

The Limitations and Opportunities to Implement Environmental Management System in Malaysia

Aminatuzuhariah Megat Abdullah (PhD)

Department of Architecture, Faculty of Built Environment, Universiti Teknologi Malaysia, 81310 Skudai, Johor, Malaysia

ABSTRACT: *This paper highlights the extent of the Environmental Management System (EMS) implementation in building and construction industry in Malaysia. It has been found from the literature review and the research done, that the implementation of the EMS approaches in building professional organisations is still at the infancy stage. This paper also presents some approaches that can be taken to address the present obstacles that hinder a wider implementation of environmental sustainable development.*

Introduction

The construction industry in Malaysia contributes about 3-5% of the Gross Domestic Product (GDP) and provides employment to about 700,000 people, or about 10% of the total labour force (Kamaruzzaman, 2003). Hence, the construction industry plays a significant role in the development of Malaysia. The construction industry in particular the construction material has a substantial impact on the environment. Issues at the building design stage include how to protect the environment, how to minimise wastes, how to conserve water, how to prevent pollution, and how to maintain a health and safe environment.

The Environmental Management System has been widely recognized as a tool to reduce the impacts of building and construction projects on the environment. The use of this system aims to manage and to produce more sustainable projects that are more efficient in terms of resource and energy use, reducing the impact on the environment, providing better value of living and work conditions whilst improving economic productivity and competitiveness.

The use of the EMS approach also challenges all professional groups in the construction industry to think more broadly about their impact on the global

environment and the quality of life. Many of the building and construction industry's activities have important effects on the environment. The profession must work carefully and consciously to integrate its long standing welfare aims with the new environmental agenda.

Implementation of EMS in Designers Offices in South East Asia

Currently, South East Asia's building and construction industry, including Malaysia's lacks a management model for the preparation and implementation of a quality Environmental Management Plan. Even though there are brief environmental guidelines in the Environmental Impact Assessment Handbook prepared by the Department of Environment, Malaysia, they do not facilitate the construction players in interpreting and executing the necessary requirements from the design to the post-occupancy stages.

It was also found that, for the most part, research has been drawn from areas on environmental impact assessments only. Since only a few scholars had examined the EMS during construction, this presents a gap in knowledge that needs to be filled. This is in tandem with findings made by Norulaini et.al., (2004) who also feels that most consultants and construction project teams in Malaysia do not have a proper EMS or environmental management unit to tackle environmental problems created by the building and construction projects (Norulaini et.al., 2004; Foziah, 2004).

A few researches have been conducted in South East Asia exploring the extent of EMS (taking ISO 14000 as the EMS model) implementation in the construction industry. Based on the survey, it was found that there are many factors that hinder the consultant and construction teams to implement ISO 14000 in their offices. For example, Montabon et.al., (2000) state that the difficulty on the implementation of ISO 14000 is due to the non-standardisation of local authorities' regulations, changes in ISO 14000 standard, certification cost, lack of understanding on benefits of the certificate to the company and its impact to the contemporary environment management. Whilst, Zulina et. al., (1999) find that the design and construction companies face problems such as low commitment from the top management, lack

of resources and infrastructure, and inappropriateness of the EMS standard that is suitable to the Malaysian environmental context.

Research findings conducted by Ofori et. al., (2000) in Singapore, concludes almost similar barriers on the implementation of ISO 14000. They are such as lack of resources, the lack of understanding of EMS in the industry, changing of the management and the lack of commitment of staff.

Similar findings have also been found by the author when she conducted her survey amongst the building and construction professionals in the United Kingdom (Aminatuzuhariah, 1996; Aminatuzuhariah, 2005). Even though almost half of the companies in the research are aware of the design criteria in producing environmentally sustainable building and construction projects and importance of EMS, their ability to influence their organizations on these depends on the following two factors:

1. Client sensitivity to the environmental issue

It has been understood that much will be gained by the clients if they look beyond the short term goal of project completion to the scheme in use. However, too much emphasis is given to short term considerations at the expense of flexibility and long life. As has been highlighted before, there are environmental implications throughout the project lifetime. Design decisions should be made on the basis of assessing the life-cycle cost and environmental implications. A green project designed on this basis need not cost the clients any more than a less benign alternative and may save time, money and inconvenience in the long term (CIRIA, 1995).

However, most of the clients still do not recognise these benefits and are not interested in spending a little bit more money to save future maintenance costs. According to one architect, even on large projects; with organisations where one would expect sensitivity to environmental issues, the requirements tend to concentrate on meeting the specific needs of a brief at minimal cost.

Some clients such as commercial firms showed no interest at all, except perhaps at individual level - but the final answer will depend on the cheapest solution. This shows that there was clearly a considerable gap between customers' desires for good environmental performance and their willingness to pay. Only when the clients depend on the design professionals for guidance, that they can inject more "environmentally friendlier" ideas.

2. The awareness and commitment from the top management in the company

Most authors agree that the first issue which the organisation has to handle is the commitment from the top management and their perception on environment. It is surprising to notice from the author's research findings that small companies have more ethics towards the environment than the bigger companies. It seems that the bigger companies put profit as a priority in their business strategy above other things.

It was found that the companies will take some time to fully comply with the requirements of EMS. The feedback reveals that more than half of the companies had included environmental policy and carried out a preliminary review. However, areas notably inadequate include failure to have an integrated or documented environmental procedure and to have an environmental manual review. Almost half of the surveyed companies do not have a proper job description for their employees and this shows that there is lack of communication between the top management and their sub-ordinates on the environmental issue. This corroborates with observations made by Sarmila and Suraiya, (2003) when they did the survey of the ISO 14000 implementation in the Malaysian building and construction industry.

It was also found that most of the companies do not evaluate the company's environmental or project environmental performance. Only an average of a quarter of the participants had done their environmental audit, contacted client after construction, maintained data base for contractors/ subcontractors/ suppliers and kept records of environmental performance for future references. This again shows the lack of commitment of the companies on the environmental issues.

Opportunities

There is certainly no shortage of opportunities to introduce positive steps that will yield financial and image benefits. Based on the author's study, many benefits of designing environmental sustainable building and construction projects and implementing EMS were not being recognised by the respondents. Even though almost all agreed that by implementing EMS they can contribute to environmental improvement, the participants did not recognise that in addition to improving environmental performance this benefit can offer companies and the client's organisation significant financial saving. The other most commonly quoted benefit of implementing EMS is improvement on their "green" corporate image.

As we know, building consultants have always been dealing with several areas of activities which are significant for sustainability at both local and global levels. They can therefore help to measure and articulate sustainable development, as well as to improve it. Being the consultants they also have regular contact with a cross-section of the community, ranging from industries and businesses to shops, service industries and households. They also have resources that are well experienced in both regulatory and advisory roles and in reconciling environmental, social and economic demands. Their environmental knowledge, and their individual and companies' concerns, provide opportunities for educating or influencing clients on a range of sustainability issues.

This, however, is not generally the perception of the issue to the people, or the whole sectors. Judging by the results of the questionnaire survey, it tends to be viewed as being too large (and too abstract) a problem for ordinary companies to have any role to play – but another matter for Governments to resolve. This view was shared by Sharrat (1995), in his research on the implementation of EMS on other sectors, apart from the construction industry.

EMS has been understood as a new method of managing and making decisions, which have implications for the way local government and private companies work. For example, Sharrat (1995) gives some important points which are as follows;

- Problems must be seen and understood in the round. The systems connections between apparently unrelated areas of policy must be recognised. Professionals must treat their specialist skills as means not ends, and different professions need to work more closely together.
- He also believes that the opportunities identified above are integral to the profession, but the limitations are largely circumstantial and can be remedied by a combination of support from local and central governments and positive action by the profession itself. This opinion is shared by Shafii and Othman (2005), who believe that the profession can and should play a central role in the management of sustainable development.
- Environmental professionals should be consulted at an early stage over the building design. This will require a cross-disciplinary approach in planning, involving teamwork between architects, planners, engineers and quantity surveyors. The environmental management system should help to provide the framework and impetus needed to develop this teamwork. Implementing sustainable development policies necessarily involves a wide range of different bodies and interests. Partnership methods of working are therefore needed.

Environmental management system is not likely to achieve much in the way of improving the environmental performance of building and construction projects unless there is a profound change in the attitude of the management. Environmental affairs must be considered in the day to day running of the company exactly the same way that it would be natural to consider economic and financial affairs. A company should try to arrive at a situation where environmental management receives the same attention as production management and quality management. As we have heard many times, the drive towards environmental excellence must come from the very top.

Limitations

The author's research findings also reveal that the 'considerate' companies were not the only one that had some reservations about environmental sustainable building and construction projects and the benefits of implementing the EMS. A few companies being questioned have listed drawbacks to the system, including those which are currently implementing them. One of the most frequent doubts expressed was that the cost of putting such system in place would not be justified by improvement in environmental performance, by environmental cost savings or by increased competitive advantage.

One of the building profession's main problems in responding to the sustainable development is lack of resources. One of the architectural companies complained that it has to manage increasing workloads especially after the introduction of new Construction and Design Management regulations, etc.

Some commented that the recession of recent years has hit the construction industry very hard, and it affected the construction industry more deeply than other industries. For them, survival is the name of the game, with very little time or resources for carrying out extra tasks.

Many building professionals have had no training in the global aspects of environmental issues, or in the key tools of sustainable development policy management, such as ISO 14000, BS 7750, strategic environmental assessment and life cycle analysis.

The majority of drawbacks listed by the companies centred on resource allocation and funding. Many companies contended that an EMS would require undue resources for implementation and maintenance, likening it to a 'personnel vacuum' and 'paper mountain'. Ultimately, the issue was one of cost. Many companies thought that they could not spare the money to implement such a system because it was not fundamental to their business, as one manager said, "Although we accept

environmental responsibility for our operations, we are in the business to make money, not to be charitable to the environment."

All of the above, with market size, lack of continuity of work suffered by some professional consultants and the several competitions between designers make the design of environmental sustainable building and construction projects and the use of EMS in project delivery very difficult.

Conclusion and the Way Forward

The Construction Industry Development Board (CIDB) Malaysia, as the leading construction authority, also adopts sustainable development mission and is demonstrative in its development policy "to maintain the ecological balance and preserving the environment and development that creates wealth and quality of life for the citizen". This shows that Malaysia is also serious in promoting environmental sustainable building and construction development. However, this idea is not yet an integral part of decision making and business practice.

To increase awareness on sustainable development in Malaysia, the Government of Malaysia should think of a comprehensive approach to address the present obstacles for a wider implementation of environmental sustainable development. A national body or a centre can be established to play this role and several initiatives can be implemented. Among other things are as follows:

a) *Promotion and Implementation of Education and Training on the Environmental Sustainable Building and Construction Development at Universities*

Several universities in Malaysia like Universiti Teknologi Malaysia and Universiti Sains Malaysia have set up an Environmental Unit that is responsible for incorporating the idea of designing environmentally sustainable building and construction projects amongst their architectural students. The students are taught on how to design buildings that are responsive to our environment whilst conserving our

heritage. Here, basic principles of passive cooling and other intelligent climatic control in buildings are taught. However, the training is very much theory-based and not much effort is being made to ensure that the knowledge is being applied in the practice.

b) Development and Publication of Teaching Materials and Resource Books on Environmental Sustainable Building and Construction Projects

The author observes that teaching materials and resource books on environmental sustainable buildings and construction in the Malaysian context is very much lacking. Even though the Centre for Education and Training in Renewable Energy and Energy Efficiency has produced a few publications, they nonetheless focus on renewable energy and energy efficiency only and do not cover many other aspects on environmental sustainable development as well as the benefit to implement the EMS. Development and publication of the above materials shall benefit the students, professionals as well as other stakeholders in the building and construction industry.

c) Training Programme for Professionals, Academicians and Various Stakeholders in the Building and Construction Industry

The awareness of environmental sustainable building and construction projects as well as the use of EMS needs to be raised in the public domain, academicians, design professionals as well as other stakeholders in the industry. Based on the author's research findings, the design professionals feel that designing buildings and construction projects that are sustainable, is complex because there are so many environmental design criteria that need to be considered, with some of conflicting interest with other design requirements. As for the use of the EMS in their organizations, some firms reported that they lack the knowledge on how to establish and implement the EMS.

Environmental sustainable building and construction concept will not succeed unless all players in the industry are well aware of the EMS benefits and that it will never be implemented successfully without educating the professionals and other stakeholders

about it. Thus, it is essential that the diverse parts of the industry collectively hold annual conferences or workshops through academic and professional institutions to disseminate and update information. This could provide a significant basis for a common foundation course to take account of various environmental issues and how to deal with them. There is also a need to convince business that environmental improvement will reduce costs in the long run and this can only be achieved by demonstration of best practice. There is a clear role here for government and local authorities in supporting innovative development and providing a forum where information can be exchanged. The national body or the centre could act as the co-ordinating body for such an initiative.

d) *Follow-Up and Continuous Environmental Sustainable Building and Construction*

Programme Nationwide

The sustainable concept and EMS are new innovations, which will inevitably experience "teething troubles". The progress of this concept over the next few years must be carefully monitored to try and expose common areas where the systems are failing. Apart from the education and training programmes on the above issues, the centre needs to give special attention to continuous updates on the latest information of this concept to all its members throughout Malaysia. Other activities such as competitions on Essay Writing, designing and building the most environmentally sustainable building and construction projects in Malaysia can also be implemented. Exhibitions and demonstrations on projects that are sustainable can also be held regularly to promote this concept more in the future. This is for example being promoted by the Ministry of Energy, Water and Communications (MEWC) in its new MEWC building that becomes the first showcase building for energy efficiency and low environmental impact in Putrajaya. The centre can also act to administer the EMS and apart from its position to alleviate the problems it must fine-tune or use its power to enforce rigidly the requirements.

e) *Incentives to Professionals when Designing and Building Sustainable Projects and*

Implementing the EMS

Incentive schemes should be considered as a crucial element for increasing awareness and adoption of environmental issues. Whilst reductions in tax, grants and regulations have not been generally considered in the past to meet market force policies, there is now a need to reconsider these options. Other kinds of incentives are probably provided by the legislative framework on the need to survive in a more competitive and environmentally aware marketplace. Larger firms will push environmental improvement along the supply chain.

The success of promoting environmentally sustainable building and construction projects and environmental management in the Malaysian building and construction industry will require the efforts of all the stakeholders including project proponent, design professionals, contractors, environmental consultants, authorities, and last but not least the public. Each stakeholder must have a paradigm shift and adopt the mission of sustainable development to compete in the global perspectives and to fulfil local needs.

We now have the technology and a systematic environmental management standard to create desirable, low energy and green workplaces. What we do not have is the demand for them. Without this we will continue to churn out more and more Carbon Dioxide and deteriorating our environment. The author believes, to improve the environmental performance of buildings and construction projects, it requires either tightening the legislations, having building and construction professionals who are more committed in adopting a systematic EMS in their projects and increasing the demands of clients and future building occupiers. Only with these may changes be evoked in our future environment.

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