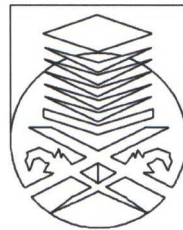


**REHABILITATING THE LANDFILLS AREA AT SUNGAI
SABAI, KALUMPANG FOR FUTURE DEVELOPMENT BY
ADAPTING THE PHYTOREMEDIATION APPROACHES TO
PROTECT HUMAN HEALTH AND THE ENVIRONMENT**

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ABSTRACT

This paper is about transforming a landfill into an effective green space. Landfill transformation is selected as a topic because the issue related on environmental which contribute to ecology disturbance. According to Ministry of Housing and Local Government, until 2008 there is estimated around 230 landfills operating in all over Peninsular Malaysia and most of the closed landfill become a nuisance and disturb landscape. If landfill can be reclaimed, it can be an effective open space. Therefore, this research is to reclaim Sungai Sabai post landfill into an eco-productive park by applying proper guideline, design and concept effectively with several approaches which can evoke the goal of this research to turn the landfill become legible and liveable space. The study highlights the design approach that relates to biological and engineering method which is to stabilize the site, improve the physical condition, solve the landfill hazard, adding aesthetical value and utilize the natural resources. The end product will give impact to the communities' physical, social and economic value.

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1.1 INTRODUCTION

The disposal solid waste has become a national concern nowadays. This issue continues to grow along with the growth of population and advancement of the country. In Malaysia, a municipal solid waste (MSW) landfill is the only method used by most of the local authorities. This method is easy and cheapest to implement in Malaysia rather than another method such incinerator which is well established in modern countries (Anwar Johari, et. Al, 2012). According to Department of Solid Waste Management, Malaysia, the total solid waste generation inclusive of households and business premises is estimated to increase from about 12.8 million tons/year in 2015 and to about 15.6 million tons/year in 2020

In case that landfill is the only approach to solid waste disposal system used in Malaysia, it has become a barefaced that there is a significant need to provide a broad range of MSW landfill area. Until 2011, the total of a landfill that was recorded by Ministry of Housing and Local Government (MHLG) is about 251 MSW landfill with different sizes and ages has recognized officially in Malaysia.

The municipal solid waste landfill is not something that can last forever; it has its extent, and if it reached the maximum limit, it needs to be closed by the authority with a standard safety requirement by the government. Once it is closed, it will lead to negative impacts such as environmental issue, visual pollution and it also highly maintenance. However, on the other hand, some people may see that the closed MSW landfill as a potential asset which can be enhanced for the community such as for recreation or as a renewable energy source. However, to assure MSW landfillable able be used for any future development, the site should be safe from every aspect. Therefore, this paper aims to study about the municipal solid waste landfill that will be closed in the future. Thus, every relevant factor and the suitability of the area need to be considered to reclaim the site for the benefit of all stakeholders. At the end of this writing, the critical development approach for landfill reclamation and appropriate guidelines will be composed of landfill development and can use as a reference for the same development of landfill reclamation in Malaysia.