

## **Analysis of the factors affecting on productive environmental management systems (EMS) in hotels, Sri Lanka**

**R.M.K.S.R Ranaweera\***, **J.M.S.B Jayasundara** and **P.S.K Rajarapakshe**  
*Department of Environmental Management, Faculty of Social Sciences and Humanities,  
Rajarata University of Sri Lanka, Sri Lanka.*

*\*Corresponding author: [91srkithmini@gmail.com](mailto:91srkithmini@gmail.com)*

### **Introduction**

Against a background of increasingly serious environmental deterioration and improving environmental regulations, businesses and industries are facing growing responsibility to manage their activities. Industrial activities that are becoming an influential threat to the environment has to be managed. However, most business organizations are motivated to manage their environmental impacts and improve sustainability in business. This research focuses on the problems that businesses face in dealing with environment and identifies best practice for business using the ISO 14001 Environmental Management System Framework to manage the environmental impact within a company, with special reference to hotels in the tourism industry.

The hotel industry keeps growing. In 2007, Worldwide tourism represents 35 percent of the world's exports of services and over 70 percent in some developing countries (Zein et al., 2008). In Sri Lanka, average annual growth rate from 2005 to 2013 is 21percent (Sri Lanka Tourism Development Authority, 2013). This growth is directly accountable in environmental aspects because the whole population has to be accommodated in hotels which come with unsustainable consumption practices endangering ecosystems and natural resources. In World 75 percent of environmental pollution caused by hotel industry with over-consuming energy, water, and materials while operating business. Thus, hotel industry worldwide is currently getting more and more concerned about environmental issues (Chen, 2008).

Hence hotel industry in Sri Lanka is an active and inevitable source to revenue for national economy and there should be a well-suited apparatus to balance revenue and environment cost. Otherwise such void will be turned in to long term environment problems and issues. To address such matters, an environmental management system (EMS) is a proper way because, an EMS has the capacity to manage and deal with aspects that pressure the environment. It allows an organizational framework to control the impacts of activities, products or services on the natural environment systematically and continually while helping organization to reduce unnecessary costs. Hotels individually implement several environmental conservation practices and try to minimize their impacts on

environment. But there is a significant difference between ordinary environmental practices and implementation of EMS with ISO 14001 standard because, EMS is a continuous management plan to minimize the impacts on environment with a well-organized steps of activities.

### **Methodology**

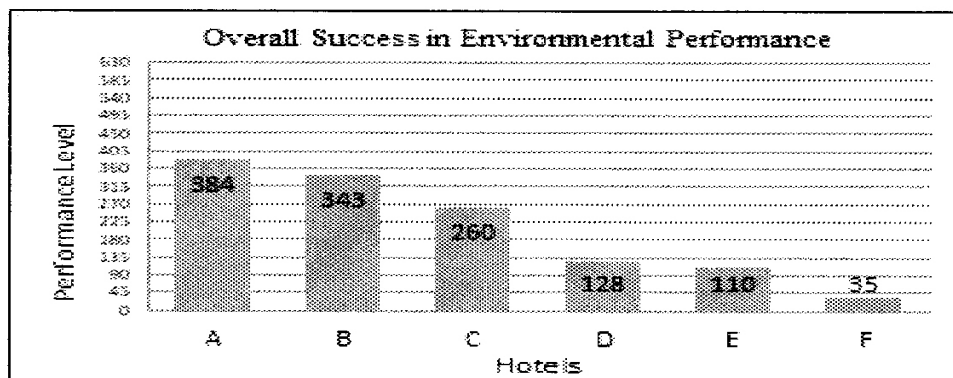
The general objective of this study was to assess the factors influencing on productive environmental management systems in hotels. The sample selection was made according to their environmental performance levels such as implementation of environmental management systems with ISO 14001 standard. The sample included four stars class with room capacity between 75 and 100. The sample was evaluated for their environmental performances. Institutional review of selected tourists' hotels was done by primary and secondary data collected through a structured questionnaire survey and a documentary review. Questionnaires were filled by both top managers and lower level employees. Initial Environmental Review Checklists were filled under major six components and used a grading system (Sturm & Upasena, 1998) in evaluating each hotel on their performance. Each criteria got a grade accordingly and finally hotels get a final mark through a mathematical calculation using MS excel which is denoted in Table 1.

### **Results and discussion**

According to the comparative analysis done with the data collected from hotels with and without EMS plans, there is a performance variance. Despite being hotels without EMS plans they are practicing some steps of EMS such as planning, implementing, and measuring. But the environmental actions needed to be evaluated, reviewed and employed corrective actions for continuous improvement which are not implemented in hotels without EMS plans. The hotels with EMS plans also indicate a performance variance in their EMS because they have different levels of competencies, accessibility to technology, human and financial resources and efficiency in working. Also the attitudes make the process more success. If the people involved are thoroughly committed to accomplish their responsibilities well, the process can be executed well. Figure 1 shows the overall performance levels of selected six hotels in the study.

According to the results, D, E, F are the hotels without EMS plans and A, B, C are the hotels with EMS plans. According to the results of evaluated IER there is a performance variance in environmental actions. In the study Initial Environmental Review (IER) was evaluated according to six modules which cover all the steps of ISO 14001 standard such as plan, do, check and act. For a most productive environmental management system there should be a proper

systematic process of planning, implementing, reviewing and continuous improvement. Those hotels ISO standardized are implementing the steps well and most effective in their environmental performance.



**Figure 1** Overall environmental performance of hotels

Table 1 illustrates the performance levels of each hotel according to the survey analysis and it is a significant variance of hotels with EMS and without EMS plans. Hotels with EMS plans are functioning the all levels of the system and they are successful in planning, implementing, reviewing and continuing the system again. So it is clear to stated that for the almost success of environmental performance in an industry, a systematic process of activity plan is vital. It is proven that in the year 2016, “A” hotel was awarded by the Green Award offered by the Central Environmental Authority.

**Table 1** Performance of hotels according to EMS modules

| EMS Module | Com & Policy (60) | Planni ng Policy (120) | Implemen ting (210) | Evalua tion (120) | Revie w (60) | En:tal Commu nication (60) | Over all (630) | %     |
|------------|-------------------|------------------------|---------------------|-------------------|--------------|----------------------------|----------------|-------|
| A          | 56                | 98                     | 133                 | 69                | 21           | 7                          | 384            | 60.95 |
| B          | 49                | 93                     | 126                 | 46                | 17           | 12                         | 343            | 54.44 |
| C          | 42                | 69                     | 104                 | 36                | 7            | 2                          | 260            | 41.26 |
| D          | 24                | 49                     | 47                  | 8                 | 0            | 0                          | 128            | 20.31 |
| E          | 17                | 35                     | 51                  | 7                 | 0            | 0                          | 110            | 17.46 |
| F          | 7                 | 12                     | 18                  | 5                 | 0            | 0                          | 35             | 5.55  |

Individual assessment of environmental performance will help any institute to understand the barriers for EMS in their own property and so that they can formulate the most suitable and preferable implementation strategy. Identify the advantages and barriers for EMS and a need assessment for EMS will motivate industries to implement a systematic environmental management plan in any industry to manage the environmental impacts onsite.

### **Conclusion**

Hotel industry as well as any kind of industry can be more profitable economically, socially and environmentally by implementing a systematic EMS. Hotels without EMS plans are only considering the activities for environmental conservation and not involving in any planning and reviewing. So a SWOT analysis can be incorporated for industries to apply EMS and can be advised on advantages, motivations and capacities. Also launching a process of implementing EMS in industries considering country as a whole is better. If there is a common criterion to guide small scale industries for EMS and if they assist with a prior investments, industries can be motivated for applying EMS in their private property escaping their barriers such as financial support. Recently eco-tourism is a most eminent concept in the world and EMS can be incorporated in eco-tourism to get the economic, social and environmental sustainability in business.

**Keywords:** *Environmental impact, environmental management system, environmental sustainability, initial environmental review.*

### **References**

- Chen, E. S. W. (2008). *Barriers to EMS in Hotel Industry*. Hong Kong: Elsevier.
- SLTDA. (2013). *Annual Statistical Report, Sri Lanka*. Sri Lanka Tourism Development Authority, Sri Lanka.
- Strum, A. & Upasena, S. (1998). *ISO 14001- Implementing an Environmental Management*, Switzerland.
- Zein, K., Wazner, M, S, & Meylan G. (2008). *Best Environmental Practices for the Hotel Industry*. Swizerland: Sustainable Business Associates.