

Mathematical Approach for Optimizing Cemetery Layout

Maya Nuraisha Mohd Nasir¹, Izleen Ibrahim²

¹*mayaisha163@gmail.com*

²*izleen373@uitm.edu.my*

ABSTRACT

Optimization techniques have been especially prevalent for solving land-use problems. However, there are no guidelines supporting the selection of an appropriate method. To enhance the applicability of optimization techniques for real-world case studies, this study provides a method used to maximize the cemetery in Tanah Perkuburan Kampung Lin. Landfill dead religions and cultures and even in different areas with different and sometimes conflicting approaches to face. The mathematical approach aims to generate solutions that are close to the “optimal” solution in the objective space. The technique is compatible with any single-objective optimization method. The mathematical approach method is calculated manually and using Mapple software. The model is applicable in identifying the optimal solution for maximizing the cemetery land within available resources. The constraints represent limits in the model related to available resources. The traditional single-objective optimization technique can still be used, but it may cause some issues. It is because the method is not a reliable method for identifying the best or all possible solutions. Based on the result, the cemetery site at Tanah Perkuburan Kampung Lin has an area of 0.29 acres (1173.59 m²) and a perimeter of 14256 meters. The result of this analysis can be used as a consideration in decisions making about reorganizing and planning for future work by the cemetery management team. It also provides recommendations that can be applied to counter existing practices in managing cemeteries in Malaysia. Land use planning is an important tool for countries around the world to help regulate the land use process as well as ensure sustainable development, especially the cemetery site.

Keywords: Cemetery management, Optimization, Mathematical approach, Maximization, Maple