

## Case study

# Environmental protection programs and conservation practices of hotels in Ankara, Turkey

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**Abstract**

This study was designed to investigate the general nature of environmental protection, waste management, purchasing, energy use, and conservation practices of hotels in Ankara, Turkey. It explored the extent of environmental protection practices so the hotel industry could evaluate its position on environmental issues and so that other interested parties, including academics, can obtain fresh information for a distinctive part of the world. The data were collected by means of questionnaires and interviews. The study found that the policies and practices of Ankara hotels generally lack attributes relevant to environmental protection and conservation, and that hotel managers mostly lack the necessary environmental knowledge and interest to meet the basic objectives of social and environmental responsibility. It is thus necessary to develop an integrated system of policy and practice that involves not only the hotel management and staff, but also all parties concerned with environmental protection and sustainability, and to re-evaluate and reconsider national, local, and hotel policies and training activities.

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**1. Introduction**

Hotels constitute a key element of the organized chain of activity in the travel and tourism industry, and occupy a crucial place in concerns over environmental protection related to tourism and travel. The hotel industry, because of the nature of its functions, characteristics, and services, consumes substantial quantities of energy, water, and non-durable products. It has been estimated that most environmental impacts created by the hotel industry can be attributed to site planning and facility management; excessive consumption of local and imported non-durable goods, energy, and water; and emissions into the air, water, and soil (APAT, 2002; Mensah, 2004; Trung & Kumar, 2005). These observations have led many interested parties, including academic researchers, to study and criticize the

general policies and daily professional practices of the tourism, travel, and hotel industries, their mode of organization, the services they consume and provide, and the resulting environmental impacts. At the same time, the hotel industry has faced increasing pressure to pay appropriate attention to environmental issues. As a result, some managers now understand that long-term economic sustainability and growth depend upon the nature of their environmental policies. A clean environment is a basic component of quality service and is thus important for the development of travel, tourism, and hotel industries. Sustainable prosperity of travel, tourism, and hotel businesses also calls for the inclusion of environmental protection components in every phase of their business venture, from the preparation and application of site plans and business programs and policies to daily routine practices. However, the nature and extent of the industry's commitment to environmental issues in Turkey is largely unknown. The present study was designed to study and provide information on this unknown issue, and to meet the needs of independent academic research.

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The industry's interest in environmental protection depends on the nature of the sector's dominant business culture and practices. Previous research indicated that international and chain hotel managements were most likely to pay sufficient attention to environmental issues (Mensah, 2005). Although some independent hotels place a high priority on the environment (IH&RA, 2004), it is hard to find environmental protection programs in small and independent hotels (Cummings, 1997; Enz & Siguaw, 1999; Kirk, 1998). Moreover, environmental concern and the willingness to act are also strongly dependent on the hotel manager's attitude toward change and environment, knowledge about the benefits of environmental practices, perception of and relations with external environment, and organizational variables such as size, location and financial situation (Bohdanowicz, 2005a; Dewhurst & Thomas, 2003; Le, Hollenhorst, Harris, McLaughlin, & Shook, 2006). One of the main objectives of the present study was thus to examine and assess the situation in hotels in the city of Ankara, Turkey.

Another persistent problem is the huge gap between environmental awareness and daily practice (Erdogan, 1998, 2003). One of the leading obstacles to transforming environmental awareness into industrial practice is the assumed cost of environmental protection. Some studies have found that the tourism industry is only interested in environmental protection so long as it reduces operating and activity costs (Akis, 2001). It is normal to expect that enterprises in the tourism sector will adopt energy-saving methods and proper disposal of solid waste only if they minimize the related expenditures; competitive (or monopolistic) markets require cost minimization and profit maximization for an enterprise to survive. Studies in the US and Europe have mostly stated similar reasons on how to draw the attention of hotel industry to environmental protection. In Turkey, there is a lack of information about the level of environmental knowledge and interest of hotel managers and about the daily hotel practices related to environmental outcomes and protection.

The ideas of environmental protection, conservation, resource use that accounts for future considerations, and maximum realization of the interests of the tourism industry, tourists, and local populations, remain strong. The proponents of sustainability vehemently state that natural and tourism resources should be used and protected so that future generations will also be able to benefit from these resources. This idea is supported and promoted by national, regional, and international organizations, as well as by legal provisions and agreements. For instance, reflecting the basic idea of Agenda 21, some basic principles for sustainable and economically successful tourism have been proposed (Sitarz, 1994; Tosun, 2001). The principles of sustainable tourism are based on the following factors: (a) changing patterns of resource consumption; (b) efficient use of the Earth's natural resources through conservation and management of water and energy; (c) protection of our global commons through

efficient energy use, environmentally friendly transportation, efficient land use and resource development, and protection and management of the air, land, and oceans; (d) management of chemicals and wastes by prevention, reduction, and management of hazardous waste, reduction of solid wastes, reuse and recycling, and wastewater management; (e) site planning, use and management; (f) inclusion of staff, clients, and society in environmental issues; (g) development of partnerships to promote sustainable development; and (h) sustainable planning. Turkey is not exempt from this discussion. Hence, it is necessary to assess the nature of Turkish policy and business practices in the tourism and travel industry to provide valuable information that can support policy development, the application of policy, and control of environmental impacts.

The European Union began to develop environmental policy and action plans in 1972. Since then, minimum standards and legal infrastructures have been established for waste recycling and water and air pollution. Environmental issues are included in the Union's programs related to the Amsterdam Protocol because the existing legal provisions were found to be insufficient for the prevention of environmental pollution. The Fifth Environmental Action Program was established for the 1993–2000 period. The inclusion of an environmental dimension in all work and every program carried out in the European Union became mandatory since the Fifth Environmental Action Program covered the industrial, energy, tourism, transportation, and agricultural sectors (Mengi & Algan, 2003). This suggests a need to discover whether Turkey's hotel industry meets the internationally and nationally prescribed and expected standards.

There have been numerous studies of the environmental protection practices of hotels, but the majority has focused on large hotels catering to the demands of mass tourism on seashores and in popular resort areas. Inner-city hotels, and especially hotels in large cities, have generally been ignored. Contrary to the prevailing notion that only coastal hotels create environmental problems and take measures to solve or prevent them, inner-city hotels also create and solve environmental problems. Thus, it is necessary to determine the nature of the environmental policies and practices of city hotels in order to improve our knowledge of their status and their impacts and to develop and apply environmentally sound solutions.

Based on this discussion and the basic theoretical assumption that inner-city hotels face environmental issues similar to those of coastal and resort hotels, the present study was designed to investigate the general nature of environmental protection programs, waste management, purchasing, energy use, and conservation practices of hotels in Ankara, the capital city of Turkey. The objectives of the research were:

- By determining and discussing the environmental practices of hotels in Ankara, to attract the attention

of the hotel industry and other interested parties, including academics and researchers, to environmental issues in Turkey and other countries with parallel business cultures and practices.

- To provide new information on the issue for a different location and distinctive business culture, thereby expanding the existing body of knowledge beyond previous localities and countries.
- To contribute to the development of better environmental awareness and practices in Turkey and around the world, not only on the part of hotel industry but also on the part of every interested party, including policy-makers, academics, researchers, the media, and related industries.

## 2. Method

The study was designed as a survey research that combined qualitative and quantitative data. The qualitative data were collected by means of written documents, interviews with hotel managers, and observation of the characteristics of the hotels. The quantitative data were collected via questionnaires administered to hotel managers. Hotel managers were contacted by phone to request their cooperation in the study.

The theoretical population was defined as hotels in the capital city of Turkey, Ankara. The study population was a subset of this population that comprised the three-, four-, and five-star hotels in Ankara. To determine the sampling frame, a list of hotels was obtained from the [Hotel and Travel Guide \(2005\)](#) and [Ankara City Tourism Office Guide \(2005\)](#). However, a pilot study revealed that there were more hotels in Ankara than these guides reported: a total of 30 three-star, 17 four-star, and 7 five-star hotels. After determining the sampling frame as the total population of 54 hotels, all four- and five-star hotels in Ankara were included in the study, and a simple random sample was used to select 16 of the 30 three-star hotels. The pilot study also revealed that it was difficult to obtain cooperation from the management of the three-star hotels.

The pilot study was performed in May 2005. The data collection for the main study began in June 2005 and was completed in October 2005. Data collection took a long time because it was difficult to convince some hotel managers, especially those of three-star hotels, to make time for an interview and to complete the questionnaire.

A questionnaire was prepared and pre-tested during the pilot study in order to identify and correct any problems in wording. After making the necessary corrections, a 60-item questionnaire was used for the study. A total of three open-ended questions and 57 multiple-choice questions with three to five choices were used for the data collection.

The questionnaire consists of five interrelated categories of question: general demographics, environmental protection programs, solid waste management, purchasing activities, and energy use and resource conservation. The

findings were organized, analyzed, and presented according to these categories.

## 3. Findings and evaluations

### 3.1. General demographics

Ankara is the capital city of Turkey, and is located into central Anatolia. The city has a population of more than 3.5 million. According to the 2004 statistics, 189 540 foreigners and 9 68 152 Turkish citizens had spent at least one night in a star designated hotel in Ankara. The average length of stay was 2.3 days for foreigners and 1.5 days for citizens. The occupancy rate for hotels was 7.7% for foreigners and 25.3% for citizens. In comparison, the city of Antalya, which is one of Turkey's tourism centers, was visited by 4030 170 foreigners and 1014 956 Turkish citizens during the same year. The average length of stay in Antalya was 5.9 days for foreigners and 2.9 days for citizens. The occupancy rate for hotels was 55.4% for foreigners and 6.8% for citizens ([Turkish Ministry of Culture and Tourism, 2004](#)).

The present study found that the clients used hotels in Ankara for overnight stays (36.1%), daily meetings (26.2%), daily special events (23.0%), and weekend special meetings or events (14.7%).

One of the requirements of the Tourism Facilities Act states that three-star hotels must have at least 40 rooms, four-star hotels must have at least 80 rooms, and five-star hotels must have at least 120 rooms ([TTY, 2006](#)). It was found that 2 five-star, 10 four-star, and 2 three-star hotels did not meet these minimum standards.

The quality of service also depends upon having a sufficient number of employees. However, it is hard to determine the precise number of employees required to provide acceptable service, since quantity does not necessarily mean quality. Of the 40 hotels, 25 (9 four-star and 16 three-star) employed fewer than 51 staff, and none of the three-star hotels had more than 50 employees. Almost all of the four-star hotels (16 of 17) had fewer than 100 employees.

### 3.2. Environmental protection programs

The environmental protection responses were analyzed in two groups: (1) the existence and type of environmental program and (2) the types of environmental protection activities. Regarding the first group, it was found that 62.5% of hotels had no environmental program ([Table 1](#)). According to Turkey's Environmental Impact Assessment (EIA) regulation, hotels with 50 or more guest rooms must prepare an environmental impact assessment report ([ÇED, 2003](#)), but only 20% of the sampled hotels had produced an EIA report. Only 1 four-star and 1 three-star hotel had a written environmental policy, program, and EIA report, whereas 3 of 7 five-star (42.9%), 11 of 17 four-star (64.7%),

Table 1  
Existence of an environmental policy or program (%)

Items	Hotels			
	Five star	Four star	Three star	Total
Written environmental policy	0.0	17.6	6.3	10.0
Written environmental program	14.3	0.0	6.3	5.0
Environmental impact assessment report	42.9	11.8	18.8	20.0
All of the above	0.0	5.9	0.0	2.5
None of the above	42.9	64.7	68.8	62.5
Total	100.0	100.0	100.0	100.0

Table 2  
Extent of activities related to and knowledge of environmental protection (%)

Items	None	Low	Average	High	Very high
Environmental training of staff	20.0	40.0	25.0	15.0	0.0
Existence of environmental statements in work definition	30.8	30.8	17.9	20.5	0.0
Environmental pollution around the hotel	12.8	23.1	41.0	7.7	15.4
Intervening to prevent this pollution	15.0	25.0	32.5	27.5	0.0
Arrangements related to cigarette use	15.0	20.0	30.0	30.0	5.0
Knowledge of ISO 14001	32.5	30.0	17.5	17.5	2.5
Knowledge of the Pine Award Project	46.2	30.8	15.4	5.1	2.5
Participating in environmental meetings	55.3	34.2	5.2	5.3	0.0
Index (column total/row count)	28.4	29.2	23.1	16.1	3.2

and 11 of 16 three-star hotels (68.8%) had no environmental policy, program, or EIA report.

The questions related to types of environmental activities were divided into two subgroups for analysis. The first subgroup addressed questions concerned with indicators (e.g., budget, staff, award, membership in an environmental organization, educational brochures, and impact) of the existence of environmental concern and of a protection policy. It was found that only 2 four-star hotels allocate part of their budget for environmental reasons. Similarly, most hotels (76.9%) have no staff responsible for environmental protection. Only 2 five-star and 7 four-star hotels reported employing such staff; however, despite our testing of the questionnaire, it was not clear how they understood this question and why they answered “yes”. At a later stage of interviews, it was found that there is also lack of correct understanding of environmental terminology: for instance, the term “personnel for environmental protection” was understood by some managers to mean “personnel in charge of cleaning the environment” (i.e., part of the job of the housekeeping staff).

The majority of hotels (89.7%) had won no environmental awards, except 1 five-star and 3 four-star hotels, and provided no educational materials to guests (72.5%).

Interest in membership in environmental organizations was low: only 10% of hotels (2 out of 7 five-star and only 1 out of 17 four-star hotels) belonged to an environmental organization. Nearly half (45.5%) of the managers who did not belong to any environmental organization had no plans

to join such an organization in the future. This was most common for three-star hotels (80.0%), followed by five-star hotels (40%).

There was also a lack of interest in environmental education: only 27.5% of hotels (4 five-star, 6 four-star, and 1 three-star) provided environmental education brochures to customers.

Hotel managers were asked about their perception of the impact of environmental protection activities on their competitive advantage. It was found that few of them (7.5%) had “no idea”; a comparably small number (10%) believed that these activities had “no impact at all” on their competitiveness, but 20% believed that such activities had “a lot of impact” and the majority (62.5%) believed that they had some impact.

The second subgroup questions focused on the extent of activities related to and knowledge of environmental protection. The study findings were mostly congruent with the results obtained for the previous questions: staff environmental training and the existence of environmental protection and resource conservation statements in work definitions were uncommon. Only 15% of hotels provide environmental training for their employees. Moreover, managers reported that there was considerable amount of environmental pollution around the hotel, but the hotels performed few interventions to prevent it (Table 2).

Knowledge of environmental protection standard (ISO 14001) was also low: only 8 (20%) hotel managers reported their knowledge as being adequate, whereas 13 managers



(32.5%) stated they had no knowledge at all and 12 managers (30%) found it inadequate.

The Turkish Ministry of Culture and Tourism started an environmental sensitivity campaign in 1992 to encourage the tourism industry to contribute to environmental protection and conservation in their daily practices. At the request of a hotel, the Ministry would visit the hotel and award a “friend of the environment” certificate called the Pine Award if the hotel met the standards of the award program. These standards include harmony of the facility with nature, the choice of materials used in construction, the selection and use of landscape elements, isolation measures taken against noise, the quality and quantity of materials used for decoration of the facility, the measures and arrangements taken for energy and water conservation, the measures taken for fire prevention, the arrangements for waste management, wastewater treatment and reuse, kitchen and service materials used, the quality and quantity of consumables (e.g., detergents, disinfectants, and shampoos), environmental education materials (e.g., brochures and posters) for visitors, and environmental training of the staff. More than 30 hotels, mostly situated along the Mediterranean seashore, had received the award by 2005. It was found that the majority of hotel managers had either no knowledge (46.2%) or very little knowledge (30.8%) of the Pine Award. Only 1 five-star and 2 four-star hotel managers had adequate knowledge of the program. This indicates a serious lack of interaction between the urban hotel industry and the Ministry of Culture and Tourism and that the Ministry has failed to reach this industry.

Participation in environmental meetings was also very low: only 1 five-star and 1 four-star hotel manager reported that their attendance was “adequate”. More than half (55%) never attended such meetings and 34.2% considered their attendance to be inadequate.

These results show a lack of environmental awareness and concern. However, some hotels did give a high priority to the environment. Two five-star hotels (the Dedeman Büyükanadolu Hotel and the Ankara Hilton) had rules for minimizing the amount of wastewater and chemicals. A private organization runs the environmental management system of the Sheraton Hotel.

### 3.3. Solid waste management

The types of garbage that hotels dispose of were grouped into five categories. The greatest amount of waste produced by hotels was in the categories of paper and food wastes (Table 3). Findings indicate that 90% of hotels have a garbage deposit room and 92.3% have a daily collection schedule. Only a few hotels have garbage collection twice per day (5.1%) or three times per day (2.6%). Waste collection and disposal inevitably require the establishment of relations with the municipal government and with recycling firms. According to Municipal Law 1580, the municipal government collects waste and transports it to

Table 3

The extent of solid waste produced according to the type of waste (%)

Items	Very little	Little	Some	Much	Very much
Plastic	32.4	41.2	17.6	5.9	2.9
Metal	45.2	32.3	19.3	3.2	0.0
Glass	36.4	30.3	21.2	12.1	0.0
Paper	5.6	19.4	30.6	30.6	13.8
Food	7.9	13.2	23.7	31.6	23.6

the disposal location. Private recycling firms collect the recyclable waste from the source for recycling. Nearly one-third of the hotels (30%) sort their waste to extract recyclable material; 32.5% do some sorting and 37.5% do no sorting at all.

Those who did not sort their garbage were asked whether they would sort recyclables if the municipal government organized the collection. The majority of hotel managers (79.2%) answered yes. This suggests that the municipal government should take steps to encourage acceptance and expansion of the existing waste sorting and recycling services.

Waste sorting was most common for the larger hotels: 42.9% of five-star, 35.3% of four-star, and 18.8% of three-star hotels perform sorting. This tendency is reversed when they were asked whether they would sort their waste if the municipal government organized the collection: 66.7% for five-star, 90.0% for four-star, and 72.5% for three-star hotels.

More than half of the 40 hotel managers believed that recycling either partly (46.2%) or significantly (12.8%) reduced the management costs of their hotel, whereas 28.2% believed that it had no impact on management cost and 12.8% believed that it increased the cost.

During the interviews, managers were asked what kinds of waste sorting the hotels performed. It was found that sorting was inadequate, with no predefined system for waste separation. For instance, the Radisson Sas Hotel (five stars) has three different containers to collect glass, plastic bottles, and paper. In contrast, the Capital Hotel (three stars) collects paper, aluminum, and metal and sells them.

There are 12 recycling firms in Ankara, but most (89.5%) hotel managers did not know whether a recycling firm was near them and most (74.4%) had no knowledge of recycling firms. This lack of awareness explains why 71.8% of the hotels had no relationship with a recycling firm and 12.8% only cooperated slightly with such firms.

Some hotel managers complained that street waste collectors rummage through their garbage and that this is why their relationship with the municipal government was poor.

Awareness is the most important first step in improving environmental sensitivity and protection. Some hotel managers asked us about the meaning of hazardous waste and stated that they produced no hazardous waste. According to their statements, hazardous waste such as

Table 4  
Nature of waste management (%)

Items	None	Low	Average	High	Very high
Separate collection of hazardous waste	25.0	13.9	19.4	22.2	19.4
Recovery of used cooking oil	44.7	21.1	15.8	13.2	5.3
Recovery of food waste	10.3	25.6	33.3	25.6	5.1
Composting of organic and food waste	92.3	2.6	2.6	0.0	2.5
Knowledge of existence of recycling firms	73.7	15.8	5.3	5.3	0.0
Knowledge of recycling firms	43.6	30.8	10.3	12.8	2.6
Cooperation with recycling firms	71.8	12.8	10.3	5.1	0.0
Index (column total/row count)	51.6	17.5	13.9	12.0	5.0

Table 5  
Reasons for choosing container types (%)

Items	Less hazardous	Cheap	Reusable	Health concern	Ease of use	% total
Glass	9.0	3.0	20.8	56.7	10.5	100.0
Paper	15.4	17.7	18.3	22.6	26.0	100.0
Metal	11.3	5.4	17.3	35.7	30.3	100.0
Plastic	0.0	41.0	9.2	17.4	32.4	100.0
Index (column total/row count)	8.9	16.8	16.4	33.1	24.8	100.0

batteries is collected and disposed of together with the other waste. The majority of the hotels (65.8%) indicated that they do nothing to recover used cooking oil. Some hotels reported that they sent unused food to charitable organizations, whereas others said that they store food waste in refrigerators, and then send it to animal farms.

The majority of hotels (92.3%) reported that they do not compost organic and food wastes.

The waste management indices for some issues (Table 4) show that although only 17% of hotels had an adequate level of management, 51.6% had no proper management program or policy.

### 3.4. Purchasing activities

The first group of questions was about the container preferences of hotels. It was found that the foremost reason for container choice by hotels was health concern and ease of use (Table 5). Plastic containers were chosen for their low price (41.0%) and ease of use (32.4%); metal containers were chosen for the health concern (35.7%) and ease of use (30.3%); paper containers were chosen mostly for their ease of use (26.0%) and health consideration (22.6%); and glass containers were chosen primarily for health consideration (56.7%) and reusability (20.8%).

Some managers indicated that their choice of glass, paper or metal containers was not necessarily based on an environmentally conscious decision; for example, it is hard to save returnable bottles because they break easily and staffs are careless.

The second group of questions on purchasing was aimed at determining the basis for purchasing decisions in terms of environmental protection and the desire to support local

businesses (localism). Only 25.5% of hotels had a better than average consideration of the environment and localism in their purchasing activities (Table 6). Furthermore, there were no important differences among hotel types in terms of whether they purchased their supplies from local or other firms. These results show that hotels pay little attention to environmental considerations and mostly fail to meet the basic requirements of an environmentally sensitive purchasing policy. A proper purchasing policy that emphasizes recyclable and reusable goods, energy-saving equipment, reduced use of detergents, and suitable container can lead to effective waste and pollution prevention.

### 3.5. Energy use and resource conservation

Energy use is a cost factor and generally requires the consumption of non-renewable resources. As a result, it was expected that hotels would take measures to reduce their energy use. Eleven questions were asked to learn about their energy use and resource conservation practices. Most hotels paid attention to the cost of energy use, and made decisions to reduce costs and use energy-saving materials (Table 7).

The majority of four-star hotels (more than 80%) use “energy saver” system that controls every appliance in the room and key-card control system that provides no power unless the room key is inserted in an “on” switch, but the numbers were smaller for five-star hotels (28.6% and 57.2%) and three-star hotels (29.1% and 39.7%, respectively).

Energy-saving light bulbs were widely used in guest rooms, but the use of photocell lighting in washrooms was only slightly above 40%.

Table 6  
Basis for purchasing activities (%)

Items	None	Low	Average	High	Very high
Paying attention to recyclable materials	12.8	41.0	35.9	7.7	2.6
Purchasing single-use materials	45.0	7.5	30.0	10.0	7.5
Encouraging seller firms for recycling	38.5	30.8	20.5	7.7	2.6
Purchasing from local firms	15.0	7.5	45.0	22.5	10.0
Purchasing energy-saving materials	7.7	7.7	38.5	28.2	17.9
Purchasing less-hazardous cleansers	10.0	10.0	37.5	25.0	17.5
Index (column total/row count)	21.5	17.4	34.6	16.8	9.7

Table 7  
Nature of energy use and resource conservation (%)

Items	None	Low	Average	High	Very high
Wastewater treatment	62.5	5.0	7.5	7.5	17.5
Discharge of treated wastewater to the environment	59.0	7.7	7.7	10.3	15.3
Use of treated wastewater in garden irrigation	76.3	7.9	5.3	2.6	7.9
Energy saver control system in guest rooms	28.2	2.6	12.8	7.7	48.7
Key-card control system in guest rooms	38.5	0.0	2.5	12.8	46.2
Using energy-saving light bulbs in guest rooms	0.0	12.8	23.1	25.6	38.5
Use of solar energy	87.5	2.5	15.0	5.0	0.0
Considering guest requests for linen/towel changes	5.3	7.9	23.7	31.6	31.5
Using photocell lighting in general restrooms	42.5	10.0	10.0	20.0	17.5
Sorting linen according to dirtiness	5.3	7.9	23.7	36.8	26.3
Deciding on amount of cleansers to use	0.0	5.0	17.5	40.0	37.5
Index (column total/row count)	36.8	6.3	13.5	18.2	26.1

None of the five-star, 3 of the four-star (17.6%), and 3 three-star hotels (13.0%) used solar energy.

About two-thirds of the hotels indicated that guest demands for linen and towel changes were taken into consideration. The majority of the hotels determined the amount of cleaning materials to be used based on how dirty the materials were.

Ankara has a wastewater treatment center with a capacity to serve 4 million people, and this meets the needs of the city's present population. However, most hotels do not treat their wastewater (67.5%), do not discharge it into the environment (66.7%) and do not use wastewater for garden irrigation and other purposes (83.9%). Only 1 five-star, 2 four-star, and 3 three-star hotels reported that they use wastewater for garden irrigation.

#### 4. Conclusions

It is evident from the literature reviewed that the hotel industry all over the world is becoming increasingly environmentally responsible. The main forces exerting pressure on the hotel industry throughout the world are said to be government regulations, changing consumer demands, shifting professional ethics, and initiatives by professional associations, international organizations, and nongovernmental organizations. The prevailing recommendations, as well as the recommendations of this study, include almost all activities that have environmental

consequences and ask managers to develop and apply a wide range of protection and conservation programs and practices, such as reducing waste production and resource and energy consumption by controlling and improving lighting, heating, ventilation, air conditioning, and water use, by making proper purchasing decisions on containers, use of returnable containers and recycling materials (Carmona-Moreno, Céspedes-Lorente, & De Burgos-Jimenez, 2004).

##### 4.1. A general lack of environmental concern

The willingness and ability of facility management and staff to adopt greater environmental awareness and responsibility is crucial in striving towards a higher degree of sustainability in the tourism sector. There are conflicting results about the nature of the industrial practices. Some studies have revealed that hotel operators generally recognize the need for environmental protection and are involved in a number of activities. Environmental programs such as reducing energy consumption, recycling, and composting food scraps to reduce solid waste and minimize energy costs are steadily increasing throughout the world (Bowe, 2005; Bruns, 2000; Chen, Legrand, & Sloan, 2005; Dodd, Hoover, & Revilla, 2001). During recent years, national, EU, and international tourism policy have aimed at improvements in the existing infrastructure, lengthening of the operating season, and provision of alternative forms of tourism (e.g., ecotourism, health tourism), but always

keeping the environment in mind (Karagiorgas et al., 2006). Studies have indicated that the hotel industry has a stake in protecting the environment, since it depends on attractive and safe surroundings (Chan & Wong, 2006). The pressure for improved environmental performance of hotels can be seen, therefore, as driven by a need to preserve the local environment, perceived benefits such an opportunity to reduce operating costs and sustaining competitive advantage, enforcement of environmental regulations, institutional pressures, and a growing demand by customers for environmentally friendly programs (Bohdanowicz, 2005a, b; Le et al., 2006; Rivera, 2004; Vazques, Santos, & Alvarez, 2001).

Other studies indicated that despite its importance, “environmental stewardship” is not always a top priority in many countries (Cunningham, 2005; Mbaiwa, 2003; Trung & Kumar, 2005). As Le, Hollenhorst, Harris, McLaughlin, and Shook indicated in their study (2006) “the challenge lies in getting businesses to adopt environmentally friendly practices”. Bohdanowicz, Simanic, and Martinac (2005, p. 7) found that “mass tourism destinations and facilities, accounting for the most significant share of the global tourism market, are still largely managed with little or no environmental concern. The present study findings also indicated that there are some lack of environmental awareness and interest in sustainable protection measures in Ankara hotels. Few hotel activities in Ankara were satisfactory in terms of environmental concerns. In addition to showing little concern about environmental issues, most hotel managers in Ankara lack knowledge of the existence of recycling firms, ISO 14001, energy management system and environmental award programs, and have little interest in belonging to environmental organizations and no plan to join such an organization in the future. In order to achieve meaningful improvement, hotel managers must obtain adequate knowledge and develop appropriate concern for environmental issues. In addition, hotel managers should be eager to allocate the necessary funds to develop and implement state-of-the-art environmental programs.

#### 4.2. *A lack of environmental plans, policies, and activities*

Environmental management has become an important issue in the hospitality industry, with a number of hotels adopting sound environmental management practices in response to the growing concern for sustainable tourism products (Mensah, 2004). However, the present findings indicate that the hotels in Ankara, is far behind the developed countries in adopting and developing environmentally responsible policies and operations. This is likely due not only to the prevailing mode of conducting business, but also to general conditions in the country. Hotels in European Union countries seem to have better record: For instance, more than half (56.9%) of Swedish hotel managers had included an environmental policy statement in their business plan, versus only 4% in Poland

(Bohdanowicz, 2005a, p. 10). A study conducted by PricewaterhouseCoopers on European hotels found that 80% of the respondents had an environmental policy (Clark & Siddall, 2001). The US hotel industry had responded to environmental issues as far back as 1920 (Mensah, 2004), but it seems that only famous five-star hotels are aggressively pursuing environmental initiatives. According to one study, the US industry is perceived as having a “lack of innovation and its reputation as being largely environmentally unfriendly and generally unwilling to move toward alternatives or any reform” (Conner, 2000). This indicates that there is also a lack of concern, awareness and responsibility in some hotels in the US. The situation seems worse in Ankara; because few soundly planned and programmed environmental policies and management could be found in hotels in the capital city.

According to some studies, hotels plan environmental protection activities to reduce the consumption of energy, water, and materials, thus reducing operating costs (Bowe, 2005; Bruns, 2000; Forbes, 2001; Kirk, 1998). Furthermore, doing so could enhance customer loyalty and the company’s public image (Chan & Wong, 2006). The present study found that most hotels in Ankara have little or no interest in environmental issues, policies, and activities. For instance, few managers had heard about or were interested in the Pine Award offered by the Ministry of Culture and Tourism.

Font (2002) reported that “there is no regulation to limit which tourism, hospitality and ecotourism businesses self-declare themselves as being sustainable, green, environmentally friendly, eco-friendly and so on”. One initiative undertaken by the hotel industry in recent years, especially in the west, has been the adoption of the internationally recognized ISO 14001. The environmental management standard is also an important part of any environmental protection plan, policy, and practice. Such international standards can help hotels to establish environmental protection programs and integrate them into a coherent framework, thereby enhancing relationships with government agencies, consumer groups, communities, and environmentally conscious investors and tourists (Chan & Wong, 2006; Font, 2002; TSE, 2005). The present study findings also suggest that few of the hotels in Ankara would be eligible for ISO 14001 certification because they do not meet the necessary standards for developing environmental policy, planning activities, implementing activities, monitoring and taking corrective action, and performing management reviews.

#### 4.3. *Inefficient and ineffective legal provisions*

Governments have become increasingly aware of the need for more effective measures to protect the environment and have realized the importance of legislation and regulations. Most countries, including Turkey, have adopted various legal provisions on environmental protection, including regulations on impact assessment, packaging, and the



control of waste, waste oil, and used batteries. However, the present study found that most hotels in Ankara are not complying with the various laws on environmental protection.

Yuksel, Bramwella, and Yuksel (2005), focusing on the benefits of liberal economy and decentralization, indicated that the 1982 Tourism Encouragement Law in Turkey reflected new government priorities to attract private sector involvement in tourism, and sought to reduce state investment in tourism by providing new incentives to businesses. However, the basic problem with laws and regulations in Turkey is that they are generally inoperative, because few businesses obey the law when no mechanism has been established to enforce the law; for example, the law on cigarette smoking provides a high monetary penalty for violators, but there is no monitoring mechanism and no authority to penalize violators and collect the fine. Rules, regulations, and legal sanctions related to environmental responsibility can become operative only if there is a general cultural atmosphere that promotes environmental protection. However, there are some places where legal and political pressures force an industry to comply (Rivera, 2004). For instance, a study conducted among hotel managers in Mexico by Dodd et al. (2001) found that managers adopted hotel practices geared towards addressing environmental concerns not because of demand from tourists, but rather because of legal and political pressures. Even this finding may be optimistic for the hotel industry in Ankara, because the existence of laws and regulations does not mean that the hotel industry will act accordingly, especially in a political and cultural environment that does not ensure enforcement of the law and proper application of the regulations.

#### 4.4. *Increasing interest in reducing energy consumption*

Managing energy use is generally seen as part of overall environmental management. In fact, successful environmental management examples are often related to energy use because there are apparent financial gains from conservation (Bowe, 2005; Loehr, 2002; Kirk, 1995; Shiming & Burnett, 2002). Energy consumption in hotels is clearly a factor in their competitiveness, and reducing costs and increasing sensitivity to environmental factors in hotel design will lead to the introduction of elements with less environmental impact and will create conditions favorable to the optimization of energy resources and the introduction of renewable energy technologies. The studies by Karagiorgas et al. (2006), Becken and Simmons (2002), and others reveal such an orientation. Other studies (Blank, 1999; Deng & Burnett, 2002a, b; Öztürk, 2005) have reported increasing concerns about energy use in hotels, efforts to study energy use, and efforts to promote good operational practices because of the significant amount of energy consumed daily in a hotel. These studies indicate that there are both business and non-business reasons to conserve energy in hotels, such as increased

profitability due to reduced operating costs, the potential for improved market share, and preservation of limited natural resources to promote sustainable development. Currently, measures aimed at energy conservation are increasingly popular among hotel managers. The use of energy-efficient lighting has revealed the potential savings from such technology and has promoted the use of other such appliances, and as a result, is increasing the market share of energy-efficient equipment in the hotel industry. There have been installations of renewable energy systems, and implementations of various methods for controlling energy consumption, including occupancy sensors to control lighting, energy saver power cards, computerized building management systems, low-flow showerheads, and the use of solar energy. The present study found that hotels in Ankara generally pay some attention to reducing energy use, but that these measures remain inadequate except in five-star hotels. As Deng and Burnett (2002a) indicated, the key elements of a successful energy management program should be fully integrated into a hotel's overall management systems; in addition, there should be sound energy use, purchasing, and budgeting policies and a corresponding action plan, key staff should be trained in energy management, and managers should periodically perform environmental monitoring or auditing, as well as assessment and evaluation of energy use and its associated costs and outcomes.

It is well known that energy management and water management are important components of an overall environmental management program. Water consumption depends on the type, standards, and size of the facility, on the services and facilities offered, on the climate and irrigation needs, and on existing water conservation practices. Water and energy management is normally organized in a similar manner in hotels. Among water conservation measures, towel reuse programs are well-established in most European countries and in five-star hotels throughout the world. This policy saves water and electricity, reduces detergent use, and prolongs the life of materials. According to the Green Hotel Association, hotels report 70–90% guest participation in such programs, corresponding to a savings of US\$6.50 per day per occupied room (Bohdanowicz, 2005a). The present study indicated that water saving measures have not been properly implemented in Ankara hotels. Most water consumption occurs in hotel rooms, the laundry units, and the kitchen facilities. Therefore, the installation and proper use of water-efficient equipment may have a significant influence on the total quantity of water that is wasted.

#### 4.5. *Measures for waste minimization*

Waste generation is probably the most visible effect that the hotel industry has on the environment. A typical hotel guest is estimated to produce at least 1 kg of waste per day (Bohdanowicz, 2005a; Chan & Wong,

2006). The findings of Abdel-Rahman, Connolly, Costen, Dajnak, and Lockwood (2005), Özgen (2003), and Trung and Kumar (2005) indicated that the larger hotels consumed more water, discharged more waste, and had higher proportions of organic waste, glass, textiles, metals, and non-combustible materials. Findings of the present study showed that hotels in Ankara have no comprehensive and effective policy for minimizing waste generation and have no solid waste management program other than collecting wastes for municipal disposal. It is evident that hotels need to develop suitable waste minimization and management policies that consider environmental protection.

Warnken, Bradley, and Guilding (2005) reported that not one of the accommodation providers in their study was able to provide data concerning waste or wastewater production. The present study findings suggest that this lack of interest is widespread in the hotel industry in Ankara too: no hotel collected statistical information on their environmental practices.

#### 4.6. The need for a comprehensive protection policy and implementation

Environmental pollution and deterioration related to the daily activities of tourism sector have forced interested parties (individuals, groups, associations, institutions, and state organizations) to ponder the need for new tourism policies and strategies that are friendly to the environment, especially since the 1980s. Some studies found that “Innovation characteristics, especially complexity, play the most important role in the decision of hotel businesses to adopt environmental management practices. Social pressures to adopt environmentally friendly policy had a weak influence on firms’ decisions to adopt it” (Le et al., 2006). Other studies, for instance Dewhurst and Thomas (2003), found that small hotels have a stronger sense of attachment to their business environment, and, thus, they are more interested in the quality of the environment than running after high returns.

However, thus far, the nature of environmental policies and practices activities of hotels indicates that environmental protection arises generally from immediate economic gains that result from minimizing expenses by means of cost reduction measures that also bring about resource conservation and prevention. Some studies indicate that industries are responsible for environmental problems and economical disparity within and among the countries (Duffy, 2002; Mbaiwa, 2003; Stone & Wall, 2004). Tosun (2001) found that the economic gain from tourism was low, and except a few market owners and restaurants, the community did not benefit significantly. The findings of the present study and of previous studies indicate that significant transformations are needed in order to develop policies and practices that demonstrate the tourism industry is genuinely interested in the protection of natural and human ecology.

It is apparent from the present study that there is a need in Ankara hotels for a system of comprehensive and integrated environmental protection policy and practices. This system should involve the tourism, travel, and hotel industries, related businesses, the mass media, state institutions and government agencies, nongovernmental organizations, local administrations, and travelers and tourists. It will also be necessary to perform further research to obtain data that can be used to support decision-making.

We thus recommend that the hotel industry in Ankara and elsewhere and other parties involved directly or indirectly in the related environmental issues should pay close attention to the findings presented in this paper and other studies, and should begin working together to solve the problems researchers have identified. There is also a need to conduct further research about the tourism industry’s concern with environmental issues in Turkey.

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