

6th International Research Symposium in Service Management, IRSSM-6 2015, 11-15 August
2015, UiTM Sarawak, Kuching, Malaysia

Green Initiatives in Kota Kinabalu Construction Industry

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Abstract

Recently, there are mounting issues relating the climate change including global warming and deprivation of earth ecosystems which cannot sustain the current economic development activities. The high depletion rate of natural resources plus, the increasing consumption of non-renewable resources particularly in the construction industry has led to the environment deterioration. Also, with the growing social development, people nowadays have high standard of requirement for living especially in the urban area. With this, sustainable development has become more significant. Studies on green technology have been explored, but more visible results are still required especially in the rapid developing capital city of Kota Kinabalu in Sabah, where green areas are still being well maintained. The implementation of green technology in construction will support dynamic growth of economic development activities, while improving the environment. Hence, it is important to develop a strategic plan to promote the use of green technology while the areas are still developing. This paper presents the preliminary work on qualitative based research that will investigate the understandings and green initiatives in Kota Kinabalu from the perspective view of contractors, as they are one of the key players in construction industry.

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Peer-review under responsibility of the Universiti Teknologi MARA Sarawak

Keywords: sustainable development; green technology; construction industry; environment

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1. Introduction

A growing population and uncontrolled development rate is straining the non-renewable and finite resources available (Saffuan, Ariffin, & Amin, 2012). Due to rapidly increasing development and urbanization, environment at a glance has already shown noticeable signs of stress such as water shortage, air pollution and land degradation. However, still, the ASEAN countries will have to continue the development in order to help reduce poverty. The challenge will be on how these countries, including Malaysia can pursue economic growth without jeopardizing the existing environment, or at least with minimal impact while conserving the nature. This is where the term 'sustainable development' comes out and could play a vital role in our construction industry. Achieving sustainable development has become more urgent and inevitable for all sectors of society (Zhang et al., 2011). It has also been one of the attributes that is compelling to the investors. This should be a wake-up call for everyone to meet the needs of the present without compromising the ability of future generations to meet their own needs.

In a country's development, sustainability seeks to balance the economic, social and environmental impacts, thus allowing the population growth to continue. The benefits are indefinite, considering what it can give particularly in the long run. Sustainable development brings a new evaluation of project design in construction industries, which have significant potential to reduce the negative impact of human activities on the environment. With this, there is a need for revaluating the construction industry especially in the rapid developing city of Kota Kinabalu, Sabah. It is imperative that the contribution made by integrating sustainable concept into construction project is actively promoted especially to the public to show what sustainable construction does is good, but this is not happening in the case study area. The industry is in fact dynamic, responsive and highly adapted to the diverse environment in which it has to operate. One way to encourage the improvement in construction is through a well-educated industry that dynamically develops sustainable solutions for the clients and users to choose and improvise within reasonable and professional frameworks. This would improve the environment over time.

The purpose of this study is to investigate the green initiatives in Kota Kinabalu from the contractors' perspective view. The case study area was selected due to lack of visible information about green construction project. It is hoped that this study will be able to provide more information for local authorities and other related agencies as well as the public about green initiatives in construction industry. In addition, the study is also intended to add on useful knowledge to other case studies which are being carried out by researchers in similar field to promote green concept in the Malaysian construction industry.

2. Malaysian construction industry

2.1. Towards sustainable and green construction

Almost 40% of the world's consumption of materials is exploited by the construction industry (Pulselli et al., 2008). If not controlled properly, it could be devastating especially for developing countries that are still lack of green technology or having currency depreciation. This should be prevented to avoid any unnecessary problem.

In Malaysia, one of the aims by the government is to counter the major sources of Carbon Dioxide (CO₂) emission from the construction industry. As one of the main sectors which supports the dynamic economy growth of the country, the construction industry should be able to reuse the existing building assets, aim for lean construction, minimize energy usage in construction and for its operation, avoid creating pollution and also conserve the water sources.

Green construction is an integrated framework of design, construction, operations and maintenance, and demolition practices that encompass the environmental, economic, and social impacts of the construction projects (Li et al., 2014). It is also a construction practice that recognizes the interdependence of natural and built environment. These projects can be associated with renewable energy such as solar, wind, biomass, biodiesel, hydropower, geothermal and also installation of other energy efficiency products.

Any sustainable design must incorporate recycled or low emitting materials, reduce building construction waste and apply less environmentally destructive site development. Green concept itself has been identified as a major requirement to attain the "developed country" status where developers need to design and construct sustainable projects that can provide energy, water savings and healthier indoor environment in their projects for the contractors

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