There is no doubt at IAI and at other major companies that the "supplier chain" driver is the most effective "motivator" for a voluntary standard in the absence of specific government incentives.

Even monopolist, government-controlled entities like Israel's water authority and its sole electric power utility are monitoring the global situation with EMS and adjusting their business plans according to global industries trends. Two years ago, the senior managers of Israel Electric Corporation, the electric power utility, toured a number of US electric power facilities in an effort to

gauge the "state of the art." They saw a number of different EMS approaches. However, at present, sensing the acceptance of ISO 14001 at European electric power facilities, Israel Electric is preparing to move in the direction of ISO certification for at least some aspects of its operations.

Interestingly, the county's only hazardous waste disposal site, Ramat Hovav, is also pursuing certification. Ramat Hovav is the single most controversial environmental topic in Israel and the constant target of E-NGO attention. This EMS initiative at the site is principally an effort to calm community fears of potential toxic releases, as part of an overall external communications effort.

The strongest barrier to EMS implementation in Israel is the fear of government interference in business operations. Industry, through the Manufacturers Association, the Electrical Exporters group, and other trade associations, expressed concerns to the Environment Ministry about the potential for confidential, proprietary information to be accessed by the regulators and to be disclosed to the public. The industry leaders did not want disclosure to move beyond what is currently authorized by statute. This led to a year's worth of intensive discussions between government and industry, at times facilitated by international EMS experts, and ultimately resulting in the preparation of a national policy on ISO 14000 EMS implementation.

That succinct policy document (attached) provided assurances to the business sector that the Ministry would not seek to use ISO certification as a pretext to use the information generated in the course of voluntary implementation of an EMS by a regulated entity. At the same time, the new policy made it clear that EMS certification could not and would not be used as a shield to enforcement or as an excuse for non-compliance with laws. The policy went a step further and invited a dialogue on the question of providing regulatory flexibility to leading companies that take a proactive stance on environmental compliance by means of EMS implementation. This discussion about creating such incentives continues, and the establishment of a leadership program is still under active consideration.

The Tourism Sector

The Tourism sector in Israel is a special case. Israel is heavily dependent on tourist dollars. There is much interest in developing an "eco-tourism" approach to complement other tourism destinations like the religious holy sites in Jerusalem, Nazareth, and other West Bank towns. Interest has focused on creating a "green destination" in the Eilat, Israel - Aquaba, Jordan region with its coral reefs and superlative bird watching "flyway" located at the crossing between Europe, Asia and Africa. This ecotourism effort has been led by the Society for the Protection of Nature in Israel (SPNI). SPNI has tried to introduce eco-audits to hotels in the area with some limited success. A handful are said to be looking at Green Globe certification.

The Green Consumer

Israel is a sophisticated educated market, with a strong environmental ethic. There are numerous E-NGO's active in the country. Many of them have embraced EMS as a useful tool; others have looked at EMS with some skepticism, wondering if this is merely a "green wash" tool for corporate environmental programs. Overall, awareness of EMS is increasing in Israel and there has been dramatic increase of public interest in the "new standard." For example, when E-NGO's are taking giant organizations to court and winning, companies that commit to implement ISO 14000 manage to win much sympathy with the court. Most recently, a comprehensive report (367 pages) prepared by E-NGO's entitled, "National status of the environment in Israel," cites EMS implementation in a favorable light.

ISO 14001 Policy the Ministry of the Environment

A special team, nominated by the Director: General of the Ministry, is now studying different aspects of implementing the ISO 14000 standards in Israel.

Following the ISO 14000 team's initial conclusions, all relevant parties should be advised that the Ministry of the Environment welcomes the voluntary adoption and implementation of the above mentioned ISO standards by companies, organizations and especially plants and factories

On this issue it is important to clarify that according to the policy of the Ministry, as a rule, factory ISO 14001 files will not count as a legal source of information for the Ministry, therefore a search of ISO files as part of the regulatory authorized inspections of the Ministry of the Environment cannot be demanded.

Nonetheless, it is important to point out that the fact that a factory or an organization has received accreditation for ISO 14001 does not release the company from the need or the obligation of accomplishing all that is required of them to conform to the law. Furthermore, the existence of ISO accreditation does not detract from the Ministry's authority to carry out actions according to the laws it is in charge of executing.

It is likewise important to mention that the nominated team is continuing to evaluate new ways to promote the implementation of the above standards using the means available to the Ministry, Creating incentives such as giving benefits to the companies will be considered. The benefits will be decided upon by the Ministry and will be registered legally, where required, in return for the agreement of the companies to *10M4* element the standards in such a way and under certain conditions that will ensure public and environmental commitment which goes beyond that which is required by the present standards. The company will agree. among other things, to display its environmental policies to the Ministry, including its detailed plans for the reduction of pollution and prevention of environmental damage and hazards.

REFERENCES

CONPES 2750 document dated December 21,1994

2 CONPES means Social and Economics National Policy Council

Colombian Institute for Technical Standards and Certification, which issued the NTC-ISO 14001 Colombian Technical Standard, as the equivalent to ISO 14001

ISO 14001 Policy of the Ministry of the Environment